India as Seen in
THE BRHATSAMHITĀ OF VARĀHAMĪHIRA
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THE BRHATSAMHITĀ OF VARĀHAMIHIRA

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TO
MY TEACHER

PROFESSOR DR. RAJ BALI PANDEY,
Vice-Chancellor, University of Jabalpur,
as a token of profound esteem and gratitude.
भवानी पुर्णी

कोटा 6934
नई बिल्ली
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FOREWORD

I have great pleasure in writing a few lines by way of foreword to Dr. Ajay Mitra Shastri’s work which formed his thesis submitted for the Ph.D. degree of the Nagpur University. It elicited unstinted praise from the examiners for its comprehensiveness and accuracy in the treatment of the subject. Dr. Shastri has added two new appendices while preparing it for publication.

Varāhamihira’s BrhatSaṃhitā is a veritable mine of information for the cultural history of the period during which he flourished. Its importance for the political history of the period is no less as would appear from the mention in it of Mahārājādhirāja Dravyavardhana of Avanti the significance of which was first brought to notice by me. Dr. Shastri has proved that Varāhamihira’s Pañcasiddhāntīka was written in A.D. 505. Varāhamihira, therefore, belonged to the last period of the Gupta age. His date is an important landmark in the uncertain ancient history of our country.

Though the encyclopaedic character of the BrhatSaṃhitā had for long been recognised by Indologists, no systematic attempt was made to scan it as a source of the cultural history of the Gupta period. For this, sound knowledge of Sanskrit and mastery over details of ancient Indian culture are essential. Dr. Shastri has succeeded in his herculean task because he possesses both in a remarkable degree.

Dr. Shastri has ransacked the Brhat Saṃhitā and other works of Varāhamihira and has given us on their basis a brilliant picture of the then Indian life in all its varied aspects. He has supplemented his information by means of references drawn from contemporary literature, inscriptions, coins and other archaeological material. He has spared no pains in making it comprehensive and up to date. It is undoubtedly a valuable addition to the existing literature on the cultural history of
ancient India and will prove to be a valuable work of reference to all students of Indology.

I am sure that this work will be highly appreciated by the scholarly world.

Nagpur

8th August, 1969.

V. V. Mirashi
PREFACE

The present work, which substantially represents the author’s thesis approved by the Nagpur University for the degree of Doctor of Philosophy in 1962, aims at a critical study of the cultural material gleaned from the Bṛhatśaṁhitā of Varāhamihira. The value of old texts for the reconstruction of the culttural history of ancient India can hardly be overemphasised, and in recent years cultural studies of some works like the Jātakas, Pāṇini’s Aṣṭādhyāyī, Kālidāsa’s writings, Śrīharṣa’s Naiṣadhiya-carita, Somadeva’s Taṇastilakacāmpū and the Jaina canonical literature have been published. But the Bṛhatśaṁhitā, save for a few chapters, was not studied from this point of view, possibly because an astrological treatise like this was not supposed to have a bearing on cultural history. That this supposition is far from the truth will be borne out by a cursory glance at the contents of the present work. From the point of richness of details few works can stand comparison to the Bṛhatśaṁhitā which is a veritable encyclopaedia of Indian life in the Gupta age.

Being his last work, the Bṛhatśaṁhitā is undoubtedly a product of Varāhamihira’s mature mind. But his other writings, particularly the Yogayātrā, Bṛhadyātrā, Vivāhapāṭala and the Samāsasamhitā stanzas cited by Utpala, also furnish a wealth of cultural material. I have utilised the evidence of all these works for corroborating and supplementing the data of the Bṛhatśaṁhitā.

Varāhamihira lived towards the close of the Gupta period, and a student of his works must, therefore, take into account the rich evidence afforded by contemporary inscriptions, coins and other archaeological data which often go to confirm and supplement Varāhamihira’s statements. I have pressed these sources into service as best as I could. Wherever necessary, contemporary literature has also been consulted. In certain matters Varāhamihira appears to draw upon earlier texts, while in
some cases he seems to have influenced many a later writer to an appreciable extent. In such cases it has been my endeavour to trace the beginnings and narrate later developments only in so far as they are relevant to the subject-matter of the present work.

The present dissertation is divided into eight convenient chapters. The opening chapter deals with Varāhamihira's date, life and works. Scholars like Drs. Bhau Daji, H. Kern, G. Thibaut and others have studied some aspects of this topic. But since they wrote much fresh material has come to light and even the data then available to them needed reinterpretation. The present writer has tried to take stock of the entire evidence, to discuss the views of these scholars in a dispassionate manner and to arrive at balanced conclusions. After critically reviewing the relevant material it is suggested that Śaka 427 (505 A. D.) is the year of the composition of the Pañcasiddhāntikā, and not the year of Varāhamihira's birth, or of the composition of the Romakasiddhānta or of its commentary as is generally held. The cultural evidence of his works is, for the first time, brought to bear upon the general question of his age. Many unpublished works attributed to Varāhamihira have also been listed from catalogues of manuscripts. The topography of the Brhatsamhitā is discussed in Ch. II, while the next three chapters take stock of the religious, social and economic conditions as reflected in our text. A perusal of this portion will show that the oldest datable systematic treatment of many a topic is to be found in the Brhatsamhitā. A brief account of the then astrological beliefs will be found in Ch. VI. The following chapter deals with architecture, both secular and religious, sculpture, iconometry, music and painting. Varāhamihira's references to older authors and works are discussed in the concluding chapter. The four appendices, which follow it, deal with polity and government, twelve-year and sixty-year cycles of Jupiter, rainfall and the art of tracing subsoil water-springs. Appendix III on rainfall, which is mainly, though not entirely, based on the Brhatsamhitā, was originally published as a paper in the Journal of Oriental Institute, Baroda, and is reproduced here with the kind permission of the editor of that journal.

It would follow from the foregoing that the present work
is the first systematic attempt to study on scientific lines the cultural data from Varāhamihira's works, specially the *Bṛhat-saṃhitā*, as viewed by a historian.

I am conscious of the gratitude I owe to the *pūrva-sūris* who have tried to elucidate problems connected with Varāhamihira and his works. In this connection I must mention first Utpala, the only scholiast whose gloss on the *Bṛhat-saṃhitā* has come down to us. His erudite commentary is of immense help in understanding Varāhamihira. He is to Varāhamihira what Mallinātha is to Kālidāsa. Reference must also be made to Dr. H. Kern, Mahāmahopādhyāya Sudhākara Dwivedi and Dr. G. Thibaut who are responsible for pioneering researches in Varāhamihira's writings. Drs. J. F. Fleet, J. N. Banerjea and P. V. Kane have also dealt with some problems relating to Varāhamihira. To them the author is grateful.

I am aware of the valuable help I received from different quarters without which it would not have been possible to present the work in this form. Words fail to express adequately my gratitude to Mahāmahopādhyāya Dr. V. V. Mirashi, formerly Professor and Head of the Department of Ancient Indian History and Culture, Nagpur University, under whom I was privileged to work. He took keen interest in the progress of the work and made several useful suggestions. He has further obliged me by blessing the book with his foreword. My teacher Dr. Raj Bali Pandey, Vice-Chancellor, University of Jabalpur, initiated me into the field of Indological studies and has throughout been a source of inspiration to me. In fact, the work was originally started under him at the Banaras Hindu University but had to be temporarily given up owing to my coming over to Nagpur. I have, therefore, dedicated him the present work as an humble token of my profound gratitude and respect for him. I am also highly grateful to Professor K. D. Bajpai, Tagore Professor and Head of the Department of Ancient Indian History, Culture and Archaeology, University of Saugar, and Shri N. Lakshminarayana Rao, formerly Government Epigraphist for India, for kindly perusing the typescript and offering some useful suggestions. On this occasion I gratefully remember the late Dr. P. K. Gode and Prof. H. D. Velankar who took keen interest in the progress of my work and helped
me in various ways. I am also thankful to Dr. Vasantakumar
R. Pandit of Bombay for his kind permission to utilise his
unpublished editions of the Bṛhadyātrā, Yogayātrā and Vivāha-
pāṭala. The illustrations given at the end of the book have
been prepared by my former students Dr. Y. Gopala Reddy
and Shri P. R. K. Prasad, M. A.; they deserve my sincere
thanks.

No amount of words would suffice to express my indeb-
tedness to my wife Mrs. Yogeshwari Shastri, M.A., for her
constant encouragement and help.

I also take this opportunity to record my sincere thanks
to the publishers, Messrs. Motilal Banarsidass, for undertaking
the publication of the work and showing me full consideration
all through the printing of the book.

It is regretted that notwithstanding utmost care taken in
the correction of the proofs misprints and other errors have
crept into the book. For these, I crave the indulgence of the
readers.

Nagpur University


Ajay Mitra Shastri
ABBREVIATIONS

AR : Asiatic Researches.
ASSI : Archaeological Survey of South India.
ASWI : Archaeological Survey of Western India.
BJ : Brāhajjātaka.
BS : Brāhatsaṁhitā.
BV : Bhāratiya Vidyā, Bharatiya Vidya Bhavan, Bombay.
BY : Brāhadyātrā.
CAGI : Cunningham's Geography of Ancient India.
CASR : Cunningham's Archaeological Survey Reports.
CHII : Corpus Inscriptionum Indicarum.
CSMDCBUL* : Catalogue of Sanskrit Manuscripts in Desai Collection of the Bombay University Library.
CSMM* : Catalogue of Sanskrit Manuscripts in Mithila by H. P. Sastri.
DHI : Development of Hindu Iconography by J. N. Banerjea.
EI : Epigraphia Indica.
HDS : P. V. Kane’s History of Dharmaśāstra.
HIA : S.B. Dikshit’s History of Indian Astronomy (Bhāratīya Jyotiṣa).
IA : Indian Antiquary.
IC : Indian Culture.
IHQ : Indian Historical Quarterly.
JA : Journal Asiatique.
JAHRS : Journal of the Andhra Historical Research Society.
JASB : Journal of the Asiatic Society of Bengal.
JBBRAS : Journal of the Bombay Branch of the Royal Asiatic Society.
JBORS : Journal of the Bihar and Orissa Research Society.
JDL : Journal of the Department of Letters, Calcutta University.
JIH : Journal of Indian History.
JNSI : Journal of the Numismatic Society of India.
JOI : Journal of the Oriental Institute, Baroda.
JOR : Journal of Oriental Research, Madras.
JRAS : Journal of the Royal Asiatic Society of Great Britain and Ireland.
JRASB : Journal of the Royal Asiatic Society of Bengal.
JUB : Journal of the University of Bombay.
JUPHHS : Journal of the United Provinces Historical Society.
LJ : Laghujiñātaka.
MASI : Memoirs of Archaeological Survey of India.
NPP : Nagari Prachārini Patrikā.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSM*</td>
<td>Notices of Sanskrit Manuscripts.</td>
</tr>
<tr>
<td>PHAI</td>
<td>Political History of Ancient India by H. C. Raychaudhuri.</td>
</tr>
<tr>
<td>PO</td>
<td>Poona Orientalist.</td>
</tr>
<tr>
<td>SI</td>
<td>Select Inscriptions by D. C. Sircar.</td>
</tr>
<tr>
<td>SS</td>
<td>Samāsasamhiṭā.</td>
</tr>
<tr>
<td>TY</td>
<td>Īṭikaṇṭikayāṭrā.</td>
</tr>
<tr>
<td>VIJ</td>
<td>Vishveshvaranand Indological Journal.</td>
</tr>
<tr>
<td>VP</td>
<td>Vivāhapaṭala.</td>
</tr>
<tr>
<td>YY</td>
<td>Yogayāṭrā.</td>
</tr>
</tbody>
</table>

**REFERENCES**

Unspecified figures refer to BS, Roman figure to the chapter, and the English figure to the serial number of verses. Thus I. 1 refers to the first verse of the first chapter of BS.

* Used in Ch. I only.
LIST OF ILLUSTRATIONS

Fig. 1. Indra with an indistinct object, probably vajra, in the right hand, horizontally placed third eye on the forehead and the elephant mount, Paharpur. After K. N. Dikshit, Excavations at Paharpur, MASI, No. 55, pl. XXVII (d).

2. Varuṇa with pāśa passing round his head, Paharpur. After ibid., Pl. XXXII (a).

3. Four-armed Viṣṇu holding conchshell, wheel, and mace, the remaining hand being in the śānti-mudrā, Mathura. Courtesy Mathura Museum.


5. Yama seated on a buffalo, Brahmaśvara Temple, Bhuvenesvara. Courtesy Archaeological Survey of India.


8. Four-armed Baladeva holding hala, gadā and a drinking vessel and wearing kuṇḍalas of different designs, Paharpur. After K. N. Dikshit, Excavations at Paharpur, MASI, No. 55, Pl. XXII (b).

9. Skanda holding śakti in the left hand and seated on a peacock. Courtesy Bharat Kala Bhavan, Banaras Hindu University.


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25. Ekāśītipada plan (circular).*
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28. Catuḥsaśtipada plan (circular).*
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CHAPTER I

VARĀHAMIHIRA : HIS AGE, LIFE AND WORKS

Varāhamihira holds a unique position in the history of astronomical and astrological literature of India. Many authors are known to have composed works on one or the other branch of Jyotiṣa, but Varāhamihira excelled them all by giving vent to his versatile genius in all its three branches alike. He is among the writers on Jyotiṣa what Pāṇini is among vaiyākaraṇas, Manu among dharmaśāstra-kāras, Kauṭilya among writers on political science and Bharata among dramaturgists. His masterly treatment of the subject and well-deserved eminence and reputation cast all older texts, with very few exceptions, into oblivion,¹ and in later times he was gratefully remembered by the posterity.² His well-known scholiast Utpala describes him as the very incarnation of the Sun who descended to this world in the Kali age in order to rescue Jyotiṣa-śāstra from wholesale destruction³

2. Cf. श्रीमद्वराह्मिहिरायमंताबभीष्टं-शब्दश्रेय्य-रीति-विरृत्तिशुभदोज
नृन्मः।
Sadratnamāla by Saṅkaravarman, composed at the instance of Rāma-
varman, brother of Udayavarman, king of Kerala—TCSM, V, Pt. 1, Sanskrit-
G, p. 6519, No. 4448;

वराहरविचित्राणे यज्ञितियामये घने।
यथा यवायथ्बृद्धिस्स्मात् तथानुत्तानय प्रभो॥

Haladhara-Saṅhitā of Haladharamiśra (beginning), TCSM, IV-A, p.
4547, No. 3068.

3. बच्छास्त्र संविता चकार विवृत्ततः स्कृत्तितिभ्रमयात्
तस्योष्टितिभ्रमाया पुनः कत्वम् संसृत्य ते भूतलम्।
भूय: स्वल्पतरं वराहमिहिरयाज्ञे सर्वं व्याघा-
दित्यं य प्रवदन्ति मोखुवावास्तस्म नमो भास्वतो॥

BS, I, p. 1, Verse 2.

This seems to have been a floating verse which is ascribed by some
writers to the Rājamārtanda of Bhoja, cf. Jyotiṣa-lattic-kauvudhi of one
Śrīnāsāṃśrātmaja (beginning), TCSM, VI, Pt. 1, p. 7208, No., 5241;
Jyotiscandra-śāstra of Vatsa family, Ibid, IV, Pt. I, Sanskrit-A, p. 4746,
No. 3199. The Rājamārtanda-saṅgreha of Bhoja (Saka 964), wrongly ascribed
and compares his works to a vast ocean. The belief in Varāhamihira being an incarnation of the Sun is echoed by the authors of the *Suprakāśa*, the *Bijapallava* and of the *Daśādhyaỹī* gloss on the *Bṛhaj-jātaka*. Brahmagupta, who is well-known for his severe censure of earlier writers, does not level any serious accusation against Varāhamihira. Kalyāṇavarman (cir. A.D. 650-725), the author of the *Sārāvali*, drew, among others, upon to Varāhamihira, actually begins with this stanza. Cf. H. P. Sastri, *CSMM*, III, p. 255, No. 305.

1. वराहमीहिरोदेशी सुवहुःसतोयाकुलेः
   प्रहसणात्यादि ग्रामशोभायै जातीते
   प्रभुतन्त परितो यतो लघुपित्या गोविविपत्तायः: ...

   *BS*, I, p. 1, verse 3. This and the above verse are repeated in the introductory portion of his scholia on *Bṛj* and *YY*.

2. पूर्वः पूर्वः मूर्णः (निः) सस्त्रं विविचं व्याययितां रसिकमुत्तः
   सारोडःसारपरि ततोव्ययितां देशेन्द्रविनिद्रीणि
   तत्समादः गर्भ-पराशाराधिमुनिमिभः प्रोक्तं तदवः पुनः
   संसिद्धं कुलवं वराहालिमिहिरोक्तापवतारोचिलम

   Quoted in the *Jyotiscandrodaya*, *TCSM*, IV, Pt. 1, Sanskrit— A, p. 4746, No. 3199.

3. मिहिरं वराहमीहिरं वदेव सन्देहबद्विन जगतान्तः
   ज्योतिषक्षकविभावनेन गमेकोचाच्युरभिस्मः

   *Bijapallava* (Ms. dated Śaka 1523 = A. D. 1601) by *Krṣṇa*, *CMSML*, p. 7672, No. 11523.

4. ज्योतिषस्याश्चर्त्वमिदं विवाहं विपुलं विनिर्जनिस्मितम पुरा
   लोकानां मतिमान्वत: कलियुंगं तत्पत्तिभिः पुनः
   स्कल्पं ततु सकलं ततो रचितद्वाविनिवासातः
   मूवा यो मिहिरो वराहमिहिरो नामना नभकुमाहेः

   *CSMGOML*, p. 9481, No. 14064.


6. Kalyāṇavarman is variously assigned by scholars to Śaka 500 (Sudhakara Dvivedi, *Gaṇaka-torāṅgī*, p. 16), 821 (*HIA*, p. 486), A. D. 650 (S. L. Katre, Kalyāṇavarman’s Śrāvalī, Fresh Light on its Date, *IC*, XI, pp. 1-9) and A. D. 750 (D. C. Bhattacharya, Dates of Bhaṭṭotpala and Kalyāṇavarman, *Ibid.*, XII, p. 82). The present writer has shown elsewhere that the date of Kalyāṇavarman must lie somewhere between A. D. 650 and 725. This view is based on several considerations, viz. Kalyāṇavarman’s indebtedness to Varāhamihira (*Śrāvalī*, I.2; *XXXIX.9*) and Brahmagupta (*Ibid.*, XI.2) and Ṛṣṭotapala’s hand in the composition of the *Śrāvalī*. Vide my paper, *The Date of Kalyāṇavarman: Author of Śrāvalī*, *JIH*, XLII, pp. 915-920).
Varahamihira's works on horoscopy¹, and the celebrated astronomer Bhaskaracarya also admits of having benefited from his treatises.² Satananda (A.D. 1098) based his Bhāsvatikaraṇa on the Pañca-siddhāntikā of Varahamihira.³ Śripati, Śrīnivāsamśrātma, Śrīnivāsācārya and Nārāyaṇadāsa, the authors of the Jyautiṣa-ratnamalā⁴, Jyotiṣa-lattva-kaumudi⁵, Śuddhi-dīpikā⁶ and

1. कितक्रक्तानि मूलिनिम्भ: परिहृत्य पुरातनानि शास्त्राणि।
होरातन्त्र रचित वराहमिहिरेण संवेषपात्।

Sārvatī, I. 2

2. कुति जयति जिष्युवो गणकचकचूढ़ामणि—
जोतिः विद्वत्तोत्तरः प्रविष्कत्तानसबृहत्।
वराहमिहिराय: समवोक्तम् येषां कुति:
कुति भवति मुद्धोियतुतन्तनमवेश्यथै:।

Siddhānta-siromaṇi, I.2.

3. Satananda tells us that he wrote the Bhāsvati-karaṇa in Śaka 1021 (A.D. 1098) in accordance with the teachings of Mihira contained in his Sūrya-siddhānta: —

नवा मुरुवीरसङ्गरविन्दै श्रीमान् शतान्ने इति प्रसिद्ध:।
तं भास्वती शिप्तिधीतार्थमाह शास्त्रे विहोिे श्लेष्यकरविकः।
अथ प्रवक्ते महीरोपदेशात् तस्यसिद्धात्तसम्म समासात्।

Bhāsvati-karaṇa, I.1,4.

Taking Mihira to stand for Varahamihira and regarding the Sūrya-siddhānta as his work, Bentley concluded that Varahamihira flourished in the eleventh century A.D. (AR., VI, pp. 559, 572-4). The baselessness of Bentley's views is now beyond doubt. Cf. H. T. Colebrooke, Miscellaneous Essays, II, pp. 390, 482-3; Dixhit, p. 243. That Satananda based his work on the Sūrya-siddhānta section of the Pañca-siddhāntikā is rendered very probable by the colophon of a Ms. of the Bhāsvati-karaṇa in the collection of the Bombay Branch of the Royal Asiatic Society (CSPMBBRAS, I, p. 84, No. 252): —

इति श्रीशतानन्द-विरचिते पांचसिद्धात्तसम्म नामम् भास्वत्याः परिकेर्णाकारी नाम अष्टमोऽवयः।

4. किलक्य गण्डमित्तियणिते वराहल्लादित्वं शास्त्रम्।
दंककणामिरायियमेया विवर्ध्यते ज्यौतिषवर्ल्लमाला।


5. महामूनीद्रक्तुतवदिष्यभीमवराहमुख्यं रचितानेत्यथा।
प्रवक्त्वपरार्थ समवेत्ति सत्तम करोम्यह ज्यौतिषतत्त्वकोम्लीम्।

TCSM, VI, Pt. 1, p. 7208, No. 5241.

6. अस्तङ्ग गतवति महीरोपविराजऽयेवात् जोगिब्बे।
उद्धारादित्य शुद्धरहणार्थ दीपिका किमते।

TCSM, IV, Pt. 1, Sanskrit—A, p. 4357.
the Praśna-viplava or Vaiṣṇava-śāstra respectively, also acknowledge their indebtedness to his writings. Gaṇeśa Daivajña observes that when astronomical and astrological rules framed by Parāśara, Āryabhaṭa and others became inaccurate, they were amended, among others, by Varāhamihira. Alberuni, who visited India and wrote his account in the eleventh century A.D., is all admiration for him and speaks of him as an excellent astronomer who clearly spoke out the truth. He regrets that others did not follow Varāhamihira’s example and passes strictures on Brahamagupta’s lack of sincerity and his support to imposture.

I. The Date

As in the case of many celebrated Sanskrit writers, considerable obscurity looms large about the age and personal life of Varāhamihira. The data bearing on his date are scanty and dubious in the extreme and consequently scholars have arrived at widely divergent conclusions. The following pages aim at a searching examination of the internal and external evidence with a view to finding out a working hypothesis regarding his date.

A. External Evidence

The Jyotirvid-ābharana : The Jyotirvid-ābharana, which claims to proceed from the pen of Kālidāsa, the celebrated writer of the three poems, viz., the Raghuvaṃśa, the Kumāra-sambhava and

1. श्रीकृष्णदाससंतकानं: सुविदान श्रीमनननगस्वकुलजो सदनानाचिनत:।
   वाराहाजिकमुक्तमं समीष्य नारायण: परमवास्त्रमिद चकार॥
   CSMOML, p. 9421, No. 19976.

3. E. Sachau, Alberuni’s India (hereafter referred to as Alberuni), I, p. 366; II, p. 277.
4. Ibid, pp. 110-12. Alberuni had so great admiration for Varāhamihira that even when he found some wrong notion in his works he supposed some esoteric meaning concealed behind it which he was unable to follow. Ibid, p. 117.

In later times Varāhamihira was looked upon as an ideal of astronomical and astrological scholarship. Cf. Sarkha Plates of Kalacuri Ramadeva, dated K. 988, v. 18 (CII, IV, p. 227) where a certain Padmanābha is compared to Varāhamihira: य: सिद्धान्तनिधिने वे ति होरासागरप्रयासः। सहितास्त्रवेणस्यो बराहमिहिरोतां॥ For a similar comparison vide EI, VI, p. 206, v. 21. Varāhamihira is also mentioned in the Jaiminbhārata, IV. 8. Vide Winternitz, History of Indian Literature, Vol. I, p. 586, fn. 1.
the Meghadūta, and to have been composed in the year 3068 (expired) of the Kali age (=the year 24 of the Vikrama era or B.C. 33), seeks to rank Varāhamihira as one of the nine gems of the court of Vikramāditya who founded an era in 57 B.C.

Another verse in the Kutāhala-ماذاارٍ tells us that Varāhamihira was born in the year 3042 of the Yudhiṣṭhira era, that is, about three years before the beginning of the Vikrama era.

The Jyotirvid-ābharana is evidently a very late forgery and the tradition recorded therein unreliable. Its claim to such an early date is belied by the internal evidence. Though claiming to be a contemporary of Varāhamihira, its author admits that he follows the views of Varāhamihira and others. It indicates that there must have been considerable interval of time between the two so that the author of the Jyotirvid-ābharana could cite Varāhamihira’s authority. Satya, Śrutasaṇa, Bādarāyaṇa, Maṇittha and Kumārasimha are said to be Varāhamihira’s contemporaries. But Varāhamihira mentions Satya, Bādarāyaṇa and Maṇittha as old authorities showing that they must have preceded him by considerable time. The authority of Simhācārya, probably the same as Kumārasimha of the Jyotirvid-ābharana, is cited in PS, XV. 19. According to Bhāvaratna, the commentator of the Jyotirvid-ābharana, Śrutasaṇa is the same as Siddhasena whose opinion is quoted in BJ, VII. 7. Jīṣṇu, the father of Brahmagupta (Śaka 550), is also made an astrologer of Vikrama’s court. It also mentions in a prophetic

2. Ibid., XXII. 21.
3. बन्वतरि: क्षणकामरसिः-शिकू-वेतालभु-घटकाप्य-कालिदासः।
श्याते वराहमिहिरो नूपादः समया रत्नाणि व वर्षुचिन्तं विक्रमस्य।
Ibid., XXII, 10. Also cf. XXII. 9, 19.
4. स्वस्ति श्रीपूतसुरः सुनुजःके याते दिबेदामव्यं ५०४२
मानाविष्टे त्रिभक्तहिः जगे वषावं बन्तातिरे।
चौंचे स्वेतदेहे शुभे वसुतिबावादितदासदामुदः
वेदाज्जे नियुषो वराहमिहिरो विश्रो रवेराजिभे।
6. Ibid., XXII. 9.
7. BJ, VII. 3, 10, 13; XX. 10; XXI. 3; BY, VII. 1; VP, 53.
8. XXXIX. 1.
9. BY, X. 21; BJ, VII. 1.
manner the Śālivāhana-Śaka which was to start 135 years after Vikrama. The method of calculating ayanāṃśa as given in the Jyotirvid-ābharaṇa (I.18) is also indicative of late origin. The mention of the krānti-sāmya of the sun and the moon as occurring after twenty ghaṭīs of the Aindra-yoga (IV.30) led Sudhakara Dvivedi and S.B. Dikshit to opine that it was composed about Śaka 1164 or A.D. 1242-43. Keith brings down its date to the sixteenth century A.D., while Kern is inclined to assign the work to as late a date as the eighteenth century. It is pertinent to note in this context that the only known commentary on this work is by a Jain monk, Bhāvaratna, who flourished in the eighteenth century. As for the Kutūhala-mañjarī verse, Dikshit has pointed out that its year cannot be reconciled by any system of calculation.

An attempt has recently been made by S.K. Dikshit to establish the authenticity of the Jyotirvid-ābharaṇa. As the ksayamāsa (the lapse of a month), which, the Jyotirvid-ābharaṇa (IV.53) says in a prophetic manner, would occur in the 103rd year of the Vikrama era, did occur in A.D. 507, he equates Kali 3045, the epoch of the Vikrama era, to A.D. 405, the beginning of his so-called Sāhasāṅka-Vikrama era started by the Gupta emperor Candragupta II Sāhasāṅka alias Vikrama-ditya to commemorate complete annihilation of the Śakas of Ujjainī. Thus, Kali 3068, the date of the composition of the Jyotirvid-ābharaṇa, would, according to Dikshit, correspond to A.D. 428-29. “The merit of Dikshit’s interpretations” is appreciated by Dr. U.P. Shah. The futility of this view is

6. The commentary was composed in V.S. 1768. Published by Nirmaya Sagar Press, Bombay, 1908.
7. HIA, pp. 212-13, fn.
10. Ibid, p. 199.
amply demonstrated by K.M.K. Sarma who points out that the equation of Kali 3045 with A. D. 405 goes against all traditions and that an interval of 135 years between the Vikrama and Śaka eras is accepted by all including the author of the Jyotirvid-ābharaṇa itself showing that the latter refers to the era of B.C. 57 and not that of A. D. 405. Moreover, had he been a contemporary of Sāhasānika Candragupta II, he would have not maintained reticence about the exploits of and the era commenced by his patron, while he is so very eloquent about the traditional Vikramāditya.

B. Internal Evidence

(i) Śaka 427—The Epoch of the Pañca-siddhāntikā.

We may now proceed to discuss the internal evidence of Varāhamihira’s own works. The Pañca-siddhāntikā (I. 8-10) gives rules for finding out ahārgana (the sum total of civil days


2. सप्ताष्टिक्षिप्रदेशं जानकाठमपापस्य ब्रह्मस्थलादी ||
   अवतितिमि भानि वनपुरे सेमिदिवसस्य ॥
   मासीकृते समसे हिते सप्ताद्विते ज्युपथाच ||
   लघ्विन्नतोंविवाचनस्वतरंतिव्युत्तों हिते ||
   सूत्रध्वं समस्तारो लघ्वोत्तरो गुणसमवमृणाम ||
   रोमक्रस्त्रान्तोर्ज्जुनानि नातिचर्ये पौर्णिमेषोवम् ||

PS, I. 8-10

S.K. Dikshit (IC, VI (1939-40), pp. 171-210, 376-392) has recently suggested that veda in the above verse has the numerical value of 3 (and not 4 as generally believed) and that the compound saṣṭāṣṭi-vedaṇaṇaḥ should be taken to mean 327 (and not 427) Śaka = A.D. 405. Varāhamihira, thus, flourished in A.D. 405 and was a contemporary of Candragupta II. He takes vai-veda-āmbara-trañi, the date of Varāhamihira’s birth according to the Kutākala-mahajā, to denote 3092 of the Yudhishtīra era, that is, 13 years before the beginning of the so-called Sāhasānika-Vikrama era of A.D. 405, i.e. 405-13 = A.D. 392 (and not B.C. 70). Further, he thinks that the statement of Āmarāja, the commentator of Brahmagupta’s Khaṇḍakāhyaka, viz., navādikā-pañcaśata-saṁkhyā-sāke Varāhamihir-ācārya divaṇa gatah, refers to the Mālava-Vikrama samvat of B.C. 58-57 (which is different from the Vikrama era of A.D. 405). Thus he comes to the conclusion that Varāhamihira lived from A.D. 392 to 451. Dikshit’s theory fails to the ground when it is remembered that in astronomical treatises the word veda invariably has the numerical value of 4. Cf. PO, V, pp. 206-7. Varāhamihira frequently uses veda in this sense. Cf. PS, II. 4, 6; IV. 11, 25, 44; IX. 1; XVI. 5, 11; XVII. 3, 16, 31, 34, 43, 45, 52, 74; BJ, XII. 1; BS, I, pp. 49-50.
elapsed from an initial epoch to a given date) and directs us to
deduct 427 from the number of that Saka year for which the
ahargaṇa is wanted, at the beginning of the bright half of Caitra,
when the sun has half set in Yavanapura, at the beginning of
Monday, indicating that the epoch of the Paścasiḍḍhāntikā is
calculated from Saka 427 Caitra śukla pratipadā.
Saka-kāla: There is a difference of opinion among scholars
as to what this Saka-kāla is. Elsewhere, Varāhamihira calls it
the era of the Saka King (Sakendra-kāla, VIII. 20; Saka-bhūpa-
kāla, VIII.21) which Utpala confounds with the Vikrama era
(Sakā nāma mlecchajātayo rājāṇaś=te yasmin kāle Vikramādiyena
vyāpāditīḥ sa kālo loke Saka iti prastiddhāḥ, tasmā=chakendra-kālāt
Saka-nṛpa-vadha-kālād=ārabhya, on VIII.20). We are also told
that the constellation of the Great Bear was in Maghā when
Yudhiṣṭhira ruled the earth and that the addition of 2526 years
to Saka-kāla gives his time. If, as is usual, the Saka-kāla is here
taken to be the era of that name commencing in A. D. 78, the
date of Yudhiṣṭhira will fall in B. C. 2448. Now, this view goes
against the popular notions that Kaliyuga began in B. C. 3102
and that the Bhārata war was fought out in the juncture of
Dvāpara and Kali. The Aihole Inscription of Pulakesīn II
equates the epoch of the Kali age with the Bhārata battle and
says that 3735 years (expired) from the latter event correspond
to Saka 556.

1. असन्नः मयामु मुनयः शासिति पृष्ठेः युविचिंठेरे नृपतः ।
बहुकपपर्यविद्वृत्तेः शककालस्तयः राजश्च ॥
XIII. 3.

Scholars widely differ from one another regarding the interpretation of
śaḍ-deva-padeva-dviyutah V. G. Aiyer in his Chronology of Ancient India (p. 75)
thinks that it means 26 times 25, that is, 650 years, while C. V. Vaidya takes
it to mean 2566 (Mahābhārata, A Criticism, p. 68). K. L. Dasari (The
Astronomical Method and its Application to the Chronology of Ancient India, p. 77) quotes
this verse in the name of Garga and, like C. V. Vaidya, takes śaḍ-deva to mean
two sixes or 66. All these interpretations are against Utpala who interprets
it as meaning 2526 years. As will be shown in the sequel, this last interpre-
tation is supported by the famous poet-historian of Kashmir—Kalhana.

2. विशालस्य विसहर्षयु परितादवादितः ।
सत्तात्वनागवस्तेषु गतेष्विवदशेषः पञ्चमु ॥
पञ्चाशस्य कल्य काले पद्मस पञ्चशताभुजः ॥
समाय समतोतामु सर्वनामपि सुभुजामस ॥
EI, VI, p. 7.
The Theory of Cyrus Era: Scholars try to overcome this discrepancy by resorting to ingenious suggestions involving the invention of unknown eras and change in well-documented readings. N. Jagannatha Rao, Gulshan Rai, Kota Venkatachalam, and Thiruvenkatachar, for instance, hold that Yudhisthira died in the twenty-sixth year of the Kali age, that the Persian emperor Cyrus the Great started a reckoning in B.C. 550, exactly 2526 years after Yudhisthira's death (B.C. 3102-26-2526 = B.C. 550), to commemorate either the foundation of the great Persian empire or his incursions into the Indian borderland, that the Śakendra-kāla or Śaka-bhūpa-kāla or Śaka-kāla of Varāhamihira is identical with this Perisan era, and that consequently Śaka 427, if referred to this era, will give us B.C. 123 as the date of the Pañcasiddhāntikā (B.C. 550-427 = B.C. 123). Thus, according to this view, Varāhamihira flourished in the latter half of the second century B.C. But this view is entirely baseless. Firstly, there is nothing to show that Cyrus started any era; secondly, even if we admit the existence of the so-called Cyrus era, it is not intelligible why this reckoning was not followed in the founder's own empire and even by the members of his own dynasty, whereas it was accepted and so widely used by Indian astronomers; thirdly, there is no reason to identify Cyrus era with Śaka-kāla in complete disregard of the unanimous Indian tradition that the Śālāvāhana or Śaka era commenced in A.D. 78; and lastly, it has been pointed out plausibly enough that the week-day and the kṣepa of the Romaka and the Pauliśa, as well as the adhimāsas and the avamaśeṣas of their rules agree with A.D. 505 only, and not with B.C. 123.

The Theory of the Era of Buddha's Nirvāṇa: It has been held by

1. The Age of the Mahābhārata War, Bezwada, 1931.
5. V. Thiruvenkatachar assumes that ayanāṃśa was zero in Varāhamihira's time, relies upon Amarāja's statement that Varāhamihira died in Śaka 509, which he refers to the so-called era of Cyrus and comes to the conclusion that Varāhamihira lived from Śaka 427 to 509 (B.C. 123—B.C. 41).
C. V. Vaidya¹ and V. G. Aiyer² that by Śaka-kāla Varāhamihira means the era of Buddha’s nirvāṇa commencing in B. C. 543; for, it is argued, the Brhadāsmhitā verse (XIII.3) in question is quoted from Garga who is generally believed to have lived before the Christian Era and could not, therefore, refer to the Śaka era of A. D. 78. B. Suryanarayana Rao³ would take it to mean the Buddha Śaka of B. C. 540 and make Varāhamihira flourish in the 2nd-1st centuries B. C., This view is as untenable as the one just discussed. It is difficult to understand how Buddha’s era could be called Śaka-kāla. The suggestion of V. G. Aiyer to change the reading Śaka-kāla into Śākya-kāla or Śakya-kāla with a view to correct the error of one māṭā in the fourth quarter of the verse, is hardly convincing. Firstly, short syllable at the end of a quarter is considered to be prosodically long; and secondly, Utpala, who is in the habit of quoting variant readings in the text current in his time, does not give any variant in this case. The assertion that this verse is of Garga is also certainly wrong. In XIII.2 Varāhamihira says that he would dilate on the movements of the seven sages following Vṛddha-Garga’s opinion. Garga opined that the Great Bear remained in each nakṣatra for one hundred years. The wording of XIII.3 and the statement about the Śaka-kāla and the interval between it and Yudhiṣṭhira’s time is Varāhamihira’s, not Garga’s. Utpala cites a verse of Garga which is in the Anuṣṭubh metre.⁴

The Date of Bhārata War—B. C. 2448: Moreover, there is no real discrepancy between Varāhamihira’s statement regarding the date of Yudhiṣṭhira and the ancient Indian notions about the date of the Bhārata war. There were at least three main epochs for the Mahābhārata war, one of them being 2526 years before Śaka or 2448 B. C.⁵ Kalhana in his Rājatarangini (I.56)

¹ Mahābhārata: A Criticism, pp. 68-69.
² Chronology of Ancient India, p. 73.
³ Life of Varāhamihir, p. 6. D. N. Mukherjee (The Gupta Era, IHQ, VIII (1932), pp. 85 ff.) takes Varāhamihira’s Śaka-kāla to refer to the Śākya- or Buddha-kāla of B. C. 546.
⁴ P. V. Kane, Varāhamihira and the Śaka Era, JAHRS, XXI, 41-53.
quotes the above verse of Varāhamihira, styles the notion that the Bhārata war was fought out at the end of Dvāpara as misleading (I.49) and says that Kūrus and Pāṇḍavas lived when 653 years of the Kali age had gone. This date for the Bhārata war finds some support from the data contained in the Nidhanpur copper-plate inscription of Bhāskaravarman, the king of Kāmarūpa and a contemporary of Harṣavardhana (1st half of 7th Century A. D.). The dynasty was founded by Naraka whose son Bhagadatta was killed in the Bhārata war. He was followed by his son Vajradatta whose descendants ruled for 3000 years before Puṣyavarman came to the throne. Now, as Bhāskaravarman was 12th in descent from Puṣyavarman, the latter may be placed towards the close of the 4th or the beginning of the 5th century A. D. The addition of 3000 years, the alleged interval between Puṣyavarman and Vajradatta, gives us about 2500 B. C. as the date of Vajradatta and of the Bhārata war.

(ii) The Date of the Paṇcasiddhāntikā—A. D. 505.

There can be thus no doubt that Varāhamihira means by Śaka-kāla the era commencing in A. D. 78. In that case the particulars of Śaka 427 noted above will give us 3 nādiś, 9 vinādiś, after the midnight at Ujjain, Sunday-Monday, 20th-21st March, A. D. 505. The kṣepakas according to the original Sūryasiddhānta (the work of this name referred to by Varāhamihira, which is no more extant, is so called to distinguish it from the modern work of that name) also are in favour of amānta Caitra kṛṣṇa caturdaśi of Śaka 428 current (427 expired) which ended on Sunday, 20th March, A.D. 505, some of the kṣepakas being for the noon of day, and others for the next following midnight. And the nearest sukla pratipadā was

1. शतेः ण्टुष्य ाश्याव्य णिष्केप च भूतेऽ। कैलेगेतेः वययामभूतवः क्रुड्यावः II

Rājatarāṅgīṇī, I.51.

Cf. Winternitz, History of Indian Literature, I, p. 523, fn. 2.

2. EL, XII, pp. 65 ff.


4. JIH, XXXVI (1938) p. 347.
the amānta Vaiśākha śukla pratīpadā of Śaka 428 current, which ended on Tuesday, 22nd March, A. D. 505. But it is referred to as Caitra śukla pratīpadā, for, as pointed out by Dikshit, according to the real pūrṇimānta arrangement, the pratīpadā of the bright fortnight of the amānta Vaiśākha in question belonged to the bright fortnight of the pūrṇimānta Caitra. It is difficult to say to which event of Varāhamihira’s life this year refers. Though the epoch of calculation should not of necessity be regarded as the date of the composition of a work, in order to facilitate all astronomical calculations and to minimise inaccuracies, ‘it is the interest and practice of the karaṇa-writers to choose for their epoch a year, as little remote as may be from the time of the composition of their treatises.’ It is, therefore, quite reasonable to assume that the Pañcasiddhāntikā was written in A. D. 505 or within a few years of that date. A list furnished by the astronomers of Ujjayinī to Dr. Hunter and published by Colebrooke assigns to Varāhamihira the date Śaka 427. The list also mentions Brahmagupta, Muñjāla, Varuṇabhaṭṭa, Bhojarāja and Bhāskarācārya and assigns them the dates Śaka 550 (A. D. 628-29), 854 (A. D. 932-33), 962 (A. D. 1040-41), 964 (A. D. 1042-43) and 1072 (A. D. 1150-51) in order which are respectively the years of composition or astronomical epochs of their works, viz., Brāhmaṇaḥsūtrasiddhānta, Laghumānasa, commentary on Brahmagupta’s Brāhmaṇaḥsūtrasiddhānta, Rājamṛgāṇa and the Siddhāntasīromani. Bhāṭṭotpala is assigned to Śaka

2. E. g. Kero Pant’s Grāhasādhanakosṭhaka has for its epoch Śaka 1772, but was published in Śaka 1782.
4. He is the second Varāhamihira of the list and is preceded by another astronomer of the same name to whom is assigned the date Śaka 122 (A. D. 200-201).
5. Brahmagupta was born in Śaka 520 (A. D. 598-99) and composed his Siddhānta at the age of 30—in Śaka 550:

पंचालंकारके नाधारेति: प्रचारिते: ॥

ब्राह्मणेऽसुद्धान्त: समजन-गणितन-गोलविविधा-श्रीतया ।

त्रिश्रवण कृती जिज्ञु-मधु-ब्रह्मगुप्तिन ॥

6. HIA, p. 313.
7. Ibid., p. 226.
8. Ibid., p. 238.
9. Bhāskara was born in Śaka 1036 and composed the Siddhānta-śiromani, when he was 36, i. e. in Śaka 1072.
890 which is only two years distant from the dates of his commentaries on the Brhatsamhitā and the Brhajjātaka. Thus Śaka 427, though it is not specified to which period of Varahamihira’s life this year belongs, may, on the ground of analogy, be reasonably regarded as the date of the composition of the Pañcasiddhāntikā. This assumption becomes a fact when we find that Alberuni writing in A. D. 1030 observed that the Pañcasiddhāntikā was composed 526 years before his own time⁴ and that Varahamihira preceded his (Alberuni’s) own time by 525² or about 526 years³. Thus the internal evidence, the tradition and Alberuni’s statement are all unanimous in regarding A. D. 505 as the date of the composition of the Pañcasiddhāntikā.⁴

But a dissenting voice against this view is raised by such high authorities as Drs. Bhau Daji, Kern and Thibaut. Relying on the statement of Āmarāja, the commentator of Brahmagupta’s Khandakhadyaka, that Varahamihira died in Śaka 509, i.e. A. D. 587 (Nav-ādhika-pañca-sata-saṅkhyya-sāke Varahamihirā-cāryo divān gātal), Dr. Bhau Daji regards A. D. 505 as too early a date for the composition of the Pañcasiddhāntikā and concludes his remarks with the suggestion that ‘in all likelihood his birth was twenty or thirty years subsequent to this date, which would make Varahamihira about fifty or sixty years old at the time of his death in A. D. 587⁵. But as pointed out by Dikshit, there is reason to doubt the authenticity of Āmarāja’s statement: It is not certain whether the passage is in verse or prose; if versified it does not conform to the rules of metrics and if in prose it is difficult to ascertain whether it has retained its original form throughout so many centuries that have elapse-

नस्सेण-पूण्ण-मही १०३६ सम-शक-नूप-समयेंभवन्न ममोत्ति: ।
नस्सेण ३६ वर्षण मया सिद्धान्तिकरोणि रचित: ॥

Siddhānta-siromani, Golādhyāya, Praṇādhyāya, verse 58.

2. Ibid, I, 392.
4. A madhyama meṣa saṅkrānti fell close to Caitra sukh pratiṣṭhā of Śaka 427. Dikshit thinks it probable that in order to facilitate calculations of mean motions of planets and ahargana, Varahamihira adopted Śaka 427 as his astronomical epoch, while the PS may have been composed a little later. But as madhyama meṣa saṅkrāntis also fell close to Caitra sukh pratiṣṭhā in Śaka 419 and 438, the non-adoption of the latter as astronomical epoch shows that PS cannot be later than Śaka 438, vide HIA, p. 212.
sed since its composition. Moreover, in arriving at Varāhamihira’s date internal evidence of his own works must be given precedence over the statement of Āmarāja who flourished about four centuries after him. Even admitting his statement to be correct, it is not quite impossible that Varāhamihira was about twenty or twenty-five when he composed the Pañcasiddhāntikā in A.D. 505 and that after a long life of about 105 or 110 years died in A.D. 587. No doubt this is quite a high age, but certainly not impossible.

Dr. Bhuau Daji and, following him, Dr. Thibaut account for the mention of Śaka 427 by assuming that as “the deduction of 427 forms part of a rule which in the end is said to be ‘in’ or ‘according to’ the Romakasiddhānta”, Śaka 427 refers really to the date of the composition of the Romakasiddhānta or of a commentary thereupon or an adaptation thereof, whence it was borrowed wholesale by Varāhamihira, a suggestion utterly lacking in plausibility. It is well-known that astronomers do not always adopt the date of the composition of even their own siddhāntas as the astronomical epoch in their karaṇas. Thus Brahmagupta composed his siddhānta in Śaka 550, but the epoch of his karaṇa, Khaṇḍakathādyaka, is Śaka 587; Bhāskara wrote his Siddhāntasilomani in Śaka 1072 expired but had Śaka 1105 expired for the epoch of his Karaṇakutūhala. It is extremely unlikely, therefore, that Varāhamihira should have chosen the date of the Romakasiddhānta or its adaptation for the epoch of his karaṇa. Dikshit has shown that Śaka 427 (expired) ‘is not the date of the Romaka, as it is not that of the Sūryasiddhānta, the kṣepakas according to which also are for Śaka 427 expired.’ It is admitted even by Thibaut that ‘from the chapters on the Sūryasiddhānta it appears that Varāhamihira considers that year (Śaka 427) to be the epoch of his karaṇagranthā from which all astronomical calculations have to start; for all the kṣepa quanti-

1. HIA, p. 211.
2. Cf. HIA, pp. 211-12; Gaṇakataraṅgiṇī, pp. 11-13 where it is suggested that Varāhamihira may have been about seventeen when he started calculations for his PS in A.D. 505.
3. Literary Remains of Dr. Bhuau Daji, pp. 240-41.
4. PS, Introduction, p. XXXVIII.
5. Thibaut is at great pains to explain why Varāhamihira borrowed the year of the Romaka as the epoch of his karaṇa. cf. Ibid.
6. IA, XIX (1890), pp. 138 ff.
ties involved in the different rules, given in those chapters for finding the mean places of the sun, moon and planets, can be accounted for satisfactorily on that basis.\(^1\) Kern takes his stand on the above statement of Amāraja as also on Varāhamihira’s reference to Āryabhaṭa’s opinion in PS, XV.20. Kern argued that as Āryabhaṭa was born in A.D. 476\(^{1a}\), it is unlikely that 29 years after in A.D. 505 a work of his would have become so celebrated as to induce Varāhamihira to quote it as an authority. He was, therefore, led to the strange hypothesis that Alberuni might have erred in taking A.D. 505 as the date of the Pañcasiddhāntikā, while it really was the date of Varāhamihira’s birth.\(^2\) But as Āryabhaṭa composed his work—the Āryabhāṭiya—in A.D. 499, his opinion could well be quoted in a work composed six years later in A.D. 505, and especially so at Ujjain, which being the second capital of the Guptas, had close contacts with Pāṭaliputra and was a famous seat of astronomical learning from very ancient times. It will appear from the above discussion that in all probability the Pañcasiddhāntikā was composed in A.D. 505.

(iii) The Flourishing Period of Varāhamihira’s Life

Colebrooke has shown that as Varāhamihira is mentioned by name in the first book of the Pañcatantra, he must be anterior to or contemporary with Khusrau Nushirwan, King of Persia, in whose reign (A.D. 531-579) it was rendered into Pahlavi.\(^3\) Having discussed at length the position of coluses as depicted in the Bṛhatsamhitā, the same scholar comes to the conclusion that Varāhamihira flourished towards the close of the fifth century A.D.\(^4\) L. D. Swamikannu Pillai, starting from the first approximation A.D. 536, arrives at A.D. 532 as the year of zero ayanāṃsa and therefore the epoch of the Pañcasiddhāntikā.\(^5\)

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1: PS, Introduction, p. XXXVII.
1a: पञ्चतन्त्रानां वर्तितं दृष्ट स्नाताः प्रयोगादानं।
भविष्यति विष्णुतर्वात्स्तेष्ठम मयैः जन्मनाहित्तः॥

2: BS, Introduction, p. 4. B. L. Mukheji (The Date of Varāhamihira’s Birth, JASB, VIII (1912), pp. 275-278) also takes Śaka 427 to be the year of Varāhamihira’s birth.
4: Miscellaneous Essays, II, pp. 481-82.
The general consensus of opinion among scholars is thus in favour of assigning Varāhamihira to the last quarter of the fifth and the first half of the sixth century A. D.

There are some other considerations of a general nature supporting this conclusion. Varāhamihira shows acquaintance with Kauṭilya’s *Arthaśāstra* and the *Kāmasūtra* of Vātsyāyana which are assigned at the latest to the third and fourth centuries respectively of the Christian era. Thus in LXXXVII.1-2 we find mention of some princes who fell a prey to the machinations of their faithless consorts. This list is evidently borrowed from the *Arthaśāstra* (Bk. I, Ch. 20). The description of necklaces in LXXX.31-36 has close similarities, sometimes amounting to identity, with Bk. II, Ch. 11 of the *Arthaśāstra*. The first two quarters of LXXVIII.20 are almost identical with the corresponding portion of the concluding verse of Bk. II. Ch. 32 of the *Arthaśāstra*. Varāhamihira mentions *Arthaśāstra* (II, XIII.4) which may have reference to the Kauṭilya. Some verses of Chapter 73 of the *Bṛhat-saṃhitā* describing the signs of loving and disaffected women (verses 3-6, 12; 7-8), persons and occasions against which women are to be protected (verses 7-11) and the like seem to be based on certain sections of the *Kāmasūtra*. An erotic remedy recommended in LXXIV.10 is the same as that given in *Kāmasūtra* VII.1.38, while that prescribed in LXXIV.7 very closely approaches the one described in *Kāmasūtra* VII.1.37. The *Vivahapāṭala* (17) refers to the view of one Vātsyāya as to the year, month, fortnight and the *tiṭhi* proper for a nuptial. It is difficult to say whether he is identical with Vātsyāyana, but the view attributed to him is not met with in the text of the *Kāmasūtra* as we have it today.

Varāhamihira mentions the *Bhārata* i.e. *Mahābhārata* (II, XIII. 4), which must have received its present form not later than the fourth century A. D. and reveals knowledge of its contents. The recitation of the *Bhārata* was regarded as sacred. We have a reference to Aśvatthāman killing his enemies when they were asleep (*Draupī = yathāra = niśa sauptikena, II, IV. 39*). Varāhamihira attributes certain statements to Dvai-

3. Cf. I.5; III.3; V.4, etc.
pāyana (BY, I.15; YT, XVI.4), while verses 12, 13 of Chapter I of the Brāhadyātra are identical with Śāntiparvan 58.16, 15.

Mention is also made of the Rāmāyana (YT, XIII.4) which assumed its present form towards the close of the 2nd century A. D.\(^1\)

Our author quotes five verses (LXXIII. 7-11) in the name of Manu; one of these (LXXIII.10) is identical with verse 58 of the 3rd Chapter of the Manusmṛti the present text of which was formulated sometime between 200 B. C. and 200 A. D. The combined testimony of all these facts coupled with the mention of Āryabhaṭa (born A. D. 476) shows that the flourishing period of Varāhamihira's life cannot be placed before the last quarter of the fifth century A. D.

The religious conditions as depicted in Ch. 57 of the Brhatasamhitā also point to the same period. According to Varāhamihira, Sūrya should be depicted clad in the Northerners' Dress (udācya-veṣa), holding in both the hands lotuses by their stalks (LVII. 46-48). Though Sūrya images were draped in the Scythian dress even earlier, the other motif—lotuses in both the hands—was evolved in the Gupta period. Describing a four-armed image of Viṣṇu, Varāhamihira states that his two right hands should show sāntīda-mudrā (abhaya) and a mace, and the left ones a conch and a disc.\(^2\) This form was preceded by the 'Maitreyya type' of the early Kuśāṇa period\(^3\) and is illustrated by some Kuśāṇa sculptures and a single specimen from the Gupta period.\(^4\) This form went out of vogue after the Gupta age. Even in the Gupta period the sāntīda motif was slowly giving way to another characteristic emblem, a lotus. It indicates that Varāhamihira could not have flourished long after the close of the Gupta age. Moreover, our author allows quite a large number of verses to the iconography of Viṣṇu (5), Śiva (4) and Sūrya (7), but only one verse each to that of the Buddha and Jina. The Buddha is, however, styled as 'the father of the world' (LVII.44). This points to an age when Brāh-

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1. For a detailed discussion of the date, see Winternitz, op. cit., pp. 500-517.
2. LVII. 34.
manical sects like Vaiṣṇavism, Śaivism and the Sun cult were dominant, but Buddhism had also not yet lost its grip over the masses. This applies best to the Gupta and late Gupta periods.

II. Personal Life

All that we know about the personal life of Varāhamihira\(^1\), also known as Varāha\(^2\) and Mihira\(^3\), is based on stray references in his own works and certain observations found in Utpala’s commentaries thereon. A verse in the Upasamṛdhātyāya of the Bhajjātaka tells us that Varāhamihira was an inhabitant of Avanti (Ujjayini) and a son of Ādityadāsa\(^4\) from whom he studied through the blessings of the Sun at Kāpiththa.\(^5\) A perusal of the opening verse of the Pañcasiddhāntikā, however, gives the impression that his teacher in astronomy was different from his father.\(^6\) At one place in the Pañcasiddhāntikā (XVIII. 61) also Varāhamihira describes himself as Āvantiyaka. Utpala employs Āvanta as his secondary name\(^7\) and styles him Āvantikācārya\(^8\) as is also done by Mahīdhara in his commentary on the Bhajjātaka.\(^9\) As for Kāpiththa, it must be remembered that manuscripts give several variants like Kāmpilyaka\(^10\) Kām-

1. Varāhamihira mentions his own name in XLVI.2; LXXXV.4; CIII.64; PS, XVIII.61, 63, 65; VP, 97. B7, XXVIII.9.


5. आदिविद्वादतन्त्रयत्वदवाश्चोः कापित्य के सवितृत्वद्वाच क्राकार:।

6. दित्यकालमित्त्यूर्वानि विविधविनिर्माण्र्प्रणामं भव्यादारं।

7. Cf. the concluding verse of his commentary on BS, Ch. II, p. 82.

8. Cf. the introductory portions of his commentaries on BS, B7, YY and L7. Even Prthuyasas, Varāhamihira’s son, is styled by him as Āvantikācārya, cf. the beginning of his gloss on the Šatpañcākīṣṭā.


10. Ibid, IV, p. 11, No. 1376.
pillaka¹, Kāpiṣṭhala², Kāpiṣkala³ and Kāpitthaka.⁴ It is difficult to say which of these readings is really intended. Kāpitthaka is, however, the most popular reading. Sudhakara Dvivedi follows the reading Kāmpilyaka and suggests its identification with Kalpi near Jhansi in Uttar Pradesh,⁵ which is untenable, for the ancient name of Kalpi was Kālapriya⁶, not Kāmpilyaka. Kāpittha, according to Utpala, was a village where there was a Sun-temple (Kāpitth-ākhye grāme yo-sau bhagavān savitā sūryas = tasmāl = labdhaḥ prāpto varaḥ prasādo yena). It is usually identified with the village of Kayatha, about 12 miles from Ujjain on the Ujjain-Maksi road.⁶ Recent excavation conducted by the Vikram University has shown that the site is an ancient one; but there is nothing to prove that it was known as Kāpittha in Varāhamihira’s time. We have, however, a definite evidence in the form of Yuan Chwang’s Si-yu-ki that about a century later the town of Saṅkāṣya (modern Sankisa) in the Farrukhabad district of Uttar Pradesh was also known as Kapitha (Kah-pi-t’a).⁷ It is not improbable, therefore, that Varāhamihira was born and received his education at Saṅkāṣya and migrated to Ujjain later on⁸.

It is strange to note that in the introductory portion of his commentaries on the Brhatśaṁhitā and the Yogayātā Utpala describes Varāhamihira both as Āvantikācārya and Magadha-dvijā, which, if taken in ordinary sense, will be hard to reconcile. As we have seen above, Varāhamihira describes himself as an Āvantika, which is at variance with Utpala’s statement that he was a Magadha Brāhmaṇa. It is, therefore, tempting to treat the reading Magadha-dvijā as an error of Mss. for Maga-dvijā, meaning a priest of the Sun. But such a possibility is precluded by the fact that Utpala repeats his statement at another place (on LXXXV.4). Kern would account for this puzzling statement by suggesting, on the analogy of a modern

4. The Daivajña-vallabha attributed to Varāhamihira ends with almost the same verse as *Bṛj*, XXVIII. 9, cf. *NSM*, IV (1878), pp. 267, No. 1633.
5. Gāṇakartaraṅgini, p. 11.
8. For a detailed discussion on this question see my paper ‘Fresh Light on Varāhamihira’s Life’ in G. H. Bhatt Memorial Number of *JOI*.
practice of the Brāhmaṇas to distinguish themselves by the name of the country whence they themselves or their forefathers have come, that Varāhamihira's family derived its origin from Magadha. Sudhakara Dvivedi supposes that he was born in Magadha where he studied astronomy and astrology including Āryabhaṭa's works and later with a longing for fame and wealth left for Ujjain and ultimately settled there permanently. Had it been so, Varāhamihira would not have remained reticent about his Magadha extraction. His silence raises doubts as to the authenticity of the reading and its real implication. D. R. Bhandarkar draws our attention to a passage of the Bhaviṣyapurāṇa according to which Magadha denotes here nothing but a Maga (Maganī dhyāyanti ye tasmāt tena te Magadhāḥ smṛtāh, Brahmaparvan, CXVII.55). An instance of the synonymous use of the words Magadha and Maga is offered by a later tradition which makes the Śākadvīpi Brāhmaṇas indigenous: It is said that originally they belonged to Magadha whence they came to be called Magas. Be that as it may, the name-ending Mihira which, according to the Bhaviṣyapurāṇa, was the gotra of Rājhva and is borne at present by many Śākadvīpi Brāhmaṇas, coupled with the mention of the Magas as the only priests of the Sun, makes out a clear case for Varāhamihira's Maga ancestry.

That Varāhamihira was a devotee of the Sun admits of no doubt. His father's name Ādityadāsa, his own name-ending Mihira, derived from Mithra, the Iranian Sun-god, his obtaining a boon from the Sun, his obeisance to the Sun in the beginning of all his works except the Vivahapātala and his devoting a comparatively larger number of verses to the description of Śūrya icons, all indicate that the Sun was his family deity. His son Prthuyāsas also invokes the Sun in the opening verse

4. Risley, Tribes and castes of Bengal, I, pp. 155-60.
7. It opens with an invocation to Kāma, the Indian god of love.
8. BS, LVII. 46-52.
of his *Satpañcāśikā*. As we have seen above, Varāhamihira was regarded as an incarnation of the Sun.

The opinion of A. N. S. Aiyangar\(^1\) and K. V. R. Aiyangar\(^2\) that Varāhamihira had Vaiṣṇavite or Śrī-Vaiṣṇavite leanings and that he came into contact with the Vaiṣṇava saints (*Ālwārs*) who were preaching the philosophy of Śrī-Vaiṣṇavism in the Tamil country has nothing to commend itself.\(^3\)

The way Varāhamihira stresses the importance of a learned *sāṅvatsara* for a king probably shows that he was patronized by some powerful monarch. Opinions vary on the question as to who that ruler may have been. His identification with Harṣa Vikramāditya of Ujjain (6th Century A. D.) as proposed by Bhau Daji\(^4\) and with the king Vikramāditya, who is said to have ascended the throne in Śaka 466 or A. D. 544, as suggested by Kern,\(^5\) may at best be regarded as conjectures without any basis. Dr. B. Bhattacharya takes the statement of Āmarāja quoted above (i.e. Varāhamihira died in Śaka 509) to refer to the Vikrama era (i.e. he died in A. D. 451) and thinks that he lived in the court of Candragupta II Vikramāditya.\(^6\) The absurdity of his view is obvious from the fact that he has to go to the extent of supposing that the author of the *Pañcasidhāntikā* is different from that of the *Bṛhatasamhitā* and the *Bṛhajjātaka*.

The large variety of topics dealt with by Varāhamihira and his minute knowledge of the economic products of and the customs obtaining in different regions indicate that he must have toured extensively throughout the country.

Tradition also says that he visited a foreign country, probably Yavana. Dr. A. N. Upadhye contributed a short but interesting paper\(^7\) proposing to identify Varāhamihira with Buzūrmehr who, according to some Persian traditions, rendered the fables of the *Pañcatantra* into Pahlvi at the instance of Khusrow Nushirwan, king of Persia, who ruled from A. D.

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1. *Varāhamihira-horāśtrastam*, Introduction, pp. XLVII-XLVIII.
2. *Ibid*, foreword, p. VII.
3. The fervour displayed in praising Viṣṇu in *BS*, Chs. 42 and 104, indicates, if anything, religious eclecticism or the then religious beliefs and practices.
531 to 576. Dr. Upadhye thinks that the word varāha in a personal name is not quite palatable and possibly the author's name has a foreign tinge; that his original name might have been Bṛhanmitra; that the presence of Bṛhat in the titles of two of his works may not be accidental and the author might be indicating his own name there, for, though the "Bṛhjjātaka may be in contrast to his Laghuṭātaka, but it must be remembered that there is no Laghusamhitā as against his Bṛhatsamhitā, a title like the Gargasamhitā, etc."; and that at an early age he had an opportunity to spend some years in a foreign country, probably Persia, where he was known as Buzūrjmehr, the more easily pronounceable form of which is Varāhamihira.

This theory is indeed very ingenious but not convincing Varāha forming part of a name may not be palatable, but is certainly not uncommon and without a precedent. Names like Varāha¹, Varāhadāśa,² Varāhadeva,³ Varāhadinna,⁴ Varāhadatta⁵ and Varāhasimha⁶ are known from inscriptions. Even such opprobrious names as Śvetāśvatara, Śunaśsepha, Kaupapadanta and Vātavyādhi are on record. The word bṛhat in the titles of four (not two) of his works does not represent the author’s name but stands in contrast to the abridged versions of the same works; we know from a large number of quotations in Utpala’s commentary on the Bṛhatsamhitā that Varāhamihira also wrote an abridged version of the Samhitā known as Svalpa—or Samāsa-samhitā. Even admitting for a moment that Varāhamihira visited Persia, it will be extremely strange that he should have referred to himself and should have been known in his native country not by his original name but by a name which is a corruption of its (of Bṛhanmitra) foreign form. Moreover, if at all Varāhamihira visited any foreign country, it must have been Greece or Rome, for he shows close understanding of Greek astrology, highly extols the Greeks' proficiency in astrology and uses a large number of Greek words in Sanskritised form.⁷

1. Bhandarkar’s List, No. 67.
2. Ibid, Nos. 9, 1323.
3. Ibid, No. 1712.
4. Ibid, Nos. 1195, 1196.
5. It occurs on the Nr-Varāha image of the Gupta period found at Eran, now in Sagar University Museum. I owe this information to Prof. K.D. Bajpai.
7. For a detailed analysis of Dr. Upadhye’s theory see my paper in the G. H. Bhatt Memorial Number of JOT.
III. Legends and Myths

In the absence of necessary biographical details, many legends and stories have gathered round Varahamihira, some of which may be recorded here. Ch. 8 of the 3rd Pratisarga-parvan of the *Bhavishyapurana* narrates a story which is summarised below:

The astrologer of Satyadatta, king of Kānci, had a son, Pūśan by name, who, on his death, went to the abode of the Sun. The Sun predicted that he would incarnate himself as Mihirācārya in the house of Rudrapāṣu at Ujjayini. He was born in the Mūlagaṇḍānta-visāya and Abhijid-yoga and was, therefore, thrown away in a river; he reached Laṅkā where he was brought up by demonesses and studied astronomy; he was sent back to Ujjain by Vibhīṣana; there he remodelled into three divisions the *Jyotiṣa vedāṅga*, which had been destroyed by the Mlecchas.

A mischievous floating verse tells us that Śabarāsvāmin, the well-known scholiast of Mīmāṁsā, married four wives from four castes and had six sons from them: Varahamihira from the Brāhmaṇa wife, Bhartṛhari and Vikrama from the Kṣatriya wife, Haricandra and Śaṅku from the Vaiśya wife and Amara from the Śūdra wife. Dr. Kane informs us that the real name of Śabarāsvāmin, who lived sometime between A. D. 100 and 500, was Ādityadeva, the former name being due to his having protected himself from Jaina persecution by passing off as a forester. We cannot be sure if Varahamihira’s father Ādityadāsa can be identified with Śabarāsvāmin. But Ādityadāsa is described by some commentators as a learned astrologer (*kārttāntikottama*), whereas Śabarāsvāmin was a *mīmāṁsaka*.

Some legends recorded by comparatively modern Jaina

2. ब्राह्मणमवद्वराह्मिहिरोव्यौतिकविदाद्याविणि:  
राजा भतुः हरिश्च विक्रमनुपः कानात्जायाभास्मूतः । 
वैश्यायो हरिश्न्वेशन्तरैवतिलको जातश्च शान्तः: कृती 
शूद्रायाभार: पदेव शब्दस्वामित्वस्यादमना: ।
writers make Varāhamihira a younger or elder brother of the Jaina patriarch Bhadrabāhu and thereby a contemporary of Candragupta Maurya. Merutunga in his Prabandhacintāmaṇī1 (14th century A.D.) records one such story current in his time. We are told that Varāha, a Brāhmaṇa boy of Pāṭaliputra, had from the very childhood an inclination towards astrology. But due to poverty he had to earn his livelihood by grazing the cattle. Once he drew a horoscope on a rock but forgot to efface it before returning home. When he remembered and went to efface it, he found a lion sitting over it. But he effaced it with great courage. The lion appeared before him as the Sun god and being pleased with the boy's courage and faith, showed him all the planets and stars. Since then he came to be called Varāhamihira, became an astrologer of king Śrīnanda and composed the Varāha Saṁhitā. Once when blessed with a son, he predicted full 100 years' life for the boy and all except his younger brother Bhadrabāhu joined the festivities. When asked about the reason, Bhadrabāhu predicted that the child would die on the 20th day and his prediction came true. Being utterly disappointed at this, Varāhamihira was about to consign all the śāstras to fire, but was consoled and prevented from doing so by Bhadrabāhu. But Varāhamihira, being jealous of Bhadrabāhu, resorted to black magic and troubled his followers for averting which Bhadrabāhu composed his Upasargaḥara-stotra.

Bhadrabāhu was regarded as the author of two astrological works, a commentary on the Sūryaprajñapti and the Bhādrabāhu Saṁhitā. This and similar other stories2, therefore, appear to have been invented with the intention of showing the superiority of Bhadrabāhu over Varāhamihira, the greatest Brāhmanical astrologer, and of Jain astrology over Brāhmanical astrology.3

On the alleged authority of 'some old Gujarathi text' which he 'heard during his travels', B. Suryanarayana Rao narrates a marvellous story4 which may be summarised as follows: Ādityadāsa and Satyavatī alias Indumati, inhabitants

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1. V. 218-219.
of Kapittha agrahāra, 100 miles south-west of Ujjain, got a son in their fifties and named him Mihira, for he was born in ful- filament of a boon of the Sun god. Impressed by his extra- ordinary skill in astrology, Vikramāditya made him a gem of his court. When Vikramāditya’s queen bore a son, Mihira predicted that he (the son) would be killed by a boar on a particular day in a certain month in the 18th year. When in spite of all possible precautions this prophecy came out true, the emperor was greatly impressed and honoured the great astrologer by conferring on him the emblem and the style of Varāha, whence he came to be known as Varāhamihira.

IV. Known Works

The science of astronomy is divided into three branches (skandhas), viz., 1. Tantra or mathematical astronomy, 2. Horā including nativity, horoscope for weddings and nuptials and prognostications for journeys, and 3. Saṅhitā or mundane astrology (I.9). As Varāhamihira says himself, he composed works in all the three branches (CVI.14; BJ, XXVIII.6). The first branch is at present represented only by what he calls Karaṇa¹ and which Utpala and Alberuni refer to and is known at present as Pañcasiddhāntikā, apparently because it epitomises the salient features of the five Siddhāntas current in his time, namely, the Pauliśa, the Romaka, the Vāsiṣṭha, the Saura and the Paitāmaha.² Utpala’s commentary on the BrhatSaṅhitā abounds in quotations from the Pañcasiddhāntikā. But Alberuni (I. 153) had probably no access to it, for he had no correct idea of its contents. “Varāhamihira”, says he, “has composed an astronomical handbook of small compass called Pañcasiddhāntikā, which name ought to mean that it contains the pith and marrow of the preceding five Siddhāntas. But this is not the case, nor is it so much better than they as to be called the most correct one of the five. So the name does not indicate anything but the fact that the number of Siddhāntas is five.” The work was lost for all practical purposes, and the patient

¹ I. 10; V. 18; XVII.1; XXIV.5; CVI.14; etc.; FS, XVIII.65; BJ, XXVIII.6.
² For Bentley’s view attributing all the five Siddhāntas to Varāhamihira, see AR, VI (1806), pp. 537 ff; VIII (1808), pp. 195 ff.
investigations of Sanskritists yielded only two badly preserved manuscripts on the basis of which it has been edited by G. Thibaut and Sudhakara Dwivedi along with a Sanskrit commentary by the latter (Banaras, 1889). Its value for historical purposes can hardly be overestimated for it forms the only source of our knowledge of the contents of the aforesaid five Siddhântas and the views of some earlier astronomers whose works are lost to us irrecoverably. From the introductory portion of Utpala’s gloss on the Laghujâtaka it appears that Varâhamihira prepared an abridged version of his Kârana also which is no more extant (Varâhamihira……jyotishâstrasangraham kṛtvā tad=eva vistaram granthabhîrûñâm kṛte sankśiptam gaṇitaśastram kṛtvâ horāśastram saktyukâmaḥ).

His works in the other two branches exist in a double form—copious and abridged. The Brhajjâtaka, the Brhadvivâha-paṭala, and the Brhadâyâtra along with their abridged versions, the Laghujâtaka, the Svalpavivâha-paṭala, and the Svalpâyâtra belong to the second branch. Alberuni (I, 158) informs us that the Brhajjâtaka¹ was commented upon by Balabhadra who flourished sometime before Utpala. The commentaries available at present are: (1) the Jagaceandrikâ, also known as Cintâmani and Vîrvti, by Utpala, (2) the Jâtaka-vivaraṇa by Mahâdhara,² also known as Mahâdasa and probably identical with the celebrated commentator of the Vâjasaneyi Sanhitâ and the author of the Mantramahodadhi (A. D. 1581),³ (3) the Nîlotpaliyâ,⁴ probably so called after the name of the commentator, (4) the Prakâśa by Nityaparakâśa Sûri,⁵ (5) the Daśâdhyâyi,⁶ (6) the Naukâ, also known as Horâ-vivaraṇa or Varâhamihira-horâ-tatparya-sâgara,⁷ and (7) the Subodhini.⁸ Of these only Utpala’s commentary has so far been published. The Laghu-jâtaka, also known as Svalpa—or Süksma-jâtaka, was commented

¹. It was also known as Varâhahorâśstra or Varâhamihira-horâśstra, cf. CSMGOML, p. 9481.
². NSM, VII, pp. 211-212, No. 2453.
³. CSPMBRAS, I, p. 122, No. 370.
⁴. CSMGOMLM, p. 646.
⁵. CSMGOMLM (Suppl.), p. 16.
⁶. CSMGOML, p. 9481, No. 14064.
upon by Utpala and rendered into Arabic by Alberuni (I,158). The great popularity enjoyed by these two works is attested to by a large number of commentaries in Sanskrit as also in modern Indian languages. The Bhādyātrā or the Bhadyogayātrā was also known as Mahāyātrā and had a gloss by Sūryadeva Somasut of Naidhrva gotra as will appear from the concluding part of his gloss on Muṇjāla’s Laghumāna (tato Varāhamihira-kṛtā Mahāyātrā sankṣēpato vyākhyātā). It was also called Yakṣye śva-
medhikā or Yakṣyeśvamedhīyā Yātrā, evidentlly after its 2nd verse Yakṣye=śvamedhena vijitya, etc. The text is preserved in the Government Oriental Manuscripts Library, Madras, and in the Library of the Bombay Branch of the Royal Asiatic Society and has been recently edited critically by V.R. Pandit (not yet published). He has also edited the Svalpayātrā, also known as Ṭiṇaṇikayātrā. Varāhamihira is also known to have composed another work on journeys called the Yogayātrā which, Utpala says, was written by him because he regarded the Yakṣyeśvamedhīyā Yātrā as imperfect (tatr-ādau Yakṣye=śvamedhīyāṁ Yātrāṁ vidhāya tām=aparipūrṇāṁ manyamāno-parāṁ Yogayātrāṁ cikīrsuḥ, Utpala on IY, I.1. Its first nine chapters were edited by H. Kern and the entire work has been published by J. L. Shashi. The last edition is very badly prepared and a critical edition of the entire work will be of great value for students of cultural history. It has a commentary by Utpala which is yet to be published. In his gloss on the Brhadajītaka (XX.10), Utpala mentions both the large and abridged versions of the Vivāhapatāla. A Vivāhapatāla is preserved in a single manuscript which forms the basis of the unpublished edition of V.R. Pandit. It is commented upon by Utpala. It is difficult to say whether the extant text represents larger or smaller version.

5. CSPMBBRAS, p. 128, No. 388.
6. JUB, XX, Pt. II (September 1957), pp. 40-63.
8. CSPMBBRAS, pp. 128-29, No. 389, NSM, I (1871), p. 28, No. XLVII. As noted in the preceding note, a manuscript of the text with Utpala’s gloss is preserved in B. O. R. Institute also.
The Br̥hat samhitā, also known as Vārāhi Samhitā, comes under the third branch. Its text was edited by Kern (Calcutta, 1864), and Sudhakara Dvivedi published it along with Utpala’s commentary (Banaras, 1895-1897). It was translated into Arabic by Alberuni (I,389; II,277) and into English by Kern (only 84 chapters). The Utpala-parimala, an abridged and simplified version of Utpala’s commentary, by Bhāskara, son of Kumāra and grandson of Rāma of Naidhruga Kāśyapa gotra and Vārṣaganyā-family, still awaits publication. The abridged version of the Br̥hat samhitā, called Samāṣa—or Svalpa samhitā, is known to us only from quotations in Bhāṭotpalpa’s commentary. Alberuni’s silence about it indicates that the work was lost as early as the first half of the 11th century.

V. Other Works Attributed to Varāhamihira

Apart from the above-mentioned works, Alberuni refers to the Horāpañcchatotrya (sic) and a book on architecture (title missing) as Varāhamihira’s writings. Utpala’s silence about the alleged work on architecture seems to indicate that Chs. 52, 55 and 56 of the Br̥hat samhitā dealing with architecture were also studied independently which fact led Alberuni to treat it as a separate work. We have instances of several chapters of the Br̥hat samhitā being independently copied and studied. Thus independent manuscripts of Citramāyira (Ch. 46), Jalārgala-sāstra or Dṛgargala (mistake for Dārgala or Dakārgala, Ch.

1. JRAS, 1870-75.
3. I have recently collected and edited these extracts in my paper, ‘Contribution towards the Reconstruction of the Samāsa-samhitā of Varāhamihira,’ BV, XXIII (1963), 22-39.
4. A Classified Catalogue of Sanskrit Printed Works in the Govt. Oriental Library, Mysore (1922) mentions the Br̥hajjyotisa or Brāhmaṇapattī-mūrtiyāda as another work of Varāhamihira (No. C188). I have not been able to Consult it.
5. Hiralal, Cat. of Skr. and Prakrit Mss. in C. P. and Berar, Nos. 1687, 3884; Kielhorn, A Classified Alphabetical Cat. of Skr. Mss. in the Central Provinces, p. 236, No. 108.
7. CSPMBBRAS, 1, p. 81, No. 243.
53), and Prāśāda-lakṣaṇa (Ch. 55) are recorded in manuscript catalogues. Alberuni (I, 158; II, 277) is certainly mistaken in assigning to Varāhamihira the Śatapāñcāśikā which is really a work of his son Prthuyaśas.

1. Vaṭakaṇṭikā: Dr. Kane has shown from references in Ballālasena’s works that Varāhamihira wrote a work on portents called Vaṭakaṇṭikā whence about 120 verses are cited in the Adbhutasāgarā.

2. Śṛṅgāra-taraṅgini: Raghunātha Manohara (between A. D. 1675 and 1700) in his Kavi-kaustubha, a work on poetics, mentions the Śṛṅgāra-taraṅgini as a work of Varāhamihira (Varāhamihirasya Śṛṅgāra-taraṅginyām, fol. 12). A commentary on the Amaru-sātaka, entitled Śṛṅgāra-taraṅgini, by Śūryadāsā or Śūryasūrī is noticed by Aufrecht and Dikshit. It is possible that Raghunātha Manohara may have mistaken in assigning the commentary to Varāhamihira. But it seems more probable that our author composed an independent treatise on erotics or poetics.

The following works, still existing in manuscripts only, are also attributed to Varāhamihira:—

3. Pañca-pakṣi: It is a short treatise on divination by means of the letters a, i, u, e and o, with a commentary. It is written in Devanāgari characters of about A. D. 1750. The text ends on folio 10b. It concludes with the verse—


2. It is strange to find that some Mss. of the Śatapāñcāśikā are actually wrongly ascribed to Varāhamihira (V. W. Karambelkar, Catalogue of Sanskrit Mss. in Nagpur University Library, No. 2335; W. Taylor, Cat. of Oriental Mss. in the College Fort, St. George, p. 317) and described as a supplement to B7 (Ibid, p. 79, No. 2075) or BS (R. L. Mitra, Cat. of Skr. Mss. in the Library of the Maharaja of Bikaner, Calcutta, 1880, p. 337), while others are attributed to Bhāṭṭotpala (Karambelkar, Op. cit., Nos. 2336-2339, 2341) or Dāmodara Daivaṭa (Ibid, No. 2340). It is also referred to as Śatapāñcasati (W. Taylor, Op. cit., No. 2075) which is a misnomer. It was also known as Prāśa-mahoodttithi and ascribed to Prthuyaśas, wrongly described as Bhāṭṭotpala’s son (CSMGML, Nos. 13954, 13957, 13959). The Samara-vijayodaya is another work attributed to Prthuyaśas (CSMGML, p. 366).

3. All-India Oriental Conf., 291st Session, Summaries of Papers, p. 47. The paper has since been published in Vishveshwarananda Indological Journal, I, pp. 63-65.


6. HIA, p. 272.
Varāhamihireṇ = oktaṁ sadyah prayayakārakam 1
Lagnāṁśa-kathinam jñātvā samāsena svāsaktiṁ 2

4. Daivajña-vallabhā: It is a treatise on divination. It ends with the same verse as B7, XXVIII.9, except for the substitution of Horāṁ Varāhamihiro rucirāṁ cakāra by Yatnād = etāṁ Varāhamihiro racayāṅcakāra. That it cannot be a work of Varāhamihira is obvious from the opening stanza which contains invocation to Iśvara, who is described as Bhairava and Advaita, instead of Sūrya, his family deity.

5. Praśna-cūdāmaṇi: A treatise on divination in 86 verses. It is probably a work of late origin (Śaka 1686) by one Candraśekhara.

6. Praśna-mahodadhi: A treatise on Praśna-vidyā with Śridhara's gloss. It breaks off in the 7th chapter, and extends from folio 27a to 37b. It begins with the verse—
Varāhamihir-ārthakya (-cārya) kṛtya-Praśna-mahodadhau 1
Śridharaḥ kurute vyttīṁ pūrvāṁ lok-ānukampayā 2

7. Praśna-candrikā: It seems that Varāhamihira actually composed a work on Praśna. His authority on this subject is quoted in Nilakanṭha's Jyotiśa-kaumudi and Nārāyaṇa's Praśna-Vaiṣnava.

8. Aṅga-cūdāmaṇi: It consists of 225 ślokas and covers 47 folia written in Bengali characters.

9. Jātalkārṇava-saṅgraha: A Ms. of Jātalkārṇava preserved in Nepal Durbar Library has three chapters. In the India Office Library, the same Ms. bears the title Chāyādhikāra and

3. NSM. I, p. 229; III, p. 81.
4. TCSM, II, pp. 1612-14, No. 1288.
5. Cat. of Skr. Mss. in the Deccan College Library, XIV (1881-82), foll. 38; Cat. of Skr. and Prakrit Mss. in C. P. and Berar, No. 3161.
6. Cat. of Skr. Mss. in Desai Collection of Bombay Varsity Library, No. 1463
7. CSMGOML, pp. 9420-21, No. 13976; Cat. of Skr. Mss. in Bombay University Library, No. 1493.
has seven chapters. Elsewhere it is said to consist of 84 verses covering 6 folia.

10. Yogārṇava.
12. Sūtikādhyaṇa.
13. Puṣkaranyādi-paddhati.
15. Jātakābharaṇa.

VI. Chronological Order of Known Works

There is sufficient evidence, internal and external, for determining the relative chronology of Varāhamihira’s works. That the Brhatasthānātī was his last major work and was preceded by his writings on mathematical astronomy and horoscopy is evidenced by the statements of Varāhamihira himself and his commentator Utpala. The latter in the introductory portion of his commentary on the Brhatasthānātī says that the author undertook the composition of the Samhitā after he had finished his works on the first two branches of Jyotiṣa (gaṇitaskandha-horāskandhau sāṁkṣiptau kṛtvā samhitāskandham sāṁkṣiptāṁ cikirṣuḥ. Cf. Yady-āpi gaṇitaskandha-horāskandhau prāg-eva-oktau, on I.8) and Varāhamihira tells us the same thing (Hor-āṇyo-ñgaviniścayaś- ca kathitāḥ skandhas-śṛtiyo-parāḥ, I.9). We are told that the retrograde and direct motions of planets along with their eclipse and reappearance, the determination of the magnitude of the sun’s eclipse by the moon’s deflections and the actual time of the conjunction of the sun and the moon, the method of

1. Eggling’s Catalogue, No. 3082.
2. NISM (2nd Series), IV (1911), pp. 69-70.
5. Cat. of Skr. Mss. at Jammu, p. 176, Nos. 836, 1058, 1182, 2940, 2954.
6. Darbhanga, Ms. No. 229.
7. Ibid., No. 107.
8. Hiralal, Cat. of Skr. and Prakrit Mss. in C P. and Berar, No. 1797.
9. Ibid., Nos. 2167, 2168.
10. वक्रन्तक्रसंकस्मयोद्यावास्तारात्महान्यां कर्ष्यो ये मयेक्ति: II I.10.
11. अतन्त्याकारप्रसोहितां स्यया कर्ष्यार्जनयत्या च।
तिथ्यसानालेबला कर्ष्यो कक्षितान्त तार्नि यया II V.18.
predicting planetary conflicts\(^1\) and the conjunction of the moon with the constellation of Rohini\(^2\) were already dealt with by him in the *Karaṇa* which, Utpala says, is the same as the *Pañca-siddhāntikā*. We also learn from the *Bṛhat-samhitā* that Varāhamihira had already treated of the auspicious and inauspicious signs of fire (XLII.31), marks of the altar, priest and fire in connection with planetary sacrifice,\(^3\) movements of horses and elephants betokening good and bad results\(^4\), revelation of future by dreams\(^5\), the mode of propitiating planets at the planetary sacrifice\(^6\) and the auspicious and inauspicious articles seen at the commencement of a journey\(^7\) in his work on *Yātrā*. In most cases Varāhamihira seems to refer to the *Bṛhadyātrā* whence Utpala quotes relevant verses, while in some cases the *Yogayātrā* appears to be intended. On XLII.31, Utpala takes *Yātrā* to mean the *Yogayātrā* (*Yātrāyāṁ vistaro=bhihitāḥ, Yogayātrāyāṁ vistara ukto mayā*) and quotes seven verses the first five of which are *YY*, VIII.9-12, 14. On XLIII.18, Utpala quotes four verses from the *Yogayātrā*, two on the movements of horses (XI. 15, 14) and two on those of elephants (X.62-63)\(^8\). On L.7, he cites *Siddhārthak-ādārśapayo=ājanāni* and *Karṇas-ausadha-kṛṣṇa-*

1. \(\text{YL}^{17.1}\)
2. \(\text{YL}^{XXIV.5}\)
3. \(\text{YL}^{XLIII.14}\)
4. \(\text{YL}^{XLIII.18}\)
5. \(\text{YL}^{XLVII.22}\)
6. \(\text{YL}^{XLVII.29}\)

Cf. Utpala : *Γρανανάμανιδιανίδιοινα* *γρανανα* *γραναναν* *γρα

7. \(\text{YL}^{L.7}\)
dhānyam which are the beginnings of ५७, XIII.10 and XIII.14 respectively. On CIII. 60, he introduces two verses with the phrase Yātrā-kālo=bihiita acāryena; the second verse is ५७, I.19. There can thus be no doubt that both the major works on yātrā were composed before the Saṁhitā. In XCV.13, Varāhamihira refers to his work on nativity. It is stated in the concluding verse of the Brhatasamhitā that the author had already composed his treatises on yātrā, jātaka and karaṇa. It would appear from I.10 that the works on horoscopy composed before the Brhatasamhitā were major ones, viz., the Brhajjātaka, the Brhdayātrā, the Yogayātrā and the Brhadvivahapatāla. The Brhatasamhitā was thus the last in the series of his bigger works.

The absence in the Pañcasiddhāntikā of references to any of his writings as having been composed earlier, the explicit statement that he would deal with certain astrological matters in the work to be composed after the Horā and Tantra (i.e. Brhatasamhitā), the mention in the Brhajjātaka of the Karaṇa (i.e. Pañcasiddhāntikā) as an earlier work (XXVIII.6) and the fact that the Karaṇa is almost always mentioned first in the order of enumerating earlier works followed by both Varāhamihira and Utpala show that the Pañcasiddhāntikā was his first composition.

Both Utpala (jyotiḥśāstra-saṅgrahakṛt gañitaśakandha-aṇanta-rāṇaḥ horāśaṅkhaṁ cikīrṣuh) and Mahidhara (…gañitasakandha-aṇanta-rāṇaḥ horāśaṅkhaṁ cikīrṣuh) aver in the introductory por-

1. एवं यथा यथ्यथा जन्मन्त्रे चिह्नं रूपं तत्दस्मिन् विशिष्यम् II
Cf. Utpala— जन्मन्त्रे जातकसंये.

2. अप्राणवत्सलेषा पतिकेषा निगदितं यागायम्।
बहुवस्त्रयं जातकमुखं करणं व बहुवोधम्। II CVI.14.

3. हृदान्तो विस्तारमेव जन्म यागायमुभस्म: सह पूर्वमुक्तम्। II
Cf. Utpala—एतद् जन्म बहुज्ञातं बहुवावस्त्रं बहुवोधविश्वस्तं मयावतं विरचिनितम्।

4. वर्ण यथ यथा स्थल मासे मूलन्त्रयात्मांत्यायः।
तत्तद चैव वेयेहेऽरात्त्रोत्तरविश्वने। PS, I.22.

The reference is to Ch. XIX of BS. The phrase horātanit-ottarasaśidhāne is usually taken to refer to the Brhajjātaka, which is incorrect. It should be taken to mean the work composed after the Horā (५७) and Tantra (PS), the irregularity of the chronological order being due to metrical considerations.

5. NSM, VII. pp. 211-12, No. 2433.
tion of their commentaries on the Brhadajataka that it was taken up immediately after the Pañcasiddhāntikā. The Brhadajataka refers to the Vivāha (XXIV.16) and Tātārā works (XXVIII.3) as to be composed in future. Upatita also states that the Vivāhapatañala was yet to be written (vāksyaṃṇa-Vivāha-patañal-oktaḥ, on BJ, XXIV.16). The Brhadyātrā mentions the Jātaka as composed earlier (Yath-oktam jātaka sarvaṃ tath-āv-ātr-āpi cintayet, BY, II.8) and makes a pointed reference to its Prakīrṇakāḍhyāya (Ādau prakīrṇak-ādhyāya-coditāḥ kāraṇ-ākhyātāḥ = ca, BY, XI.15) which is Ch. 22 of the Brhadajataka. The Yogayātrā (IV.52) and the Vivāhapatañala also refer to the Jātaka as an earlier work (Uktam janmani yat tad = eva bhavitā yady = aṅganānāṁ phalam, VP, 16; Purvaḥ ca yad = yuvati-janma-vidhau may-oktam, VP, 97). In the introduction to his gloss on the Yogayātrā, Upatita says that the author first composed the Pañcasiddhāntikā, then Jātaka, then the Yaksyeśvamedhīyā Tātārā and that he considered the last mentioned work to be imperfect and therefore composed the Yogayātrā. He also avers that the Vivāhapatañala was written after the Tātārā works (Varāhamihira iyotihāstrādi-saṅgraha-kṛd = yātārā-vidhānād = anantarāṃ Vivāhapatañalān cikīrṣuḥ, introduction to the comm. on VP.). It will seem from the above discussion that the major works were composed in the following chronological order: (i) Pañcasiddhāntikā, (ii) Brhadajataka, (iii) Brhadyātrā, (iv) Yogayātrā, (v) Vivāhapatañala and (vi) Brhatasamhitā.

It seems that after completing all his major works, Varāhamihira retouched them from an editor’s point of view and introduced some editorial remarks here and there. This fact explains the Pañcasiddhāntikā (XV.10) reference to the Samhitā and the Brhadajataka (XXVIII.6) reference to the Vivāhapatañala and the Samhitā in the past tense.

Nothing definite can be said regarding the chronological position of the abridged versions of the above works. The open-

1. The reference is to Ch. 24 of BJ.

2. तद्यथमपि वराहमिहिरो ज्योतिषाश्चास्त्रांसंग्रहकर्कति गणितस्थापानस्तत्र जातकमपि प्रवर्त्तितानि। तदन्तरं प्रयाणप्रविष्टकृत्य... विद्येश्वमेधीयां यथों विवाह ताम-परिणामो मन्यमानोज्ञे योगयात्रा चिकित्से।...

B.O.R. Institute Ms. No. 856 of 1884-1887, New No. 24, folio 1.

3. Fol. 1a, ll.4-7, quoted by V. R. Pandit, p. 173.
ing verse of the *Laghuṣaṭaka* tells us that it was composed after the *Bṛhajjāṭaka*. But Utpala in the beginning of his gloss (*Hitā*) on the *Laghuṣaṭaka* informs us that the author first abridged his work on mathematical astronomy and then *Horaśāstra*. Thus there are two possibilities; either each smaller work was written immediately after the corresponding major work or all the smaller works were composed subsequent to the *Bṛhatṣamhitā*.

**VII. The *Bṛhatṣamhitā***

Being the last major work, the *Bṛhatṣamhitā* is a product of mature age and accumulated experience. It is a monument of encyclopaedic learning and a source-book of inestimable value to a student of Indian cultural history. Our author has brought topics of varied interest within the purview of his *Samhitā* as will be revealed by a cursory review of its contents.

After introducing the subject and describing the qualifications of an expert diviner in the first two chapters, the author deals in the next eleven chapters (3-13) with the motions of the sun, the moon, planets, Rāhu, comets, Canopus and the Great Bear. Chs. 14-6 allot countries, peoples and various objects to constellations and planets and are followed by four chapters (17-20) treating of planetary conflicts, the conjunction of the moon with planets, the years presided over by each of the planets and their results, and planetary triangles. Chs. 21-8 are very important to students of rainfall in ancient India. Ch. 29 describing prognostics from the growth of fruits and flowers is followed by an account of dawn and twilight (30), conflagration of quarters (31), earthquake (32), meteors (33), haloes round the luminaries (34), rainbow (35), aerial city (36), mock sun (37) and hurricane (38). Astrological factors accounting for the growth and prosperity of crops and other commodities and the fluctuation of prices are treated of in Chs. 39-41. The mode of celebrating the festival of Indra’s banner forms the subject-matter of Ch. 42. Ch. 43 contains the oldest extant account of the lustration (*nīrājana*) of horses, elephants

1. होराष्ट्रस्त्र वृत्तमया निबद्धं निरीक्ष्य शास्त्राणि ।

   यत् तत्स्थाप्यायांभि: सारमहृ सम्प्रवश्यामि ॥

   *LJ*, I.1.

and men, a rite which is still very popular. Prognostics from
the movements of a wagtail are given in Ch. 44. Portents
and ceremonial ablation called Pusa-nāṇa claim one chapter
each (45, 47), the intervening chapter (46) being devoted
to a summary of the foregoing topics. Details about ornamental
gold-bands and swords are found in Chs. 48-9. Next two
chapters deal with the aṅgavidyā and the signs of moles, etc.
The five chapters dealing with residential (52) and temple
architecture (55), plasters (56), iconometry and iconography
(57) and sculptural materials (58) are the oldest extant texts
on the subject and considerably add to our knowledge of
Indian architecture and sculpture. The only extant account
of the exploration of water-springs is found in Ch. 53 and
that of arbori-horticulture in Ch. 54. Some verses (111-115)
of Ch. 53 give certain means of breaking hard rocks. The
installation of images is dealt with in Ch. 59. Seven chapters
(60-66) are devoted to fauna. Next three chapters treat of
the signs of men (67) and woman (69) in general and of the
time great men (68) in particular. After mentioning beliefs
pertaining to cloths (70), Varāhamihira proceeds to describe
fly-whisks (71), parasols (72) and erotic remedies (75). He
offers unstinted tribute to womanhood (73) and extols certain
ethical qualities as the best means of winning over others (74).
The Gandhayuktī section (76) dealing with cosmetics and
perfumery is of great value for the history of applied chemistry
in ancient India. The union of man and woman and matters
relating to pregnancy dealt with in Ch. 77 would better form
subject-matter of a treatise on erotics and medicine. We get
an interesting account of raw materials and techniques of
fashioning furniture in Ch. 78. Next four chapters (79-82)
deal with trade in precious stones including pearls and pearl-
necklaces. Our author had first hand information of the subject
as will appear from the mention of certain code-words in use
among dealers in pearls. Two short chapters enumerate beliefs
about lamps (83) and toothsticks (84). Next eleven chapters
(85-95) are devoted to sākunas. Some purely astrological
matters are dealt with in Chs. 96-103. The ritual of Rūpa-
satī occupies Ch. 104. The following two chapters give some
concluding editorial remarks (105) and table of contents (106).

As will be clear from the above survey of contents, many
chapters are of a highly specialised nature and were for this reason studied as independent treatises by people anxious for specialisation in different branches of practical knowledge. As we have already shown, Alberuni remembers Varāhamihira as an authority on architecture and the sections on temple architecture and exploration of water-veins were studied independently. It is on account of Chs. 79-82 dealing with precious stones that he was regarded as an authority on Ratnaśāstra.¹

The Brhatsaṃhitā is extremely valuable from another point of view also. Utpala styles Varāhamihira as mahāgranthabhīrū and samāsoktipriya, i.e., unwilling to harp on a topic at length and preferring to make brief statements. It is confirmed by Varāhamihira himself (cf. I.2-5). He was a man of encyclopaedic learning. He studied older works not only in Sanskrit but also in Prakrit (LXXXV.3). He had good knowledge of Greek astrology and uses no less than thirty-six Greek words.² Though he did not lack in critical faculty (cf. V.1-18), it is his practice to quote older authorities (cf. IX.7). In consequence, the work has become a treasure-house of information about a host of earlier writers and their works whose names would have been lost to us otherwise.

Varāhamihira was not only an astronomer but also a poet of a high order. He shows skill in the use of figures of speech and an exceptionally large number of metres. Ch. 103 couched in about 60 different metres with their names inserted in relevant verses forms a rich tribute to his efficiency in versifying.³ XII.1-11; XIII.1-2; XIX.16; LV.4-7 and Chs. IV and V of the Yogayātrā are especially remarkable for skilled use of some of the arthālaṅkāras.⁴ It is interesting to note in the present context that Kṣemendra in his Aucitya-vicāra-carca (26.79) mentions Varāhamihira as a poet.

We may conclude this chapter with a few words about the extent of the Brhatsaṃhitā. If the concluding chapter (106) is left out of account, it would consist of 105 chapters as commented by Bhaṭṭotpala and edited by Sudhakara Dvivedi. Dr. Kern’s edition contains an additional chapter entitled Rajo-

3. For a list of metres used by Varāhamihira, cf. ZDMG, XLIV, pp. 415; JBBrAS, XXIV-XXV, 63-4.
lakṣaṇam (Ch. 38 of his edition). But the penultimate verse of the Brhaṃsāṃhitā (CVI. 13) tells us that it consists of 100 chapters and extends over less than 4000 ślokas. According to Utpala, this number is obtained by omitting the chapters entitled Vāta-cakra (27), Aṅga-vidyā (50), Piṭaka-lakṣaṇa (51), Aśvālakṣaṇa (65) and Hastilakṣaṇa (66). But Varāhamihira excludes Chs. 91 (Gaveṅgita), 101 (Rāsi-vibhāga) and 102 (Vivāha-pañcāla) also from the table of contents. Utpala informs us that Ch. 102 was composed by Vindhyavāsin (Athā prasaṅg-āgataṁ Vindhyavāsi-kṛtam vivāhapañcālam vyākhyāyate). Thus the number remains only 97. It is difficult to say how we can obtain the figure 100. Utpala declares XXV.6, XXVII.9-10 and XXVIII.17 to be spurious (anārṣa). XXVIII. 23-4 are not commented upon by him and may be regarded as later interpolations.
CHAPTER II

GEOGRAPHICAL DATA

1. INTRODUCTORY

An accurate geographical knowledge is one of the most essential prerequisites of all historical studies. History and geography of a country go hand in hand. In the case of India, however, many ancient place-names frequently referred to in historical records have become obsolete and are substituted by modern ones which afford little, if any, clue to locate them correctly. The importance of a text, particularly a datable one, dealing with ancient Indian geography can, therefore, be hardly overstressed. It is from this point of view that Ch. 14 of our work, locating various peoples, countries and places in different directions, along with a number of topographical references scattered throughout the text, possesses a unique value. Lists of peoples and countries are no doubt contained in the Purāṇas, but they lose much of their value, firstly because these works cannot be even approximately dated and secondly because they have been frequently handled by copyists and scribes in subsequent ages resulting in textual corruption. Being considerably free from these defects, our work enjoys a certain precedence over these lists.

It must be pointed out at the very outset that Utpala’s gloss on Ch. 14 of the Brhaspatiśhāta is not at all enlightening and he often confines himself to mere paraphrasing. It is not, however, beyond the bounds of possibility that the commentary has not come down to us in its original form and the possibility of

1. Fleet published ‘The Topographical List of the Brhaspatiśhāta’ in IA, XXII, pp. 169 ff.; but he confined himself merely to cataloguing names of peoples, countries, etc., and very sparingly giving early epigraphical references. It is for the first time here that we have collected all relevant references, classified them under different heads and suggested identifications wherever possible.

2. In support of freedom from textual corruption it may be pointed out that BS correctly mentions Mekalāṁbaśṭha and Paunḍrotkāla (xiv. 7) which the Mārkandeya-Purāṇa corrupts into Mekalāmuṣṭha and Pārṇotkaṭa. Cf. H. C. Raychaudhuri, Studies in Indian Antiquities (hereafter referred to as Antiquities), p. 37.
certain omissions here and there cannot be altogether ruled out. It finds some support from the fact that the following statement, which Alberuni (I.298) attributes to Utpala, cannot be traced in the extant text of the commentary: “The names of countries change, and particularly in the yugas. So Multan was originally called Kāsyapapura, then Harōsapura, then Bāgapura, then Śambapura, and then Mūlasthāna i.e., the original place, for mūla means root, origin, and Tāna (sthāna) means place.”

I. Bhāratavarṣa

Varāhamihira deals with the topography of what he calls Bhāratavarṣa (XIV.1). Alberuni (I.197-8) says that Varāhamihira understood by Bhāratavarṣa India alone. It is evidenced by the fact that he refers to the rulers of Pañcāla, Magadha, Kāliṅga, Avanti, Ānarta, Śindhu-Sauvīra, Hārahaura, Madra and Kuṇinda as representing Madhyadeśa, the eastern, south-eastern, southern, south-western, western, north-western, northern and north-eastern divisions respectively (XIV.32-3). All these regions evidently belonged to India proper. But Varāhamihira, it is interesting to note, mentions Suvarṇabhū (XIV.31), generally identified with Burma, Malaysia and eastern archipelago, and Śīmhdla (XIV.15) or Ceylon as parts of Bhāratavarṣa in the north-east and south respectively. And this brings us to the wider sense in which the name Bhāratavarṣa was sometimes used. According to the Purānic cosmography, Bhāratavarṣa, one of the nine varṣas of Jambudvīpa, is divided into nine divisions (khaṇḍas or bhedas) which are said to be separated from each other by seas and mutually inaccessible, viz., Indradvīpa, Kase-rumān, Tāmraparṇa, Gabhastimān, Nāgadvīpa, Saumya, Gandharva, Varuṇa, and the 9th dvīpa, which is described as surrounded by oceans, 1000 yojanas in extent from north to south and as inhabited by the Kirātas and Yavanas in the east and west respectively, is left unnamed in some of the Purāṇas, while it is called Kumāra in the Vāmanapurāṇa (XIII.2, 11, 59). Rājaśekhara also in Ch. 17 of his Kāvyamimāṃsā names the nine divisions of Bhāratavarṣa and calls the ninth one as Kumārī-

1. S. N. Majumdar Sastrī (Introduction to CAGI, p. 1) also quotes this statement as Utpala’s, evidently relying on Alberuni.
dvīpa wherein are said to be situated the seven *kula-purva-tas*¹, viz., the Vindhya, Pāriyātra, Suktimān, Rkṣa, Mahendra, Sahya and Malaya.² Tāmraparṇa of these lists corresponds to our Sinhala. It goes without saying that these cannot be nine divisions of India proper, 'for India is not traversed by an ocean separating one *khaṇḍa* from the other'.³ It is the 9th division that corresponds to India proper. Thus while Varāhamihira employs the name Bharatavarṣa mainly for India proper,⁴ the inclusion of Burma and Ceylon which really formed parts of Greater India shows his acquaintance with the wider Purānic concept of Bharatavarṣa.

The origin of the name Bharatavarṣa is differently accounted for in different works. Thus while some of the Purāṇas derive it from king Bharata, the son of Rṣabha, a descendant of Svāyambhuva Manu,⁵ others assert that in consequence of maintaining his subjects Manu was himself styled Bharata and that after him the country came to be called Bharatavarṣa.⁶

1. Cf. LXXII.2 where the word *nāga meaning a mountain is used to denote the numeral 7.

2. तत्वेऽबं भारतं च वर्षम्। अस्य च नव भेतोऽ। इन्द्रीपे, कस्यमन्, 
तः क्रपणो, गमसेतमान्, नागीपे, सोमयो, गन्धर्वो, वर्हणः, कुमारीप्रेक्षायं नवमः। 
पूवालतानि जलम्, पंच स्वरभिनि विधायेन प्रत्येक योजनसह्यावशयो दक्षिणात् 
समुददरिज्जह दिमुखते याब्धु परस्परमम्याते।।।।। तत्र च कुमारीपे। 
—विवृत्तच पारियावच शुक्तिमान् क्षत्रीयम्। महेन्द्र-सहर-मल्या:। सम्पते कुल-
पवर्ता:।।

Kāvyamāṁsā, p. 92.


4. It is used in this limited sense in the Vāyu-puṇṇa XLV. 75-6; Vṛṣṇi-puṇṇa II.3.1; Mahābhārata (Bhāṣṇaparvan Ch. 9); Matsya-puṇṇa CXIV.10, etc. In the Hāthigumpha Inscr. of Khāravela it is referred to as BharadHAVASA which seems to denote North India, cf. EI, XX, p. 79, line. 10.

5. Bhāgavata, XI.2.15 f.; Garuḍa Ch. 54; Brahmacāda, XXXIV.55; Mārkandeya, LIII.41; Vāyu, XXXIII.51-2.

6. Matsya, CXIV.5; Brahmacāda, XLIX.10. Cf. D. R. Patil, *Cultural History from the Vāyu Purāṇa*, p. 262. Alberuni’s remarks (I.295) are worth quoting—‘We find a tradition in the Vāyu-Purāṇa that the centre (sic) of Jambudvīpa is called Bharatavarṣa, which means those who acquire something and nourish themselves.'
The Jaina work *Jambudiva-paññatti* derives it from king Bharata whose sovereignty was established over the country. Dr. H. C. Raychaudhuri suggests to derive it from the celebrated Bharata people who played an important role in the political life of India in the Vedic and Epic times. According to some of the Purāṇas the country was originally called Himādva or Haimavatavarṣa, a name evidently derived from the Himalayas.

II. *Kūrma-vibhāga*

Ch. 14 of our work which treats of the topography of India is styled *Kūrma-vibhāga* or *Nakṣatra-kūrmādhyāya*. The significance of the word *kūrma*, which originally denoted the back of a tortoise, is not quite clear. The word *kūrma-vibhāga* is probably due to the belief that the shape of the globe corresponds to that of a tortoise lying outspread, with its face towards the east. The *Mārkaṇḍeya-purāṇa* (LVIII.73-74) speaks of this tortoise as being identical with the god Nārāyaṇa. It may, therefore, be rendered as 'the division of the globe'.

Varāhamihira divides India into nine parts, viz., Madhya-deśa or the Central-Region and four major and four minor directions from east to north-east and assigns them to the nine triads

1. B. C. Law, *India as described in the Early Texts of Buddhism and Jainism*, p. 14; *Historical Geography of Ancient India* (hereafter referred to as *Historical Geography*), p. 10.
2. Antiquities, p. 77.
5. In Kern’s and V. S. Sastri’s ed.
7. Cf. Kern’s remarks (*JNAS*, 1871, p. 81, fn. 1):—"The word *Kūrma* is the specific Sanskrit form of a word once common to all Indo-European tongues, viz., *Kūrma*, Lat. *culmus*, Teuton, *holm*, etc. It does not originally denote the 'tortoise' itself, but its back, for the proper meaning is 'mound, buckle, half-globe, holm.' Even in Sanskrit in such compounds as *kūrnvatata*, the word signifies the form of the back of the tortoise. At the time when the word *Kūrma-vibhāga* became current, *Kūrma* was taken in its proper sense. Yet in later times, they wholly mistook the meaning and made an absurd drawing, representing a tortoise, as if *Kūrma* could denote a level. The rendering by 'Globe' is not wholly exact, since properly only a half-globe, a holm is supposed to be raised above the waters".
of constellations commencing with Kṛttikā¹ in the following manner² :—

This division is aimed at determining what countries and peoples will suffer disaster when their particular constellations

1. नक्षत्रश्रेणि राज्यां द्रव्यः क्षणिकां नववाहे।
   भारतवर्ष मध्यवर्तिविभाजिता देशा: II XIV.1.

   Alberuni (I.295) informs us that Indian astrologers were accustomed
to divide each country into nine parts and to try to find out lucky and un-
lucky places in it. He explains the kūrma-cakra as follows:—“Their
astronomers and astrologers divide the directions according to the lunar
stations,...and the figure which represents this division is similar to a
tortoise. Therefore it is called kūrma-cakra, i. e. the tortoise-circle or the
tortoise-shape (I.296-97).”

2. This diagram is taken from Alberuni (I.297) who says he had
borrowed it from the Samhītā of Varāhamihira.
are occulted by malefic planets. The Mārkaṇḍeya-purāṇa (LVIII.80-81) enjoins that when planets and constellations of a country are occulted its inhabitants should bathe and give alms and perform the homa oblation and the rest of the ritual.

Copious extracts from the Parāśara-tantra quoted by Utpala indicate that Parāśara followed an identical system of dividing India into nine parts and assigning them to nakṣatra-triads. Garga appears to have done the same. A similar composition is to be found in the Atharva Parisiṣṭa (56).

The occurrence of references to Kāmarūpa (in Atharva Parisiṣṭa), Vardhamāna and Mahārāṣṭra (in Mārkaṇḍeya-purāṇa), which are unknown to literature and inscriptions of an earlier epoch, has led H. C. Raychaudhuri to believe that kūrma-vibhāga cannot in all probability be assigned to a period earlier than the fourth century A.D. The untenability of this suggestion is amply demonstrated by the fact that even Garga, whose Samhitā cannot be assigned to a date later than the middle of the first century B.C., divided India into nine parts and assigned them to nakṣatra-triads.

It would not be quite out of place here to refer to some other classifications followed by ancient Indian writers on Geography. Most of the Purāṇas divide India into seven broad divisions, viz., Madhyadeśa, Udīcyā (North), Prācyā (East), Daksināpatha (South), Aparānta (Western Coast), Vindhyavāsinaḥ (those dwelling in the Vindhya region), and ParvatāŚrayaṇaḥ (people dwelling on the Himalayas). Early Pali texts name the same divisions with the exception of the Vindhyan people. In the writings of the Chinese pilgrims we come across Five Divisions of India or the ‘Five Indias’, namely, North, West, Central, East and South. Rājaśekhara also divides his Kumāridvīpa (India) into five divisions, viz., Pūrvadeśa, Dak-
śināpatha, Paścāddeśa, Uttarāpatha and Madhyadeśa. At the root of this system lies the division into five great regions already met with in the *Atharvaveda* (XIX.17.1-9) and the *Aitareya-brāhmaṇa* (VIII.14).

III. **Divisions of India**

Our author names the following divisions of India:

(i) **Āryāvarta**: Varāhamihira refers to the inhabitants of Āryāvarta (Āryāvartāḥ, V.62). The word Ārya is also mentioned in V. 42 where Utpala takes it to mean chief people (pradhāna-jana). Kern thinks that it denotes the inhabitants of Āryāvarta. It is variously defined in different works. The *Baudhāyana-dharmasūtra* (I.i.27) and *Patañjali* (*Mahābhāṣya*, II.4.10; VI.3.109) define Āryāvarta as the land to the east of Ādarśa or Vinaśana (the sands of Patiala where the river Sarasvatī loses itself) and to the west of Kālaka-vana (near Allahabad) and as extending from the Himavat in the north to the mountain Pāriyātra (western part of the Vindhya together with the Aravalli range) in the south. The *Vasiṣṭha-dharmasūtra* (I. 8-9) repeats this definition but extends its southern limit to Vindhya. Baudhāyana (I.i.28) and Vasiṣṭha (I.12) quote an unnamed authority identifying it with the Gaṅgā-Yamunā-Doab. Manu (II.22) takes it to denote the whole of Northern India lying between the Himavat and Vindhya and extending as far as the eastern and western seas. It would thus appear that with the spread of Aryan culture towards the south and east the limits of Āryāvarta in these directions were also extended. In consequence it became a customary name for Northern India. It is used in this sense in Samudragupta’s Allahabad Pillar Inscr. where it is contrasted with Dakṣināpatha or South India. Rājaśekhara in his *Bāla-Rāmāyaṇa* (Act VI) speaks of the river Narmadā as the dividing line between Āryāvarta and Dakṣināpatha.

(ii) **Madhyadeśa**: Manu (II.21) makes it conterminous

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2. Raychaudhuri, *Antiquities*, p. 87, fn. 1; *PHAI*, pp. 156 f.
6. V.30,51,78,90; VIII.46; X.5; XI.35; XVII.19,20,22; XVIII.4; XLVI.7; LXVIII.18.
with the Āryavarta of Vasiṣṭha when he says that Madhyadeśa denotes the region lying between the Himavat and Vindhya mountains and to the west of Prayāga and to the east of Vinasana. The Buddhist literature extends the eastern boundary of Madhyadeśa so as to include within its limits Magadha and Aṅga. Thus according to the Mahāvagga (V.13.12) it is bounded on the east by Kajāṅgala (somewhere in Rajamahal District), in the south-east by the river Slalavati (Saravati), in the south by the town of Setakamika, in the west by the Brāhmaṇa village of Thūna (probably modern Thaneswar) and in the north by the Uśiradhvaja mountain (Uśiragiri, a mountain to the north of Kankhal, Hardwar). The Dipyavadāna includes even Puṇḍravaradhanā within its limits.1 Aśvaghōṣa speaks of Madhyadeśa as situated between the mountains Himavat and Pāriyātra (Madhyadeśa iva vyakto Himavat-Pāriyātrayoh, Saundarananda, II.62). The Central India of the Chinese pilgrims comprised the whole of the Gangetic province from Thaneswar to the head of the Delta and from the Himalaya mountain to the bank of the Narbada.2

Dr. J. F. Fleet held that Varāhamihira's description of Madhyadeśa closely agrees with that of Manu. But this view does not appear to be correct, for a Samāsa-samhitā passage quoted by Utpala clearly shows that according to Varāhamihira the southern limit of Madhyadeśa was formed by the Pāriyātra mountain.3 It is noteworthy in this connection that Varāhamihira places the people inhabiting the neighbourhood of the Vindhyas (Vindhyānta-vāsinah, XIV.9) in the south-eastern division, not in Madhyadeśa.4

(iii) Antarvedi (V.65): It is the Gaṅgā-Yamunā Doab which is also mentioned as Gaṅgā-Yamun-āntarāla (LXVIII.26).

1. CAGI, p. XLIII; B. C. Law, Texts of Buddhism and Jainism, pp. 20-1; Historical Geography, pp. 12-3.
3. For the Samāsa-samhitā passage and discussion of this question see my paper in BV, XXIII, pp. 22 ff.
4. For some epigraphical references to Madhyadeśa see CII, III, p. 285; IV, pp. 424, 429, 513, 516; N. G. Majumdar, Inscriptions of Bengal, III, 16 ff.
GEOGRAPHICAL DATA

According to Rājaśekhara, the stretch of territory between the place of the disappearance of the Sarasvatī and Prayāga and the Gaṅgā and the Yamunā was called Antarvedi.¹ The Indor copper-plate inscr. of the time of Skandagupta refers to Indrapura (the village of Indor in Bulandshahar District, U. P.) as situated in Antarvedi.²

(iv) Daksināpatha (IX.40; XLVI.8) : It is Dachina-bades of the Periplus of the Erythraean Sea (50-51)³ and denotes the Indian Peninsula lying to the south of the Narmādā, particularly Deccan. According to Rājaśekhara, Daksināpatha lay to the south of the town of Māhiṣmati usually identified with Onkar-Mandhata in the Nimad District of Madhya Pradesh or with Maheshwar in the former Indore state (Māhiṣmatyāḥ parato Daksināpathaḥ, Kāvyamimāṁsaḥ). It will, however, appear from the definitions of Āryavarta and Madhyadeśa given above that Daksināpatha lay to the south of the Vindhya. The Sātavāhanas are described as the lords of Daksināpatha.⁴ In the Allahabad Pillar Inscri. of Samudragupta, Daksināpatha is used as a name of South India as opposed to the North called Āryavarta.⁵

(v) Uttarāpatha (IX.41) : Though in a narrower sense it denotes north-western portion of India, it is often used as a customary designation for North as a whole. Rājaśekhara tells us that it lay beyond Prthūdaka⁶ (Pehoa, Karnal District, Panjab). In the Hathigumpha Inscr. of Khāravela, it is distinguished from Magadha.⁷ Bāna seems to exclude Sthānviśvara (Thaneswar) from Uttarāpatha.⁸ In some early Cālukya records Harśavardhana is styled as 'the lord of the whole of Uttarāpatha.'⁹ Originally Uttarāpatha, as indicated by its

1. Vinalana-Prayāgayoh Gaṅgā-Yamunayoī =c-āntaram = Antarvedi, Kāvyamimāṁsaḥ, p. 94.
2. CH, III, p. 68.
5. CH, III, p. 7, lines 19-20; also p. 13, fn. 5.
6. Prthūdakataḥ parata Uttarāpathaḥ, Kāvyamimāṁsaḥ, p. 94.
7. El, XX, pp. 79-80. It is also mentioned in Guserawa Inscr., JASB, XVII, pp. 492, 498.
9. IA, IX, p. 127.
name, was a great trade-route which gave its name to the country through which it passed.\(^1\)

(vi) **Aparānta**: Varāhamihira locates Aparāntaka in the Western division (XIV.20) and refers to its inhabitants (Aparāntakā, V. 70\(^2\); Aparāntyā, IX.15). Literally meaning ‘the western end’, Aparānta seems to signify the whole of the western sea-board of India. In a limited sense, it denotes the northern Konkan.\(^3\) In Rock Edict V of Aśoka, it seems to be used for Western India where the Raṭhikas, Pitinikas, etc. lived. Kālidāsa locates it between the Sahya mountain (northern part of the Western Ghats) and the ocean (Raghuvanśa, IV.53). It is the same as Rājaśekhara’s Paścāddeśa which lay to the west of Devasabhā.\(^4\) Ptolemy\(^5\) and the Periplus (41) refer to it by the name Ariake.\(^6\)

Besides, Varāhamihira refers to the Eastern division as Prācyā (V.69; LXXXV.75).

We may close this section with a brief reference to the difficulties which present themselves in the treatment of our data. Firstly, Varāhamihira’s geography is of a conventional character and should not therefore be expected to furnish materials which might enable us to frame an accurate map of India in his own time. A comparison of the extracts from the Parāśara-tantra as quoted by Utpala with the corresponding verses of Ch. XIV of the Brhatsamhitā leaves little doubt that the latter really represent the geography of the Parāśara-tantra or perhaps still more ancient works.\(^7\) Secondly, there are certain discrepancies regarding the location of places and countries. Thus while in

1. It may be identified with the Northern Route of Strabo and Pliny which ran from East India to Gandhāra and thence towards further west, cf. Agrawala, *India as known to Pāṇini*, pp. 244-5.

2. A Kanheri inscription (*Lüders’ List, No. 1013*) styles a female from Aparānta as Aparāntikā, feminine form of Aparāntaka. She is at the same time called (Kāli)ānikā, or an inhabitant of Kāliyāpa, indicating the inclusion of kāliyāna into Aparānta. In No. 1014 she is called only Kāliyānikā.


6. Aparānta is also mentioned in the Nasik Cave inscr. of Vāsiṣṭhi-putra Paḷāmāvi, the Junagadh inscr. of Rudradāman I and other records, cf. *SI*, pp. 172, 196.

his detailed enumeration of the countries he assigns Sindhu-Sauvira to the South-western division (XIV.17); elsewhere it is located in the west (XIV.33). This discrepancy, as pointed out by Cunningham¹, is at least as old as the eleventh century A. D., for Alberuni (I.298) enumerates the countries in the same order as the extant text of the Brhatasamhitā. Similarly, Avanti and Hārahaura are not mentioned among the countries of the south and north-west respectively, but elsewhere they are mentioned as representing these very divisions (XIV.33). So also he places Kaccha and Girinagara in the southern division XIV.11, 16), but locates Raivataka in the south-west (XIV.19), while the latter is quite close to Girinagara (modern Junagadh) and to the south of Kaccha (Cutch).² Thirdly, peoples bearing the same names are sometimes placed in more than one division. The Bhadras, for instance, are located variously in Madhyadesa (XIV.2), east (XIV.7) and south (XIV.16), and the Ambaṣṭhas are placed in the eastern as well as south-western divisions (XIV.7, 17). Lastly, some of the peoples and places mentioned appear to be fabulous. Thus people with the face like that of a horse (Aśvamukha XVI.34; Aśvavadana XIV.6; Turagānana XIV.25), a dog (Śvamukha XIV.25), or a tiger (Vṛāghramukha XIV.5), with one foot (Ekapāda XIV.7; Ekacarana XIV.31), one or three eyes (Ekāvilocana XIV.23; Trinetra, Ibid.) and the neck resembling that of a serpent (Vṛāglagīva XIV.9), and people living or roaming in the sky (Khaṣṭha XIV.22; Khacara XIV.28; Diviṣṭha XIV.31) do not appear to be creatures of our earth. However, they might have some totemic significance which cannot be determined for want of relevant data.

It would have indeed been desirable to present our data direction-wise, but as references of a geographical nature are found in astrological contexts throughout the Brhatasamhitā and other works of Varāhamihira, it is found more practicable to arrange our topographical list lexiconically under different heads like physical features, peoples and countries, and cities and towns.

¹. CAGI, p. 7.
². Cf. IA, XXII, pp. 169-70.
II
PHYSICAL FEATURES

I. Mountains

1. Aśjana (XIV.5). Varāhamihira places it in the eastern division. In the Jātakas, it is mentioned as a mountain in the great forest.¹ It is mentioned in the Rāmāyaṇa (Kiśkindhā Kānda, 37.5) and the Mārkaṇḍeya-Purāṇa (LVIII.11). As it is placed in the eastern division, it must be distinguished from the Sulaiman range in the Panjab separating it and N. W. F. P. from Baluchistan, which was also known by this name. It is interesting to note in this connection that the Jātakas refer to a forest of this name situated near Sāketa.²

2. Arbuda (V.68; XVI.31; XXXII.19), Mt. Abu in the Arāvali range in Rajasthan.

3. Astagiri (XIV.20), in the west, is the mythical ‘mountain of sun-set.’³

4. Cītrakūṭa (XVI.16), in the southern division (XIV.13), is situated in the district of Banda, 65 miles west-south-west of Allahabad, and about 4 miles from the Chitrakut station. It is also known as Kamptanathagiri.⁴

5. Dardura (XIV.11), in the southern division, is identified with the Nilgiris or Palni Hills.⁵ Kālidāsa speaks of Dardura and Malaya as the two breasts of the southern quarter (Stanāv = iva diśas = tasyāḥ saīlau Malaya-Dardurau, Raghu, IV.51). Like Malaya, it was celebrated for the sandal wood (Mahābhārata, II.52. 34; Raghu, IV.51).

6. Dhanuṣmān (XIV.24), a hill in the northern division. Alberuni (I.302) takes it to mean ‘the people with bows,’ which is incorrect.

7. Gomanta. Varāhamihira refers to the inhabitants of the Gomanta mountain (V.68; IX.13⁶; XVI.16). In two out of the three places, Utpala takes it to mean ‘per-

¹ R. N. Mehta, Pre-Buddhist India (hereafter referred to as Mehta), p. 369.
² Ibid.
³ Cunningham (CAI, p. 103) identifies it with Mt. Abu.
⁴ Pargiter, The Geography of Rāma’s Exile, JRAS, 1894, p. 239.
⁵ JRAS, 1894, p. 262.
⁶ This reference is not given by Fleet.
sons possessing cows' (V.68; IX.13), while in the third case he says that Gomanta may denote either people owning cows or a mountain (Gomantah g ominah parvato va, XVI.16). But the first meaning proposed by Utpala goes against the rules of grammar, according to which gomantah and gomatah should be the nominative and accusative plural forms of the word gomat. But Varāhamihira, it must be noted, employs the form gomanta even in compounds (V.68; XVI.16) and gomantaṁ in accusative plural (IX.13), which clearly shows that the word intended is gomanta and not gomat. Thus the word should invariably be taken as the name of a hill only. Gonanda is a variant reading given by Utpala on V.68. Pargiter identifies it with the hill of Gwalior, which, according to Cunningham, was originally called Gopācala, Gopagiri and Gopāhvaya, and later Gomanta. But as according to the Harivamśa (Viṣṇuparva, 39, 62-64) it lay to the south of the town of Vanavāśi, it is more reasonable to place it in the Mysore region as suggested by Raychaudhuri. And Chandragutti in the Shimoga district of the Mysore State was actually known as Gomanta-parvata. It is, thus, a part of the Sahya range. Dey thinks that it was situated in the country about Goa.

8. Hemagiri (XIV.19), a mountain in the south-western division, probably Kanakagiri near Mysore.

9. Himavat (XVI.16), in the northern division (XIV.24), is the famous Himalayan range forming the natural boundary of India in the north. Varāhamihira refers to the camara deer (LXXI.1), diamond mines (LXXXIX.7) and pearl-fisheries of the Himalayas (LXXX.2, 5). He speaks of the Himavat and the Vindhyā mountains as the breasts of the earth (Himavad = Vindhya-paścadhārā dharā, XLII.35; TV, VIII.17). He refers to the people of Antargiri (Antargirijan, V.42) about which Kern remarks, 'I am not able to say which part of the Himalayan hill-country was called Antargiri; it may be Kumaon, or a still more

3. Antiquities, p. 117.
4. EC, VIII; L. Rice, Mysore and coorg from the Inscriptions, p. 112.
5. Dey, Geographical Dictionary of Ancient and Medieval India (hereafter cited as Dey), p. 70.
eastern district. Dr. V. S. Agrawala identifies it with Pali Mahāḥimavant or the great central Himalaya, which includes its loftiest peaks. We have also a reference to the ‘people beyond and within the mountains’ (bahir=antahśailajāh, XVI.2). Antahśaila is the same as Antargiri; Bahiḥśaila is evidently identical with Bahirgiri of the Mahābhārata (II.27.3) and Upagiri of Pāṇini (V.4.112), viz., the outlying region of the Tarai. It is the Imaos of the classical writers. Kālidāsa describes it as situated in the north and reaching the eastern and western ocean (Kumāra-sambhava, I.1). The Mārkaṇḍeya-purāṇa speaks of it as stretching along the north of Bhāratavarṣa like the string of a bow (Himavān uttareśya kārmukasya yathā guṇāh, LVII.59). Ptolemy refers to the Koa (Kabul), Souastos (Swat), Indus, Ganga and other rivers as rising in the Mount Imaos. These statements indicate, as suggested by Pargiter, that originally the name Himavat had a wider denotation so as to include the Sulaiman range. It was considered to be an ideal of strength, and the Sātavāhana king Gautamiputra Sātakarni is described as equal to the Himavat, Meru and Mandara mountains in strength.

10. Kailāśa (XIV.24), a mountain in the northern division. According to the Matsya-purāṇa (CXXI.2), it lies at the back of Himavat (Himavataḥ prṣṭhe). According to some, it is a spur of the Gangri range; it is the Congrinpoche of the Tibetans, situated about 25 miles north of Mānasa-sarovara beyond the Gangri which is also called Darchin, and to the east of the ‘Niti Pass’. It forms the water-shed giving rise to the Indus, Sutlej and Brahmaputra. The Mandasor Inscr. of Kumāragupta and Bandhuvarman describes Kailāśa and Sumeru as the breasts of the earth.

11. Kiskindhā (XIV.10), a hill as well as the country round it in the south-eastern division. It comprises the hills of Kupal, Mudgal and Raichur. There still extists a small hamlet in the Dharwad district on the south bank of the Tuṅga-
bhadrā near Ānegundi, three miles from Vijayanagara, which is called Kiskindhā as well as Ānegundi.\(^1\)

12. **Kraunāca** (XIV.24), a mountain in the northern division, has been identified with that part of the Kailāśa mountain on which Mānasa-sarovara is situated.\(^2\)

13. **Ksurārpaṇa** (XIV.20), a mountain in the western division.

14. **Kusumanaga** (XIV.14) in the southern division.

15. **Mahendra** (XIV.11; XVI.10) is located in the southern division. According to Pargiter, Mahendra comprises “the chain of hills that extends from Orissa and the northern Circars to Gondwana, part of which near Ganjam is still called Mahindra Malei or hills of Mahindra”, or “the portion of Eastern Ghats between the Godāvari and the Mahānadi, and the hills in the south of Berar.”\(^3\) But as pointed out by Raychaudhuri, this restriction of Mahendra to the north of the Godāvari is not always observed by Sanskrit writers and it actually ‘embraced the entire chain of hills extending from Ganjam to Tinnevelly’.\(^4\) Kālidāsa especially associates it with Kālinga (*Raghu*, VI.54).\(^5\)

16. **Malaya** (XVI.10),\(^6\) in the southern division (XIV.11), signifies the southern portion of the Western Ghats from the Nilgiris to Cape Comorin.\(^7\) It is Ptolemy’s Bettiga, a name derived from Tamil Podigei or Podigai. It was famous for its sandal which was also called *malaya* or *malayaja*. In the *Mahābhārata* (Droṇa, 23.70-72), it is closely associated with the Pāṇḍyas; a Pāṇḍya ruler is styled *Malaya-dhvaja*.

17. **Mālinḍya** (XIV.11), in the southern division.

18. **Mālyavān** (XIV.5), in the eastern division. Partgiter\(^10\) identifies it with the curved line of hills close to Kupal, Mudgal

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5. For some epigraphic references, vide *SI*, p. 196; *CH*, III, pp. 7.
6. Also mentioned in XXVII. 2 of Kern’s and V. S. Sastrī’s ed.
and Raichur. Dey suggests it is the name of the Karakorum mountain between the Nila and Niṣadha mountains. But none of these appears to be identical with Varāhamihira’s Mālyavat which is placed in the eastern division.

19. Maṇimān (XIV.20), in the western division.

20. Meghavān (XIV.20), a mountain in the western division.

21. Mekala (V.39, 73; XVI.2), a mountain and the people inhabiting it in the eastern division (XIV.7). It is usually identified with the Maikal range in the Gondwana in Madhya Pradesh including the Amarakantak which is the source of the Narmadā. Varāhamihira places it too much in the east.

22. Meru (XIV.24), in the northern division. It is the name of both a fabulous mountain, the habitation of gods, supposed to be situated in the centre of Jambūdvīpa, and a portion of the Himalayas. This last seems to be the mountain in question. Sir Monier-Williams thinks that it denotes the highland of Tartary, north of the Himalayas. B. C. Law identifies it with the Rudra Himalaya in Garhwal where the Ganga rises and regards it as identical with the Mount Meros of Arrian. According to some, Meru denotes the Pamir range in Central Asia.

23. Muṇjādri (XIV.31), in the north-eastern division. Alberuni (I.303) gives the name as Puṇjādri.

24. Padma (XIV.5), in the eastern division. It is evidently distinct from Sravana Belgola in Mysore which S. Krishnaswamy Aiyangar identifies with Padmagiri.

25. Pāriyātra (v. l. Pāripātra, V.68; LXVIII.11) is placed in the Middle Country (XIV.4). Varāhamihira refers to the inhabitants of Pāriyātra (Pāriyātrastha, VI.10; Pāriyātrika, X.15). It has been identified with the western portion of the Vindhya range west of Bhopal including Aravalli mountains in Rajasthan. The name Pāriyātra still survives in the Pathar range lying between the rivers Chambal and Banas.

1. Dey, p. 123.
3. Geography of Early Buddhism, p. 42; Historical Geography, p. 111.
6. CASR, VI, p. 1; XIV, p. 151.
earliest inscripational reference to it occurs in the Nasik cave inscr. of Vāsiṣṭhīputra Puṣumāvi,¹ where it is called Pāricāta. As stated above, according to Vārāhamihira it was the southern limit of Madhyadesa.

26. Phenagiri (XIV.18), in the south-western division. Monier-Williams places it near the mouth of the Indus.²

27. Praśastādri (XIV.20), a hill in the western division.

28. Raivataka (XVI.31), a mountain in the south-western division (XIV.19), is the hill opposite Mt. Girnar. Sometimes it is identified with the Girnar mountain itself which is believed to be the birth-place of Neminātha and regarded as one of the five great tirthas of the Jainas. In the Junagadh inscr. of Skandagupta, it is said to be the source of the river Palāśini.³

29. Risyaṃkā (XIV.13), in the southern division. According to Fleet, it is a hill on the north of Hampe.⁴ Pargiter identifies it with the range of hills from Ahmadnagar to beyond Naldrug and Kalyani dividing the rivers Maṇjirā and Bhimā.⁵

30. Sahyagiri (LXVIII.30). In the Purāṇas, it is described as the source of the Godāvari, Vañjulā or Maṇjirā, Kṛṣṇā, Bhimā, Tūṅgabhadrā, Suprayogā (perhaps in Nellore) and Kāveri. It has, therefore, been identified with the northern portion of the Western Ghats extending from the river Tāptī down to the Nilgiris.⁶ Ptolemy divides it into (1) the northern part called Oroudian (Skr. Vaidūrya), the source of the great rivers of the eastern or Maesolian coast, and (2) the southern part called Adeisathron, the source of Khaberos, i.e. Kāveri.⁷ Kālidāsa describes it as the hips of the earth (Raghu, IV.52), while in the Alina copper-plate inscr. of the Maitraka ruler Śilāditya VII it is spoken of as one of the breasts of the earth, the other being the Vindhya mountain.⁸

31. Śibiragiri (XIV.6), in the eastern division.

32. Śripārvata (XVI.3). The identification of Śripārvata

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¹. SI, p. 196, line 2, Cf. CII, III, p. 157 (Mandasor Inscr. of Yāśodharman).
². Sanskrit-English Dictionary.
⁴. LA, VI, p. 85.
⁵. JRAS, 1874, p. 253.
⁶. Ibid., p. 285 and note.
⁷. Ptolemy, pp. 80 f.; 102 ff.
with the Nallamalais of the Kurnool District in Andhra Pradesh, extending all along the Krishna in a westerly direction, is settled beyond doubt by a Nagarjunakonda inscr. which states that the lady Bodhisiri built a monastery and an apsidal temple on the Lesser Dharmagiri on Śrīparvata.¹ It is sometimes identified with the Śiriṣṭana of the Nasik cave inscr. of Vāsiṣṭhiputra Puḷumāvi,²

33. Śūrpāḍri (XIV.14), in the southern division.

34. Udayagiri (XIV.7), which is placed in the eastern division, may be either the mythical mountain of sunrise or the famous Udayagiri hill, 5 miles east of Bhuvaneswar in Orissa. The latter is a spur of the Assa range and contains some Buddhist and Jaina monuments of an early date.

35. Vasumān (XIV.24), a mountain in the northern division.

36. Vindhyya. The name is at present loosely used to denote the entire chain of mountains along the Narmadā separating north India from the Deccan. Although in Sanskrit literature also it is sometimes applied to the entire chain of hills extending from Gujarat to the Gaya district along both sides of the Narmadā, when distinguished from the Rkṣavat or the central part of the chain lying north of the Narmadā, Vindhyya denotes its ‘eastern part together with the hills standing south of the Narmadā and extending as far as the ocean.’³ Varāhamihira refers to the Vindhyya forest (XVI.3), the countries in the neighbourhood of the Vindhyya mountain (Vindhy-ādṛipārśvagā deśāh, XVI.12) and the people living there (XVI.10), and places the people living in the neighbourhood of the Vindhyyas (Vindhy-ānta-vāsinaḥ XIV.9) in the south-eastern division. He speaks of the Vindhyya mountain as one of the breasts of the earth (XLII.35; IV, VIII.17), the other being Himavat. The Alina copper-plate inscr. of Śilāditya VII describes the Vindhyya and Sahyya ranges as the two breasts of the earth.⁴ In another inscription, Vindhyya alone is spoken of as forming both

². SI, p. 196, line 2.
⁴. CII, III, p. 184.
the breasts. Varāhamihira refers to the myth that Vindyha, bent upon obstructing the path of the sun’s chariot by its moving peaks, was stemmed by the sage Agastya. He describes it as a resort of the Vidyādhāras, as possessing streams inside its caves, and as embraced in secret by the river Revā as if it were a lady overtaken by passion (Rahasi madanasaktayā Revayā kāntay-ev-opagūḍham, XII.6). Brāhmaṇas subsisting on water, roots and air are said to inhabit it.

II. Rivers

1. Bhimarathā (v. l. Bhimarathyā, XVI.9). Varāhamihira refers to the inhabitants of the western half of the district of the Bhimarathā (Bhimarathayāṣ = ca paścim = āṛddhasṭhāḥ). It is modern Bhīmā, a tributary of the Kṛṣṇā. It is called Bhiramārathī in some Cālukya records.

2. Candrabhāgā (XVI.26), modern Chenab, the largest of the five streams of the Panjāb. It is the Acesines of the classical writers and the Sandabala or Sandabaga of Ptolemy.

3. Cārudevi (IX.18). Varāhamihira refers to the inhabitants of the region about the river Cārudevi. Fleet takes it to be a town or country, but Utpala clearly states that it is a river (Cārudevi nadi tāt = taṭa-vāsīnāḥ). It is not identified so far.

4. Devikā (XI.35). It is mentioned as a river in the north (udag = api ca Devikām). Pargiter has identified it with the Deeg, an affluent of the Ravi on its right bank. According to the Agnipurāṇa, it flowed through the Sauvira country (region round Multan), while the Viṣṇudharmottara (I.67.15) speaks of it as flowing through the Madra country. It is mentioned by Pāṇini, and Patañjali testifies to the fame of the jāli rice grown on its banks.

5. Gāmbhirikā (XVI.15) is the same as Kālidāsa’s Gāmbhirā (Meghadūta, I.40), a tributary of the Yamunā above

1. CII, III p. 185.
2. IG, VIII, p. 113; IA, XIX, pp. 304, 310; EI, VI, p. 5, line 8, v.17.
3. Ptolemy, p. 89.
4. IA, XXII, p. 176.
6. Cf. JUPHS, 1944, Pt. II, pp. 76-9; Agrawala, India as Known to Pāṇini, p. 45.
the Chambal flowing east from Gangapur through eastern Rajputana.

6. Gaṅgā (XVI.15). The region between the Gaṅgā and the Yamunā (LXVIII.26) was called Antarvedi (V.65). Along with the Yamunā, it is spoken of as forming a necklace of the earth (XLII.32).

7. Godāvari (XVI.9). It has its source in Brahmagiri, situated on the side of a village called Tryambak, 20 miles from Nasik, and falls into the Bay of Bengal.

8. Gomati (XVI.12). There are several rivers of this name. But most probably the Gumi rising in the Shahjahanpur district and joining the Ganga halfway between Varanasi and Ghazipur is intended. The modern city of Lucknow is situated on it. As pointed out by Fleet, the place Gomatikoṭṭaka mentioned in the Deo-Baranark inscr. must be located in its neighbourhood.

9. Guluhā (v. l. Guruhā, Garuhā, Gulahā Guruhā, XIV.23). It is placed in the north-western division. According to Kern, it is the Gorogias of the Greeks. Lassen and Law identify the Greek name with the Gauri which is the same as modern Panjkora, an affluent of the Kabul (Vedic Kubhā). But Utpala seems to take it to mean a people.

10. Ikumati (XVI.14), the river now called Ikhan or Kalindi, a tributary of the Gaṅgā, flowing through Kumaun, Rohilkhand and the district of Farrukhabad. The old town ofSaṅkāśya was situated on its bank. It is the same as the Oxymagis of Arrian.

11. Irāvatī (XVI.26). It is mentioned together with the Vitastā and the Candrabhāgā and is undoubtedly the same as the modern Ravi, the Hydrotees of classical writers.

12. Kauśiki (XVI.15). It is either modern Kusi flowing into the Gaṅgā through the district of Purnea in Bihar or the

1. Law, Rivers of India, p. 39.
2. This verse is included in Kern’s and Sastri’s editions, but not in Dvivedi’s ed. The absence of Utpala’s commentary on it probably indicates its spuriousness.
3. Cf. Dy, p. 70.
4. CHII, III, p. 217; IA, XXII, p 178.
5. Dy, p. 77.
6. Agrawala, India as Known to Pāṇini, pp. 42-3.
Kusiara of Sylhet (E. Pakistan) flowing through the area known as Pañca-khanḍa.¹

13. Kāverī (V.64), a river in the southern division (XIV.13). It rises in the Western Ghats and flowing south-east through Mysore and the district of Coimbatore and Trichinopoly, falls into the Bay of Bengal in Tanjore District, Madras. Ptolemy mentions it as Khaberis rising in Adeisathron, the southern portion of the Western Ghats.² Uragapura (modern Uraiyur), ancient capital of the Colas, is situated on its southern bank.

14. Lauhitya (XVI.15) is correctly located in the east (XIV.6). It is modern Brahmaputra. An important tributary which meets the Brahmaputra in Sadiya district is even now called Lohit. Kern suggests that probably the stream was known as Lohita, 'Red River', whereas the people in its vicinity or some district near it, were called Lauhitya. He points out that one Ms. of the commentary has actually Lohito nadah, while another has Lauhityo nadah.³ It is mentioned as Lauhitya in the Raghuvamśa (IV.81) and in the Mandasor inscr. of Yaśodharman⁴, and as Lohitya in the Apksad inscr. of Ādi-tyasena.⁵

15. Mahānadi (XVI.10). Taking its rise in the Amarkantak range, it flows through Orissa and falls into the Bay of Bengal.

16. Mahi (XVI.31). Varāhamihira refers to people born on the bank of the Mahi. Rising in the Pāriyāra mountain, it has a south-western course upto Banswara wherefrom it turns south and passing through Gujarat drains into the Gulf of Cambay.

17. Mālati (XVI.10). It cannot be identified.

18. Mandākini (XVI.10). Cunningham identifies it with the Mandakin or Mandagin, a small affluent of the Paisuni or Paisundi in Bundelkhand near the Citrakūṭa hill.⁶ Fleet takes it to denote the Gaṅgā, or an arm of it.⁷

1. Historical Geography, pp. 91, 226.
3. JRAI, 1871, p. 82, fn. 2.
6. CASR, XXI, p. 11.
7. IA, XXII, p. 184.
19. Narmadā. It rises in the Amarkantak mountain and drains into the Gulf of Cambay. As we have seen above, it was regarded as the dividing point between Āryāvarta and Daksināpatha. Vārahamihiṃra refers to people living on its banks (V.64) as also on its eastern and western halves (XVI. 1, 9). Its other name Revā is also mentioned (XII.6). It is described as embracing the Vindhya mountain in secret like a lady-love her lover.¹

20. Nirvindhyā (XVI.9). It is usually identified with the Nevuz, a tributary of the Chambal between the Betwa and the Kali-Sindh in Malwa. Some identify it with the Kali-Sindh itself² But as Kālidāsa (Meghadūta, I.28-9) mentions the Sindhu and the Nirvindhyā separately, the latter's identification with the Nevuz seems more probable.

21. Pārā (XVI.10), the Parvati, a tributary of the Chambal rising in Bhopal.³ The old town of Padmāvati (modern Pawaya) was situated on the confluence of Pāravati and Sindhu.

22. Payoṣṇī (XVI.10). There are a number of rivers claiming to be ancient Payoṣṇī.⁴ Cunningham identifies it with the Pahoj, a tributary of the Yamunā between the Sindh and Betwa.⁵ But as Varāhamihira mentions it along with the Mandākini, its identification with the above-mentioned Paisuni or Paisundi in Bundelkhand appears to be more probable.

23. Phalgulukā (XIV.23). It is placed in the northwestern division. Fleet takes it to be a river, while Utpala seems to regard it as the name of a people as will appear from his rendering of the word in nominative plural (Phalgulukāḥ).

24. Rathākhyā (XVI.15). This is the reading in S. Dvivedi's edition. Kern points out that some manuscripts read Rathasvā, Rathampā and Rathasyā or Rathaspā. Fleet prefers Rathāhvā and compares it with Gajāhva.⁶ Rathaspā as a river is mentioned in the Jaiminiya-Brāhmaṇa (Caland's ed., extract 204), the Rktantra Prātiṣākhyā (śūtra 209) and the gaṇa-pāṭha to Pāṇini VI.1.157. In the Mahābhārata (I.169.20-21),

¹ The idea of rivers being looked upon as ladies is met with in Mandasar inscription of Kumāragupta and Bandhuvarman, of CII, III, pp. 81-2, text lines 7-8.
² Dej, p. 141.
³ Pargiter, Mārgaḍeya Purāṇa, p. 295 & note; CASR, II. p. 308.
⁴ Cf. Dej, p. 156.
⁵ CASR, VII.
⁶ IA, 1893, p. 188.
it is described as one of the seven holy streams between the Sarasvati and the Gaṅgā. Dr. V. S. Agrawala identifies it with the Rhodopa of Greek writers, which he thinks, is the same as the modern Ramganga. But as Rhodopa is expressly described as a town, the identification of the Rathaspā with Rhoopha does not appear to be very probable. It cannot be satisfactorily identified.

25. Sarasvati. Varāhamihira mentions the Sārasvatas, people living on the banks of the Sarasvati (XVI.21), whom he places in the Middle Country (XIV.2). They are associated with the Yāmunas who are placed partly in the Middle Country and partly in the northern division. We have also a reference to the place where the stream loses itself, i.e. the sands of Patiala (Sarasvati nasaṭa yasmin deśe, XVI.30.) In the Rgveda (VI.61.2, 8; VII.96.2), the Sarasvati is described as a mighty river flowing into the sea. Manu (II.17) speaks of the stretch of land between the rivers Sarasvati and Drṣadvatī as the holiest land made by gods. In place of that mighty river, we have now an insignificant stream called Sarsuti, which, rising in the hills of Sirmur in the Sevaliks, emerges into the plains at Ad-Badri in Ambala. It disappears in the sand near the village of Chalaur and reappears at Bhavanipur. It again disappears at Balchhappar and reappears at Bara Khera. At the Village of Urmai near Pehoa, it is fed by the Mārkaṇḍa and the joint stream still called Sarasvati joins the Ghaggar which evidently formed the lower part of the Sarasvati. Some have identified it with Ghaggar itself, with the Helmand in Afghanistan, and with Arghandau in Arachosia. But as Varāhamihira places it in Madhyadeśa, he seems to have the stream of Sarsuti in view.

26. Sarayū (V.65; XVI.15), modern Ghagra or Gogra, a tributary of the Gaṅgā, on whose bank the town of Ayodhyā is situated. Utpala (on V.65) describes it as an eastern river

1. India as Known to Pāṇini, pp. 45-46.
4. JRAS, 1893, p. 51.
5. Ragozin, Vedic India.
7. For a description of the modern Sarasvati, see CASR, XIV, pp. 87-90.
(pûrva-nādi), probably referring to its course near Chapra where it joins the Gaṅgā.

27. Śatadrā (XVI.20), the Hesydrus of the classical writers, is modern Sutlej, the easternmost stream of the Panjab.

28. Sindhu (XVI.10, 15). Varāhamihira locates the Sindhu (Indus) in the south-western division (XIV.19) and refers to its eastern portion (Sindhu-nada-pûrvabhāga, XVI.20) and banks (V.66, 80). The tract of land lying north to south between it and the Jhelum was also known by the name Sindhu or Saindhava to which we have numerous references. It may also be noted that two rivers bearing the name Sindhu flow in the Malwa region.

29. Śipurā (XVI.9), still known by this name, is a tributary of the Chambal into which it falls a little below Sitamau. The city of Ujjain is situated on its bank.

30. Ṣoṇa (V.65; XVI.1), modern Sone, rising in the Amarkantak range and draining itself into the Gaṅgā near Patna. Megasthenes calls it Erannaboas (a Greek corruption of Sanskrit Hiraṇyavāhā) on whose junction with the Gaṅgā was situated Palimbothra (Pāṭaliputra), the celebrated Maurya capital.

31. Tāmrāparṇi. Varāhamihira locates it in the south (XIV.16) and speaks of its pearl-fisheries (LXXX.2, 3). Even today it is known by this name. The united stream of the Tāmrāparṇi and Chittar in Tinnevelly also bears this name. Both of these streams have their source at the Agastikūṭa mountain. The port of Kolkhoi (Korkai) was situated on the mouth of this river, but now it is five miles inland.

32. Tāpti (XVI.12), modern Tāpti. It rises in the Satpura hills and empties itself into the Arabian Sea.

33. Vedasmiṣṭī (XVI.31). It has been identified with the Besula in Malwa. In the Bhīṣma-parvan (9.17) of the Mahābhārata, it is called Vedasmṛtā.

34. Venā (XVI.9), in the southern division (XIV.12), is modern Wainganga, a tributary of the Godāvari. Varāha-

4. This verse is found in Kern’s and Sastri’s editions, but not in Dvedi’s. As it is not commented upon by Utpala, it appears to be spurious.
mihira refers to its banks (IV.26), which were celebrated for diamond industry (LXXIX.6).

35. Vejumati (XIV.23). It is placed in the northwestern division. Alberuni (I, 302) explains it as Tirmidh.

36. Vetravati (XVI.9), modern Betwa, a tributary of the Yamuna.

37. Vipāśa (XVI.20), Beas, one of the five rivers of the Panjab. According to Yāska (Nirukta, III.9.3.27), it was also known as Ārjikīyā in the Rgveda (VIII.3.6.).

38. Vītastā (XVI.26), the Hydaspes of the Greek writers, is the Jhelum, one of the five streams of the Panjab.

39. Yamūnā. Varāhamihira refers to people living on the banks of the Yamuna (V.37) and to its southern bank (XVI.2). He locates the people of the Yamunā region (Yāmunas) partly in Madhyaadesa (XIV.2) and partly in the northern division (XIV.25).

III. Forests

1. Daṇḍaka (XVI.11). Varāhamihira locates Daṇḍakāvana in the southern division (XIV.16) and speaks of its ruler (Daṇḍakādhipati, XI.56). According to the Rāmāyaṇa (Uttarakāṇḍa, LXXIX.18-20), Daṇḍakārāṇya comprised the territory between the Vindhya and Śaivala mountains including Vidarbha, and extended up to Janasthāna on the Godāvari according to Bhavabhūti’s Uttararāmacarita.1 The inclusion of Vidarbha within Daṇḍaka is also suggested by Kauṭilya who says that the king of Daṇḍaka who met his doom in consequence of his attempt on a Brāhmaṇa girl was a Bhoja.2 In view of this, Pargiter’s view that Daṇḍaka comprised all the forests from Bundelkhand to the river Krishna3 needs substantial modification.

2. Dharmāranya (XIV.3) is placed in the Middle Country. The Mahābhārata (III.82.46) informs us that Kaṇvāśrama (Kansawa near Kota) was called Dharmāranya.4

3. Mahāṭavi (XIV.13), a great forest in the southern

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2. Arthasāstra, p. 11.
4. For other places called Dharmāranya, see Dey, pp. 53-7.
division. It may be the same as Mahākāntāra, a country in Dakṣināpatha whose king was defeated by Samudragupta.¹

4. Naimiṣa. Varāhamihira refers to the lord of the Naimiṣa forest (Naimiṣ-ādhipati, XI.60). It is Nimkharavana or Nimsar near the Nimsar Rly. Station, 20 miles from Sitapur and 45 miles to the north-west of Lucknow. It is situated on the left bank of the Gumti.

5. Nrṣimhavana (XIV.22). It is placed in the north-western division. Kern splits it into Nrṣimha and Vana.² Alberuni (I.302) takes it to denote 'people with lion-faces,' which is obviously incorrect.

6. Puṣkara (V.68; XVI.30) or Puṣkarāranya (XI.35) is represented by Pokhar, six miles from Ajmer. It is a famous place of pilgrimage frequented by pilgrims.

7. Vanarājya (XIV.30), a forest-kingdom in the north-eastern division.

8. Venarāstra (XIV.29), a forest territory, in the north-eastern division.

9. Vanaughha (v. l. Vanauka), 'a collection of forests', in the western division (XIV. 20.)

10. Vasure (v. l. Vasudhana, XIV.31), a forest in the north-eastern division.

We get references to some forest kingdoms in epigraphic records. Thus the Gupta emperor Samudragupta claims to have compelled the kings of all the forest-kingdoms (sarvāṭa-vikarāja) to render service to him. Mahārāja Saṅkṣobha is described as the ruler of eighteen forest kingdoms.³

IV. Oceans

We have so far noticed physical features of the interior of India. Varāhamihira also refers to Yāmyodadhī (southern ocean, XIV.15) in the southern division, and Mahārṇava (the great ocean, XIV.19) in the south-western division, both undoubtedly referring to the Indian ocean, and to Pūrva-sāgara (V.65), which is no doubt the same as the Bay of Bengal. There is also a reference to the mythical milk-ocean called Kṣīrodaka placed in the eastern division (XIV.6). The ocean is described as the girdle of the earth.

¹ CII, III, p. 7.
² I.302.
³ CII, III, pp. 13, 116.
PEOPLES AND COUNTRIES

1. Ābhīras (V.38, 42; IX.19; XVI.30). The Ābhīras are placed in the southern (XIV.12) and south-western divisions (XIV.18). They probably represent a foreign people, who immigrated into India from some part of eastern Iran in or before the second century B. C.1 The Mahābhārata (Śalyaparvan, 37.1-2) associates them with the Śūdras and speaks of their republican settlement on the Sindhu and the Sarasvatī (Sabhāparvan, 32.9-10). The Aberia (country of the Ābhīras) of the author of the Periplus comprised, according to Schoff, southern part of Gujarāt including Surat.2 McCrindle places Ptolemy’s Aberia ‘to the east of the river Ḫudis, above the place where it bifurcates to form the delta.’3 In the Mausala-parvan (7.47-63) of the Mahābhārata, we find the Ābhīras living near Paṅcanada (Panjab), where they attacked Arjuna when he was carrying the women of the Vṛṣṇis after the extinction of their male members. The route of their migration to Koṅkaṇa and Aparānta, where they are found in later times, lay through the region between Jhansi and Bhilsa, which is consequently known as Ahiwar. In the second and third centuries of the Christian era, we find them in important political position in Gujarāt and Nasik region. The Gunda (Kathiawād) inscr. (A. D. 180) belonging to the reign of Rudrasirināha I records the charities of an Ābhira general, Rudrabhūti, son of Bāpaka.4 Įśvaradatta, who issued silver coins of the Satrapal style with the title mahākṣatrapa, is supposed to be an Ābhira. According to Rapson, these coins belong to some date between A. D. 236 and 239,5 while D. R. Bhandarkar places them between A. D. 188 and 190.6 A Nasik cave inscription was issued in the ninth

1. The Ābhīras are referred to by Pataṇjali (Mahābhāṣya, on 1-2-72, Nirmaya-Sagar Edition, Vol. II, p. 108), and it is, therefore, possible, as suggested by W. W. Tarn, (Greeks in Bactria and India, p. 712), that they entered into India during the period of confusian after Alexander’s invasion.
2. Periplus, pp. 39, 175.
3. Ptolemy, p. 140.
4. Luders’ List No. 963.
5. Rapson, BMC, Āndhras and Kṣatrapas, pp. cxxxiv-cxxxvi.
6. ASI, AR, 1913-14, pp. 226-231.
regnal year of king Māḍharīputra Iṣvarasena, son of Ābhīra Śivadatta. He appears to have been in possession of a large territory comprising Koṅkana, Gujarat and Maharashtra. Dr. V. V. Mirashi has shown that the mahārājas Svāmidāsa, Bhūluṇḍa, and Rudradāsa were ruling over Khandesh as feudatories of the Ābhīras in the years 67, 107 and 117 respectively of the Kalacuri-Cedi era of A. D. 248-49. Thus, the location of the Ābhīras in the south and south-west is quite plausible. Their inclusion among the north Indian tribes frightened by Samudragupta shows that they continued to enjoy a significant position in the north down to the fourth century A. D.

2. Abhisāra (XXXII.19), a country in the north-eastern division (XIV.29), the Abises of the Greeks. Dr. Stein identifies the kingdom of Abhisāra with the tract of the lower and middle hills between the Jhelum and Chenab including the state of Rājapura (Rajauri) in Kashmir. Varāhamihira places it too much to the east.

3. Ādarśa (XIV.25), a country and its people in the northern division. According to the Dharmasūtras, Ādarśa is the place where the Sarasvati disappears. It was regarded as the western boundary of Āryāvarta. Elsewhere, Varāhamihira himself locates the place of the disappearance of the Sarasvati in the western division (Naṣṭā yasmin deśe Sarasvatī paścimo deśah, XVI.30). S. N. Majumdar Sastri suggests that it lay not far from the ancient kingdoms of Srughna and Trigarta (Kangra).

4. Agnīdhra (v. l. Agrīvya or Agnitya, XIV.25), a people in the northern division. Alberuni (I, 302) gives the name as Agnitya.

5. Ākara (XIV.12), a country in the southern division. Kern translates it as ‘the mines’ and suggests that it denotes modern Khandesh. Ākara and Avanti are closely associated in inscriptions and in the Junagadh Inscr. of Rudradāman I.

1. CII, IV, p. xxxiv.
2. ABORI, XXV, p. 159; IHQ, XXI, p. 79.
3. CII, III, p. 8, text line 22.
5. CAGI, p. xli, note, Cf. SBE, XIV, p. 2.
6. IA, XXII, p. 172. The statement of Dey (p. 3) that BS mentions Ākarakāntika is incorrect.
7. SI, pp. 172, 196.
we find the phrase Pūrav-āpar-Ākar-Āvanti. Ākara, thus, denotes eastern Malwa. The name is still preserved in Agar, 35 miles northeast of Ujjain.

6. Ambarāvata (XIV.27), a people in the northern division. The text gives Ambara which Utpala paraphrases as Ambarāvata. The analogy of the names like Puṣkalāvati suggests that Ambarāvati was probably the name of a city, the inhabitants of which were called Ambarāvata.

7. Ambaśṭha (IX.19; XVI.21), a people in the eastern (XIV.7) and south-western divisions (XIV.17). In the time of Alexander we find the Ambaśṭhas, Abastanoi of Alexander's historians, living in northern part of Sind as also on the lower Acesines (Chenab). Ptolemy speaks of the Ambautai as settled in the east of the country of the Paropanisadaī. In the Sabhāparvan of the Mahābhārata (32,7), they are associated with the north-western tribes like the Sibis, Kṣudrakas and Mālavas. In later times some branches of the Ambaśṭhas appear to have migrated to the south and east. Ptolemy refers to the Ambastai as living in the Vindhyan region together with the Bhils and Gonds. Even to the present day, Ambaśṭha Kāyasthas are to be found in Bihar and Bengal.

8. Ānarta (V.80; XVI.30), a country in the south-western division (XIV.17). In XIV.33, it is alluded to as the representative country of that division. The Junagadh Inscr. of Rudradāman alludes to it as a country included in his kingdom. The Mahābhārata (II.14-50) mentions Kuṣasthali as another name for Dvārakā situated in Ānarta. Ānarta, thus, denotes northern Gujarat with its capital at Dvārakā.

9. Andhra. Varāhamihira refers to Andhra as a country (XVI.11 XVII.25), mentions its king (Andhra-pati, XI.59) and places it in the south-eastern division (XIV.8). The Andhras as a people are mentioned in the Aitareya Brāhmaṇa (VII.18), R. E. XIII of Aśoka and several other works. Ac-

3. Ptolemy, pp. 311-12.
4. Ibid, pp. 159-61.
5. Cf. PHI, p. 256, fn. 4.
8. SI, p. 37.
according to some, they belonged to Dravidian stock and lived in the deltas of the Godavari and the Krishna, while according to others, they were originally a Vindhyan people, who later on extended to the Godavari and Krishna valleys. The Jātakas mention a town named Andhapura on the river Telavāha, which is sometimes identified with modern Bezwada.

10. Āṅga (V.72; IX.10; X.14; XI.56; XVII.26; XXXII.15). The Āṇgas are first mentioned in the Atharvaveda (V.22.14) and in the Aitareya Brāhmaṇa (VIII.22). In Buddha’s time it was one of the sixteen mahājanapadas or great states. Āṅga comprised the districts of Bhagalpur and Monghyr with Campā as its capital. A legend about the origin of this name is recorded in the Rāmāyana (I.23, 13-14). It is stated that in consequence of being burnt by Śiva, Kāma, the god of love, came to be known as Anaṅga (bodyless) and the country where he abandoned his body is called Āṅga. According to some other works, Āṅga was so called after an eponymous prince.

11. Antardvipin (XIV.25), a country in the northern division.

12. Anuwiddha (v. l. Anuviśva, XIV.31), a people or country in the north-eastern division.

13. Arava (XIV.17), a people or country in the south-western division. Arava is a Telugu word for a Tamilian, Tamil Aravamu.


15. Ārjunāyana (IV.25; XI.59; XVI.21; XVII.19), a people in the northern division (XIV.25). Historians try to connect them with the Pāṇḍava hero Arjuna or the Haihaya king of that name. The inclusion of the Ārjunāyanas among the frontier tribes which submitted to Samudragupta has led Fleet to connect them with the Kalacuris who trace their descent from Kārtavīrya Arjuna. This suggestion lacks support. We know from the Kāśikā (on Pāṇini, II.4.66, Bauh = aca iṇaḥ prācyā-Bharateśu) that the Ārjunāyanas claimed descent from the Bhārata (Pāṇḍava) hero Arjuna. Moreover, the Kalacuris are known to have ruled in Central India and Deccan, not in

1. IA, 1913, pp. 276-8.
2. IA, 1918, p. 71; PHAI, p. 92.
3. Ibid; Mehta, p. 370.
4. CII, III, p. 8, line 22.
5. Ibid, Introd., p. 10.
the north. The find-spots of the coins of the Ārjunāyana republic (cir. 1st century B.C.) indicate that their country, which was known as Ārjunāyanaka,\(^1\) lay within the triangle of Delhi-Jaipur-Agra.\(^2\) The Ārjunāyanas seem to have grown powerful after the decline of the Indo-Greeks in the first century B.C., but were soon subdued by the Kuśāṇas after whose decline they regained their independence. Though they had again to submit to Samudragupta in the fourth century, numerous references in our work indicate that they continued to hold their own down to the sixth century A.D.

16. *Asika* (XI.56). Varāhamihira refers to the lord of the Asikas (*Asik-eśa*). In the present state of our knowledge, it is difficult to locate the Asika country definitely. The reading *Asika-nagara* in line 4 of the Hathigumpha inscr. of Khāravela is doubtful. K. P. Jayaswal and R. D. Banerji prefer Mūṣika-nagara.\(^3\) The inscr. tells us that disregarding Śātakarni, Khāravela sent a large army to the west (of Kaliṅga) and with its aid, having reached the Kanḥavenā, struck terror into the hearts of the people (or city) of Mūṣika-or Asika-nagara. The Kṛṣṇaṇevā is usually identified with the river Kṛṣṇā. Those who read Asika, regard it as a corruption of Sanskrit Rśika whom they place between the Kṛṣṇā and the Godavari.\(^4\) But as pointed out by Dr. Mirashi, the Kṛṣṇā flows south, not west, of Kaliṅga; the Kṛṣṇaṇevā should, therefore, be identified with the Kanhan, a tributary of the Wainganga, which flows about 10 miles north of Nagpur.\(^5\) Thus, Asikas or Mūṣikas cannot be placed on the Krishna. Besides, Varāhamihira seems to distinguish the Asikas (XI.56) from the Rśikas (XIV.15).

17. *Aśmaka* (V.39, 73, 74, 79; IX.18, 27; XVI.11; XXXII.15), a country and its people in the north-western division (XIV.22). Mention is made of the lord of the Aśmakas (*Aśmakapa* XI.54; -nātha XI.55; -narendra XVII.15). In Pali and Sanskrit works, Assaka or Aśmaka is usually regarded as a southern country on the Godāvari with its metropolis at Potali

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1. Ārjunāyanas are included in the Rājanyādi-gaṇa to Pāṇini, *IV.* 2.53.
5. *JNSI*, II, p. 93. This was first suggested by Pargiter, vide *JRAS*, 1894, p. 244.
or Potana or Paudanya. Bhaṭṭasvāmin, a commentator of the
Arthaśāstra, identifies it with Maharashtra. T. W. Rhys
Davids, however, thinks that the Aśmaka country was originally
situated immediately to the north-west of Avanti and that
the settlement on the Godāvari was a later colony.¹ Neither of
these countries can be our Aśmaka for Varāhamihira places it
in the north-west. Therefore, as suggested by Kern², it is more
plausible to identify our Aśmaka with the Assakenoi of the
Greek writers. In Alexander’s time, the Assakenoi people were
ruled over by Assakenos whose territory comprised part of Swat
and Buner and extended eastwards as far as the Indus and
had its capital at the town of Massaga (Skr. Maśakāvatī).³

18. Aśvamukha (XVI.34), literally meaning ‘horse-faced
people’. Aśvavadanas (XVI.6) and Turaṅgānanas (XIV.25)
meaning the same thing are located in the eastern and northern
divisions respectively. It is not possible to decide whether the
semi-divine beings called Kinnaras are intended or a people
with faces bearing certain resemblance to that of a horse. The
author of the Periplus mentions the Horse-faces whom Schoff
identifies with the Tibeto-Burman races on the eastern frontier
of India.⁴


20. Avagōṇa (XI.61; XVI.37) seems to be the same as
Yuan Chwang’s O-po-kien or Avakan which Cunningham is
inclined to identify with the name of Afghan.⁵

21. Avanti (V.40, 73; IX.17, 18, 21; XI.35) denotes
western Malwa, its people and the town of Ujjayini. Varāha-
mihiṇa refers to the janapadas of Avanti (Āvantikā janapadaḥ,
V.64) and its king (Āvanta, XIV.33). Although Avanti is
not named in the enumeration of the countries in the southern
division, its king is described as representing this very division.
As we have seen above, Varāhamihira was himself an inhabitant
of Avanti. In the Junagadh inscr. of Rudradāman I⁶ and the
Nasik cave inscr. of Vāsiṣṭhiputra Puḷumāvi it is associated with
Ākara. The Junagadh inscr. in particular describes Ākara

¹ Rhys Davids, Buddhist India, p. 14.
² JRAS, 1871, p. 85.
³ Cambridge History of India, I, pp. 315-6.
⁴ Periplus, 47, 254, 278.
⁵ CAGI, pp. 100-101.
⁶ SI, p. 172; line 11.
and Avanti as the eastern and the western. Thus, Avanti seems to denote western Malwa.

22. **Avartaka** (XIV.12), a people in the southern division.¹

23. **Badara** (XIV.19), a country or people in the southwestern division. Badaras were probably the people of Yuan Chwang’s O-cha-li or Badari (or Vadari) which Cunningham identifies with modern Eder. In the time of the Chinese pilgrim Badarī was a large kingdom bounded by Ajmer and Ranthambhor on the north, by the Loni and the Chambal on the east and west and the Malwa frontier on the south, and extending from the mouth of the river Banas in the Ran of Cutch to the Chambal near Mandasor.² The city of Vadari mentioned in a Basantgarh inscr.³ is, according to Cunningham, the same as Eder.

24. **Bahlika** (V.37; XVIII.6), or **Bāhlīka** (X.70 XVI.1; XVII.13, 25; XXXII.15), or **Vahlīka** (IX.10), or **Vāhlīka** (V.80), a country and its people. It is modern Balkh or Bactria in the extreme north of Afghanistan. In the Mehrauli iron pillar inscr., king Candra (probably Candragupta II) is said to have crossed the seven mouths of the Indus before reducing the Vāhlīkas⁴, showing that the latter lived beyond the Indus. J. Pryziulski thinks that Bahlīka was an Iranian settlement of the Madras.⁵ Bahlīkas are sometimes confused with the Vāhlīkas⁶, who, according to the **Mahābhārata** (VIII.44.6-7), lived in the region watered by the five rivers of the Panjab and the Indus. The **Rāmāyaṇa** (II.68.18-9), however, places the Bahlīkas on the river Beas. It is not improbable, therefore, that the Vāhlīkas were a branch of the same stock as the Bahlīkas or that a branch of the Bahlīkas lived in the Panjab also.⁷

25. **Barbara** (V.42), a people in the south-west division (XIV.18). The Barbaras must be located in the region about the port of Barbaricum situated on the middle mouth of the

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¹. This is not mentioned by Fleet.
². CAGI, pp. 565-8.
³. JASB, X, p. 668.
Indus as described by the author of the *Periplus*, or near the town of Barbarei, forming one of the islands of the Indus delta, mentioned by Ptolemy. It has been suggested that Barbaricum of the *Periplus* is the same as Barbarika mentioned in the *Dhanvantariya Nighantu*. The *Mārkaṇḍeya-purāṇa* (LVII.39) actually places the Barbara country in the Sindhu valley. The statement of B. C. Law that the ‘Bṛhatasmhitā’ refers to them (Barbaras) as north or north-west tribes is incorrect.

26. *Bhadra*, a people placed in the Middle country (XIV.2) and the eastern (XIV.7) and southern divisions (XIV.16). Kern renders Bhadra by ‘Blessed’ and thinks that the Bhadras are probably the same as the Bhadrāśvas mentioned below. The presence of the Bhadras in eastern India is vouched for by the Khalimpur copper-plate inscr. which informs us that Gopāla, the father of Dharmapāla, married Deddādevi, the daughter of a Bhadra chief (*Bhadrātmajā*).

27. *Bhadrāśva* (IX.11), a fabulous people whose origin can be traced to the ‘blessed horses’ of the sun described in the *Ṛgveda* (I.115.2).


29. *Bharatas* (XVI.20). In the *Ṛgveda*, the Bharatas are brought in special connection with the rivers Sarasvati, Āpayā and Drṣadvati, showing that they lived in the Madhyadeśa of later ages. In the Brāhmaṇa period, they merged in the Kuru-Pāñcāla people. Though the Bharatas lost their tribal entity, their fame lingered till late times.

30. *Bṛṇgi* (IV.22), a people who cannot be properly located.


31. *Caṅcūka* (XIV.18, *v. i.* Campuka), a people in the

4. *Historical Geography*, p. 79.
5. *JRAS*, 1871, p. 82, fn. 3.
9. Not mentioned by Fleet.
south-west division. They may be identified with the Chenchus, a hilly tribe, living in the Sríśailam area of Andhra Pradesh. The physical features of the present day Chenchus very much resemble those of the human figures in Amaravatī and Nagarjunakonda art.

32. Carmadvipa (XIV.9), literally meaning 'skin-island', in the south-east division.¹

33. Carmaraṅga (XIV.23), a people in the north-west division.

34. Cedi (XVI.3; XXXII.22), a country the inhabitants of which (Cedika, XIV.8) are placed in the south-east division. The word Caidya, 'Cedi king', is found in XI.59. Mention is made of the famous Cedi king (Cedipa) Vasu Uparicara who is said to have started the festival Indramaha (XLIII.8). He is usually considered to be identical with Kasu Caidya who is so hyperbolically extolled in the Dānastutis of the Rgveda (VIII.5.37-39).² The Cedi country roughly corresponds to modern Baghelkhand and adjoining regions. Tripurī, the capital of the Kalacuris, is also mentioned (XIV.9).

35. Ceryāryaka (XIV.15), a people in the southern division. Utpala takes it to be one word, but it may be split up into Cerya and Āryaka³. The former will then denote the inhabitants of Kerala which comprises Malabar, Cochin and Travancore.

36. Cīna (V.77, 78, 80; X.7, 11; XI.61; XVI.1, 37), a people in the north-east division (XIV.30). In the Pali Sāsanavaṃsa, Himavantapadesa is stated to be the Činaraṭṭha. The name Cīna also occurs in the Nagarjunakonda inscr. of the Ikṣvāku king Virapuruṣadatta. B. C. Law places it in the Himalayas beyond Čīlāta or Kirāta.⁴ Kern (on V.77, 78, 80), however, renders it by 'the Chinese'.

37. Cipītanāsika (XIV.26), a ‘flat-nosed people’ in the northern division. This seems to refer to some people with characteristic Mangolian features such as the flat nose. The Periplus, it is interesting to note, mentions a people called Gīrhadai with flattened nose, who, according to Schoff, were

¹. It may be the same as Kārdaraṅga, also called Karmaraṅga, an island of Indonesia.
². Vedic Index, I, p. 144.
³. Raychaudhuri (PHAI, p. 485, fn. 5) thinks that Ariake of the Periplus may be the same as our Āryaka.
⁴. Historical Geography, p. 73.
a Bhoța tribe, whose descendants, still called Kirāta, live in the Morung, west of Sikkim.\textsuperscript{1} Pliny (VII.2) also refers to the Scyrites who ‘have merely holes in their heads instead of nostrils, and flexible feet like the body of a serpent.’ People without nostrils are also mentioned by Megasthenes who is reproved by Strabo (XV.1.57) for deviating into fables.

38. Čiraniśāsin (XIV.31), literally ‘wearers of bark’, a people in the north-east division.

39. Cola (V.40; XI.61; XVI.10, 37), a country and its people in the southern division (XIV.13). Stretching along the eastern coast from the river Pennar to the Vellar and bounded on the west by Coorg, the Cola country comprised the Trichinopoly and Tanjore districts and a part of the Pudukottai state.\textsuperscript{2} It was drained by the river Kāverī. In the Aihole inscr. of Pulakeśi II,\textsuperscript{3} the Kāverī is especially associated with the Cola country. Ptolemy refers to the Colas as Soringae with their capital at Orthouara, Sanskrit Uragapura, modern Uraiyyur on the southern bank of the Kāverī.\textsuperscript{4}

40. Dāmara (v. l. Dāmara XIV.30), a people in the north-east division. Wilson identified them with a fierce intractable tribe inhabiting the mountains to the north of Kashmir.\textsuperscript{5} Stein, however, shows that the word Dāmara is used as a common noun meaning feudal land-holder.\textsuperscript{6}

41. Daṇḍa-piṅgalaṇa (XIV.27), a people in the northern division.

42. Danturaka (XIV.6), a people in the eastern division. Alberuni (I.301) takes Dantura to mean ‘people with long teeth.’ Dey suggests that it is a corruption of Dantapura, the ancient capital of Kaliṅga.\textsuperscript{7} This suggestion is untenable, for, while Danturaka is placed in the eastern division, Kaliṅga is assigned to the south-east division (XIV.8).

43. Darada (V.42, 79; XIII.9), a people and country in the north-east division (XIV.29). It is Dardistan north of

\textsuperscript{1} Periplus, pp. 47, 253-4, 278.
\textsuperscript{2} K. A. N. Sastrī, The Colas, I, p. 22.
\textsuperscript{3} EI, VI, p. 6, line 14.
\textsuperscript{4} Ptolemy, pp. 64-5, 185-6.
\textsuperscript{5} Wilson, Essays, pp. 51, 70.
\textsuperscript{6} Stein, Rājatarāṅgiṇī, II, pp. 304 ff.
\textsuperscript{7} Dey, p. 53.
Kashmir on the upper Indus. Sir Aurel Stein identifies its capital Daratpurī with modern Gurez.\(^1\) The seats of the Daradas, which have remained unchanged since the time of Herodotus, extend from Chitral and Yasin across the Indus region of Gilgit, Chilas and Bunji to the Kishanganga valley in the immediate north of Kashmir.\(^2\)

44. **Dārva (XIV.30)**, a country in the north-east division. In literature Dārva is closely associated with Abhisāra and these together roughly comprised the Punch and Naushera region between the Jhelum and the Chenab. Its location in the north-east is evidently incorrect.

45. **Dāsameya (XIV.28)**, a people in the northern division.

46. **Daśāraṇa (V.40; X.15; XXXII.11)**, a country, the inhabitants whereof (Daśāraṇa, XVI.25) are placed in the south-east division (XIV.10). It denotes the region east of Vidiśā watered by the river Daśārṇā, modern Dhasan.

47. **Daśeraka (v. l. Dāseraka, V. 67)**, a people and country in the northern division (XIV.26). Dey suggests to identify it with Malwa,\(^3\) while D. C. Sircar regards it as another name for Maru, i.e. Marwar region in Rajputana.\(^4\) That our author does not intend any of these two countries by Daśeraka is evident from the fact that he locates Ākara and Avanti forming eastern and western Malwa in the southern division and Maru or Marwar region in the Middle Country, whereas Daśeraka is placed in the northern division.

48. **Dirghagrīva (XVI.23)**, literally meaning ‘long-necked’, a people in the north-west division.

49. **Dirghakesa (XIV.23)**, literally ‘long-haired’, a people in the north-west division.

50. **Dirghāśya (XIV.23)**, literally ‘long-mouthed’, a people in the north-west division.

51. **Diviṣṭha (XIV.31)**, literally ‘inhabitants of the sky’, a people in the north-east division. Khashas (XIV.22), meaning the same, are also placed in the north-west division, while Kacaras (people roaming in the sky, XIV.28) are assigned to the northern division. They appear to be a fabulouis people.

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\(^1\) Rājatarangini, II, p. 435.

\(^2\) Rājatarangini, I, p. 47; II, p. 431.

\(^3\) Dey, p. 54.

\(^4\) Studies in the Geography of Ancient and Medieval India, p. 26, fn. 2.
52. Draviḍa (v. l. Dramiḍa,¹ IX.15, 19; XVI.11; XXXII.15), a country and its people in the south-west division (XIV.19). Varāhamihira refers to the lords of the Draviḍas (Draviḍ-ādhipān, IV.23) and to the eastern half of their country (Draviḍ-āṅgām prāg=ardham, XVI.2). A sculptural measure current in the Draviḍa country is mentioned in LVII.4. Alberuni (I.302) has Dramiḍa. Draviḍa or Dramiḍa is usually regarded as the Sanskrit name of the Tamil country. According to Kern, however, Varāhamihira seems to intend some Draviḍian tribe in the west, perhaps the Brahui in Baluchistan, who belong to the Dravidian stock.²

53. Duḥpas (XIV.14), islands located in the southern division. Kern renders it as Maldives.

54. Ekacaraṇa (XIV.31) and Ekapāda (XIV.7), literally ‘one-footed people’, in the north-east and eastern division respectively.

55. Ekavilocana (XIV.23), ‘people with one eye’, in the north-west division. People with three eyes (Trinetra) are also placed in the same division.

56. Ganḍarajya (XIV.14 and comm.), a kingdom in the southern division.

57. Gāndhāra (IV.23; V.77, 78; IX.21; X.7; XVI.25; XVII.18; LXVIII.26), the people of the Gandhāra country in the northern division (XIV.28). Gandhāra extended from the Kabul valley to Takṣaśilā and comprised the Rawalpindi and Peshawar districts. Varāhamihira mentions two towns of Gandhāra, viz., Takṣaśilā and Puṣkalāvatī (modern Charsadda), situated to the east and west respectively of the Indus. Thus, Gandhāra lay on both sides of the Indus. Strabo and Ptolemy, however, use the name in a limited sense to denote the country west of the Indus.³ Gandharva-deśa appears to have been the original name of Gandhāra (cf. Rāmāyaṇa VII. 101.11, Takṣam Takṣaśilāyāṁ tu Puṣkalāṁ Puṣkalāvate, Gandharva-deśa rucre Gandhāra-visaye ca saḥ).

58. Gandharva (XIII.8; LXXXVI.33), a people or a class of demi-gods in the north-east division (XIV.31).

59. Gauḍaka (XIV.7), a country and people in the

¹ JRAS, 1871, p. 84, fn. 7.
² Ibid.
³ Ptolemy, pp. 115-6.
eastern division. Gauḍa is known to Pāṇini (VI.2.100) and Kauṭilya (II.13). In the Haraha inscr. of Maukhari Iśānavarman, the Gauḍas are described as living on the sea-shore.\(^1\) While in a limited sense, Gauḍa comprised the present Murshidabad district and the southern-most areas of the Malda district in Bengal,\(^2\) it is sometimes used in a wider sense to denote nearly the whole of Bengal. According to some, Western Bengal came to be called Gauḍa from the city of the same name, the ruins of which can be seen about 10 miles south-west of Malda;\(^3\) others hold that the city was named after the country.\(^4\) While Kern’s text gives Gauḍaka, in his translation of the verse he gives ‘Gauras’ and makes the following observation: “‘The whites’ supposed to live in the Śvetadvīpa, which according to Kathāsaritsāgara 54,18,199, lies near the cocoa-island.”\(^5\) Alberuni (I, 301) gives the reading Gauraka.

60. Gauragriśa (XIV.3), literally ‘white-necked’, a people in Madhyadeśa.

61. Gaavya (XIV.28), a people in the northern division.

62. Ghoṣa, a country in Madhyadeśa (XIV.2) and in the northeast division (XIV.30). While in his translation of XIV.2, Kern retains the name Ghoṣa, in that of XIV.30, he renders it by “Ghoshas (stations of herdsmen).”\(^6\)

63. Haihaya (XIV.20), a people and their country in the western division. Themselves a branch of the Yādavas, the Haihayas were, according to the Purāṇas, divided into five clans, viz., Vitihotra (or Vīrāhotra), Bhoja, Avanti, Tuṇḍikera (v. l. Kuṇḍikera, Taunḍikera and Tuṇḍakera) and Tālājaṅgha.\(^7\) The Kalacuris of Central India were also called Haihayas. The Haihaya country, also called Anūpa, comprised the region round Māhiṣmati.

64. Hala (v. l. Laha, XVI.6; XXXII.19), a people in the north-west division (XIV.22).

65. Halaḍa (v. l. Lahaḍa, Lahara, Laḍaha, Kalaha, Kalaha,

1. EI, XIV, p. 7, text line 3.
2. D. C. Sircar, Geography of Ancient and Medieval India, p. 113.
3. Dvy, p. 63.
5. JRAI, 1871, p. 87, fn. 4.
7. PHAI, pp. 145-6; Sircar, op. cit., p. 35, fn. 4.
XIV.22), a country in the north-west division. Kern in his translation gives Lahaḍa, but suggests that "this seems to be Lahara, so frequently mentioned in the Rājataragīni, e.g. VII.912, 1373 (Lahara, 'Laharian', 1173). It is a borderland between Kashmir and Dardistan; to this identification of Lahara and Lahaḍa, it will not be objected that our author, committing the grave blunder of placing Kashmir and Dardistan in the north-east, should needs have assigned a wrong situation to Lahaḍa too."

66. Hārahaura (XIV.33). Varāhamihira refers to the king of Hārahaura or Harahaur as representing the north-west division. It is supposed to be the tract of land lying between the Indus and the Jhelum and the Gandgarh mountain and the Salt range.

67. Hematāla (XIV.28), a people in the northern division.

68. Hūna (v. l. Hūna, XIV.27), a people in the northern division. Mention is also made of White Huns (Sita-Hūna, XI.61; Śveta-Hūna, XVI.37). We learn from the Bhitāri pillar inscr. of Skandagupta that he had to encounter the Hūnas. Yuan Chwang informs us that Bālāditya, the son of Tathāgatagupta, imprisoned but released at the request of the queen mother, the Hūna chief Mihirakula and that the latter fled to Kashmir and having treacherously murdered its king, made himself ruler and conquered Gandhāra. Some identify this Bālāditya with Bhānugupta. The war between Bālāditya-Bhānugupta and Mihirakula is probably echoed in the Eran pillar inscr. which tells us that along with 'glorious Bhānugupta, the bravest man on the earth, a mighty king equal to Pārtha,' Goparāja went to Eran and died after fighting a very famous battle about A. D. 510-11. Having been expelled from Central India, the Hūnas appear to have confined themselves to Kashmir and Gandhāra. They continued to be a source of trouble to some Indian ruling families. They are mentioned

1. JRAS, 1871, p. 83, fn. 3.
2. CASR, V. p. 79.
3. Utpala distinguishes Sitas and Śvetas from the Hūnas.
4. CII, III, p. 56, line 15.
6. PHAI, p. 596.
7. CII, III, pp. 92-3.
in the Aphsad inscr. of Ādityasena.¹ In the Harṣa-carita (V) we find Prabhākāravardhana, who is styled Hūṇa-hariṇa-kesarī, i. e. lion to the Hūṇa deer, sending his son Rājyavar-dhana to Uttarāpatha to fight with the Hūṇas.

69. Ikṣvāku (V.75; IX.17; XI.58). It is difficult to say whether thōse Ikṣvākus had any connection with the Ikṣvākus some of whose generations ruling in Āndhradesa are known to us from Nagarjunakonda inscriptions of about the third century A. D.²

70. Jaṭādhara (XIV.13), literally ‘a people having thick matted hair’, in the southern division.

71. Jaṭāsura (XIV.30), literally ‘demons with matted hair’, in the north-east division. Saṅghavarman gives the variant Jaṭāsura in place of Jaṭāpura in the Mahānāyūyi.³

72. Jaṭharāṅga (XIV.8), a people in the south-east division. Alberuni (I.301) splits it up into Jaṭhara and Aṅga.

73. Jaṅga (XIV.21), a people in the western division.

74. Kaṭṭha (IV.22), in the southern division (XIV.16), is modern Kachh or Cutch, to the north of Kathiawad.

75. Kaṭṭhara (XIV.27), a people in the northern division.

76. Kaikaya (IV.22; V.67, 74; XVI.25; XVII.18), the inhabitants of the Kekaya country in the northern division (XIV.25). There is a reference to the lord of the Kaikayas (Kaikaya-nātha) in XI.60. According to the Rāmāyaṇa (11.68, 19, 21), the Kekaya country lay beyond the Beas and had its capital at Girivraja which Cunningham identifies with Girjak or Jalalpur on the Jhelum.⁴ Roughly speaking, it comprised the districts of Jhelum, Shahpur and Gujarat.

77. Kailāvata (XIV.26), a people or country in the northern division.

78. Kāḷaka (XIV.19), a people in the south-west division.

79. Kaliṅga (V.35, 75, 79; IX.10, 26; X.16; XVI.1,3; XVII.13, 22; XXXII.15), a country and its people in the

1. CH II, p. 206.
2. EI, XX, pp. 1 ff.
3. JUPHS, XV, Pt. II, text line 77, pp. 29, 46. Levi identifies Jaṭāpura with the city of the Jāts referred to as Jarta by Candragomin. It is interesting to note that Varāhamihira places Jaṭāsura, Darada and Kāśmira in the same division, i. e. north-east. Similarly they are mentioned in close association in Mahānāyūyi indicating that they were situated closeby.
4. CAGI, p. 188.
south-east division (XIV.8, 32). There are references to the king of Kaliṅga in V.69 (Kaliṅga-dēṣa-nrpati), XI.54 (Kaliṅ-ṛṣṇam) and XIV.32 (Kaliṅga). It was known for its diamonds with a yellowish tinge (LXXIX.7). Kaliṅga lay between the Mahānadi and the Godāvari, though in the south it sometimes extended beyond the last mentioned river. In his 8th regnal year, Aśoka conquered Kaliṅga and annexed it to his empire.¹ He issued two special Kaliṅga edicts addressed to the Mahāmātras at Dhauli (Tosali) in the Puri district and at Jaugada (Samāpā) in the Ganjam district.² Ancient Kaliṅga thus comprised the districts of Puri and Ganjam. Khāravela, a king of Kaliṅga, had his capital at Kaliṅga-nagari,³ usually identified with modern Kalingapatam at the mouth of Vamśadāhārā or with Mukhalingam near Chicaco.⁴ Yuan Chwang distinguishes Kaliṅga from Wu-t’u or Orissa and Kung-yu-t’o or Kongodha in the Ganjam district,⁵ indicating that in his time Kaliṅga occupied a much smaller area forming parts of modern Ganjam and Vizagapatam districts.⁶

80. Kalmāśa (V.69), a people. No details are given.
81. Kāmboja (V.35, 78, 80; XIII.9; XVI.1, 15), a country and the people of it in the south-west division (XVI.17). The king of Kāmboja is referred to in XI.57. On the strength of its association in literature with Gandhārā and the mention in the Mahābhārata (VII.4.5) of Rājapura, probably the same as Yuan Chwang’s Ho-lo-she-pu-lo (Rājapura)⁷ or Rajori to the south of Kashmir,⁸ in connection with the Kāmbojas, some are inclined to believe that Kāmboja must be located in this region and that its western boundaries may have reached Kafiristan.⁹ But the best criterion for the location of Kāmboja is provided by Yāska who tells us that the root śava ‘to go’ was in use only among the Kāmbojas ( śavātir =

¹. R. E. XIII; S I., p. 37.
². Ibid, pp. 41, 46.
³. EI, XX, p. 79.
⁴. EI, IV, p. 187.
⁶. PHAI, p. 88.
⁸. CAGI, p. 148.
GEOGRAPHICAL DATA

This peculiarity is still current in the Galcha-speaking areas of Pamir and Badakhshan which, therefore, must represent ancient Kāmboja. Varāhamihira, however, places it too much to the south.

82. Kanaka (XIV.21), a people in the western division. Kern associates it with the following name Šaka and translates as ‘Gold-Scythians’. Utpala takes Kanaka to be a separate name and gives its nominative plural, indicating that he regarded them as a people. According to Dey, Kanaka denotes Travancore.

83. Kaṅka (XIV.4), a people in Madhyadeśa.
84. Kaṅkana (XIV.12), a people in the southern division.
85. Kaṅkata (XIV.12), a people in the southern division.
86. Kaṇṭhādhāna (XIV.26), a people in the northern division.
87. Kapila (XIV.17), a people in the south-west division. Kapila is a variant reading in the Matsya-purāṇa list of peoples.
89. Karṇata (XIV.13), Kanarese country and the people of it in the southern division.
90. Karaṭa (XVI.12), a people in the eastern division (XIV.5).
91. Kāśmīra (V.77, 78; IX.18; X.12), Kāśmirkaka (V.70; XI.57), the people of Kāśmīra in the north-east division (XIV.29). Our author places it too much to the east.
92. Kaubera (LXXX.2, 6), a place or country celebrated for its pearl-fishery. We have no clue to its identification.
93. Kerala (XVI.11), the same as Cera mentioned above.

2. Dey, p. 88.
3. This name is omitted by Fleet.
4. Sircar, Geography of Ancient and Medieval India, p. 30, fn. 2.
The Keralakas or the people of the Kerala country are placed in the southern division (XIV.12). Fleet thinks that Kerala is a mistake for Kairalaka or Kairālaka which is met with in the Allahabad pillar inser. of Samudragupta. But the actual reading seems to be Kaurālaka, not Kairālaka.

94. Kesadhara (XIV.26), literally 'people keeping long hair', in the northern division.

95. Khacara (XIV.28), literally 'people moving in the sky', in the northern division. See Diviṣṭha above.

96. Khanda (XIV.18), a people in the south-west division.

97. Khasa (X.12; LXVIII.26), a people in the eastern (XIV.6) and north-east divisions (XIV.30). In XIV.30, Kern gives Khaśa. The country of the Khas(ś)as lay in adjacent hills on the south and west of Kashmir, extending from Kastvar in the south-east to the Jhelum in the west and including the hill-states of Rājapuri and Lohara. They are represented by modern Khakkas in Kashmir.

98. Khaṭha (XIV.22), literally 'people living in the heaven', in the north-west division. See Diviṣṭha above.

99. Kīra (XXXII.19), a people in the north-east division (XIV.29). Kīras are named in a number of epigraphic records. Their country comprised the territory near Baijnath in the Kangra valley. A Chamba copper-plate inscr. mentions Kīras between Durgarās (Dongras) and Trigartas. Varāhamihira places them very much in the east.

100. Kīrāta (V.35, 38; IX.35; XI.60; XVI.2; XXXII.22), a people in the south-west and north-east divisions (XIV.18, 30). We have references to the king of the Kīrātās in IX.17 (Kīrāta-bharītuḥ) and XI.54 (Kīrāta-pārthivam). We know nothing about the Kīrāta settlements in the south-west of India. Kīrātās are a flat-nosed people, identical with the Cirrhadae living to the west of the mouth of the Gaṅgā mentioned in the Periplus, and with the Kirradia of Ptolemy living

3. El, I, p. 97; IV, p. 246; CII, IV, pp. 255, 313, 314, etc.
4. IA, XVII, pp. 7 ff.
5. Periplus, pp. 47, 253-4.
nearabout Tipperah. In the *Raghuvaṃśa* (IV.76), we find Raghu crossing the Himalayas, proceeding eastwards to the Brahmaputra valley, and then meeting the Kirātas. The descendants of the Kirātas, still known by this name, are found living in the Morung, west of Sikkim.


102. *Koñkaṇa* (XIV.12), a country in the southern division, comprised the entire strip of land between the Western Ghats (ancient Sahya) and the Arabian Sea with its capital at Śūrपāraka, modern Sopara near Bombay. Alberuni (I.203) refers to Tana as the capital.

103. *Košala* (V.69; IX.26; X.4, 13, 14; XVI.6; XVII.22), a country in the south-east division (XIV.8). *Kośalaka* (correctly *Kausalaka*), or the people of Kośala, are placed in the eastern division (XIV.7). The people of Kośala are called *Kausalaka* (V.70) as well as *Kausalaka* (X.9). The latter form is also met with in the Allahabad pillar inscr. of Samudragupta. The eastern Kośala roughly corresponds to the present Oudh. Kośala in the south-east division roughly comprised the region of Chhattisgarh and a portion of Orissa to the east of it. According to the *Vāyu-purāṇa* (80.199-200), Lava and Kuśa, the two sons of Dāsārathī Rāma, divided their paternal kingdom of Kośala into two parts, the former ruling over Uttara-Kośala with Śrāvastī as capital, and the latter ruling over Dakśiṇa-Kośala (or Kośalā), with Kuśasthali amidst the hills of the Vindhya for its capital. The Allahabad pillar inscr. includes Kosala ruled over by Mahendra-giri among the kingdoms of Dakśiṇāpatha whose rulers were defeated but later reinstated by Samudragupta. Kosala (probably the Panna region in Bundelkhand) was celebrated for diamond-mining (LXXIX.6).

104. *Koñivarṣa*. The king of Koñivarṣa is mentioned in IX.11. It is probably the same as the Koñivarṣa-viṣaya (roughly corresponding to Dinajpur district with Bānapura, modern Bangarh, as its chief town), in the *Pañḍravardhana-bhukti*

(north Bengal,) so frequently mentioned in the Damodarpur copper-plate inscriptions.\(^1\) The Jaina \textit{Prajñāpanā} locates Kotivarśa in Lāṭa or Lāḍhā, evidently an error for Rāḍhā.\(^2\)

105. \textit{Krauñcadeviya} (X.IV.13), a country or island in the southern division (XIV.13).

106. \textit{Kravyāda} (XIV.18), literally ‘eaters of raw flesh’, a people in the south-west division.\(^3\)

107. \textit{Kṣemadhūrta} (XIV.28), a people in the northern division.

108. \textit{Kṣudramina} (XIV.24), a people in the northern division.

109. \textit{Kucika} (XIV.30), a people in the north-east division.

110. \textit{Kukura} (V.71; XXXII.22), a people and their country in Madhyadeśa (XIV.4).\(^4\) In the Junagadh inscr. of Rudradāman I, it is associated with Kaccha, Sindhu-Sauvira and Aparānta,\(^5\) while the Nasik cave inscr. of Vāśiṣṭhīputra Puḷumāvi mentions it between Surāṣṭra and Aparānta.\(^6\) Therefore, it is located near Ānarta in north Kathiawad. Our author’s Kukura, which is placed in Madhyadeśa, seems to correspond to east Rajputana.

111. \textit{Kulinda}, a country implied in Kaulinda (IV.24), the people of Kulinda, the same as Kūṇinda, in the north-east division (XIV.30, 33).\(^7\) Ptolemy mentions it as Kyliandrine which according to Mc Crindle, ‘designated the region of lofty mountains wherein the Vipāśa, the Satadrū, the Yamunā and the Gaṅgā had their sources.\(^8\)

112. \textit{Kulūta} (X.12; XVII.18) partly in the north-west (XIV.22) and partly in the north-east (XIV.29) divisions, is the famous Kullu in the upper valley of the Beas. Yuan Chwang calls it Kiu-lu-to.\(^9\) The people of Kulūta are referred to as \textit{Kulūtaka} (IV.22) and \textit{Kaulūta} (X.11).

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1. \textit{EI}, XV, pp. 130 ff.
3. Fleet mentions Kravyāśin instead of Kravyāda.
4. The statement of B. C. Law that BS locates Kukuras in Western India (\textit{Historical Geography}, p. 287) is incorrect.
7. Not mentioned by Fleet.
113. Kuntalā (XVI.11) seems to have comprised the Kanarese districts of Bombay, Madras and Mysore States as also southern Mahārāṣṭra. According to Sodāhala’s Udayasundarikathā, Pratiṣṭhāna (Paithan) on the Godāvari was its capital.

114. Kuntibhoja (X.15) is the name of a people according to Utpala. The Agni-purāṇa (LV.12) speaks of Kunti as a country in Madhyadeśa. It is stated in the Mahābhārata that the Aśvanadi, a tributary of the Chambal, flowed through the country of Kuntibhoja (Vanaparvan, 308.7, 22, 25). The name can be still recognised in Kontwar near Ashokanagar in the Guna district of Madhya Pradesh.

115. Kuru (V.38; IX.34; XXXII.11), a people and their country in Madhyadeśa (XIV.4). The people of the Kuru-land are spoken of as Kaurava (IV.24, 25; IX.30) and Kurubhūmija (XVI.31). Utpala takes Kurubhūmi to mean the region round Thaneswar (Kuru-bhūmijā janāḥ Sthāneśvare nivasanti). Alberuni (I.300), too, renders Kuru by ‘Taneshar.’ The Kurubhūmi, comprising the region within the triangle of Thaneshwar, Hissar and Meerut was divided into three parts. The Kuru proper occupied the region between the Gaṅgā and the Yamunā with Hastināpura near Meerut as their headquarters. The remaining two divisions, viz., Kurukṣetra (V.78; XI.57) and Kurujāṅgala (IX.29), are noticed by our author. Kurukṣetra lay between the Sarasvati on the north and the Drṣadvatī on the south (cf. Mahābhārata, Vanaparvan, 83.204-5: Daksinena Sarasvatī uttareṇa Drṣadvatīm | ye vasanti Kurukṣetre te vasanti triviṣṭatet) with Thaneshwar for its centre. Manu (II.17) calls it by the name Brahmāvarta and speaks of it as the holiest land inhabited by the Āryans. Kuru-jāṅgala probably covered the region between the Sarasvati and the Yamunā (between the Kāmyaka forest and Khāṇḍava). We have references to the people (Kurukṣetra, V.78) and king (Kurukṣetra-ādhipa, XI.57) of Kurukṣetra. These divisions evidently belong to southern Kuru realm. The Uttara-kurus, who

are assigned to the northern division (XIV.24), lived beyond the Himavat range (pareṇa Himavantam, Aitareya Brāhmaṇa, VIII. 14), probably in the land of Kashmir. They are the same as Ottorokorha of Ptolemy1 Kern translates Uttarāḥ Kuravah by ‘the Hyperboreans’, a western repetition of the Uttarakuru of Kaśmir.’ While in earlier literature they were a real people, the later literature represents the land of the Uttara-Kurus as an earthly paradise.

116. Laṅkā (XIV.11) in the southern division is usually regarded as identical with the island of Ceylon. But Varāhamihira seems to distinguish it from Simhala (Ceylon) which is also placed in the southern division (XIV.15). Therefore, as pointed out by Fleet, Laṅkā seems to denote here ‘not the island of Ceylon, but its capital city, which it was perhaps thought necessary to mention separately, because it provides the Hindu prime meridian’.2 Alberuni (I.301) renders Laṅkā as ‘the cupola of the earth.’

117. Lāṭa (LXVIII.11) comprised the central and southern Gujarat between the rivers Mahi and Tapi. It is probably the same with Ptolemy’s Larike (probably a formation from Lār, Lāṭa), which lay to the east of Indo-Scythia along the sea-coast and included the cities of Broach and Ujjain,3 and with Alberuni’s Lārdesh whose two capitals, viz., Bihraj and Rihanjur, are said to have been on the sea-coast to the east of Tana.4

118. Madra (IV.22; V.40; X.4; XVII.18; XXXII.19), a people and their country in the north-west (XIV.22). The Mahābhārata (Karnaṇaparvan, Chs. 44-5) speaks of Madra as a part of the Vāhika country. It covered the extensive territory between the Ravi5 and the Jhelum. The region between the Ravi and Chenab constituted its eastern wing with Sialkot as the capital; the West Madra extended from the Chenab in the east to the Jhelum in the west. We have a reference to the ruler of Madra in XI.59 (Madraka-pati). The Madrakas of the northern division (XIV.27, 33) are evidently the same as

1. Ptolemy, pp. 305, 326.
2. IA, XXII, p. 183.
5. Cf. Mahābhārata, Karnaṇaparvan, 44-17.
the Uttara-Madras who lived beyond the Himavat range, probably in Kashmir.¹

119. Magadha (IV.22, 26; V.69, 79; X.14; XVI.1; XXXII.11), in the eastern division (XIV.6), originally comprised the districts of Patna and Gaya in Bihar. It was considered to be the chief country of the eastern division (XIV.32). It is difficult to say whether the ward Māgadhā (X.10) denotes an inhabitant of Magadha or a bard. We have several allusions to the king of Magadha (Magadh-esā, X.16; Magadh-ādhipa, XI.55; Māgadhika, XIV.32). Its older name Kikaṭa occurs in the Rgveda (III.53.14) and Magadha as such is first mentioned in the Atharvaśeda (V.22.14).

120. Mahāgrīva (XIV.9), literally ‘people with great neck’, in the south-east division.

121. Mahārāṣṭra (X.8). Varāhamihira mentions the nominative plural form of Mahārāṣṭra (Mahārāṣṭrāḥ) which probably refers to the territorial divisions constituting it. The famous Aīhole-Meguti inscr. states that by his conquests Pulakeśin II made himself lord of the three Mahārāṣṭrakas comprising ninety-nine thousand villages.² The three Mahārāṣṭra countries seem to refer to Koṅkaṇa, southern Maratha country and Vidarbha.

122. Mahīṣa (IX.10), a country the people of which are referred to as Mahīṣaka (XVII.26). Sir R. G. Bhandarkar placed the Mahīṣaka country on the Narmadā with Māhišmati for its capital.³ Rice identifies Mahīṣa or Mahīṣa-manḍala with South Mysore with Mysore as the principal town.⁴ The Hebbata grant of Kadambā Viṣṇuvarmā I shows that the present Tumkur area in Mysore was called Mahiṣaviṣaya in the fifth century A. D.⁵ From certain coins found at Kondapur and Maski, Dr. V.V. Mirashi has tried to show that a dynasty called Mahīṣa ruled over the southern portions of the Hyderabad State about the second or third century A. D.⁶ Thus Mahīṣa seems

². EI, VI, p. 6, line 12, v. 25.
⁴. JRAM, 1911, pp. 810, 814.
to have included, besides Mysore, the districts of Kondapur and Maski in southern Hyderabad.

122. *Mālava* (IV.24; XVI.25; XXXII.19; LXVIII.11), a people and their country in the northern division (XIV.27). Fleet observes, ‘Varāhamihira places them too much to the north, as they are undoubtedly the people of Malwa, from whom ......the Vikrama era derived its origin.’ There is, however, nothing to show that the present Malwa was so called in the sixth century A. D. In all likelihood, Varāhamihira refers here to a northern settlement of the Mālavas (the Malloi of classical writers) who lived between the lower Ravi and the Chenab in the fourth century B. C.² About the beginning of the first century B. C., they migrated to Rājputana, where they are found in the early centuries of the Christian era. In the second century A. D., they came into conflict with the Uttamabhadas of the Ajmer region who were supported by Uṣavadāta, son-in-law of the Kṣaharāta ruler Nahapāna.³ A large number of Mālava coins bearing the legend *jaya Mālavānām* or *Mālavānām jayāḥ* (1st century B. C. onwards) have been found at Nagar and adjoining region in the Jaipur State. The presence of the Mālavas in this region down to the fourth century A. D. is evidenced by Samudragupta’s Prayāga *praṇastī* which groups them with such northern tribes as the Ārjunāyas, Madrakas and the Yaudheyas.⁴

124. *Malla* (V.38, 41). Utpala explains the word ‘malla’ by ‘bhūhyuddhajña’, i. e. wrestlers or boxers. But as in V.38, it is preceded by Paholava and followed by Matsya, Kuru, Śaka, etc., and in V.41 it follows Videha and precedes Pāṇcāla, it is more reasonable to take it to denote the people of that name. In Buddha’s time, the Mallas are known to have occupied the region about Pāvā (Padarauna, 12 miles north-north-east of Kasia) and Kuśināra (Kasia in Gorakhpur, Uttar Pradesh). They had nothing to do with the Malloi of the Panjab.

125. *Māṇahala* (XIV.27), a people in the northern division.

126. *Māṇḍavaya*, a people placed in Madhyadeśa (XIV.2),

in the north-west and northern divisions (XIV.22, 27).\(^1\)

127. *Mantriṣika* (XVI.11), a people not assigned to any division (*v.l.* *Maintriṣikha, Matriṣika, Māhiṣaka, Pārasika, Māmyūṣika*).

128. *Mārgara* (XIV.18), a people in the south-west division.

129. *Mṛttikāvata* (XVI.25). Utpala regards it as the name of a country. This name was probably derived from the town Mṛttikāvatapura which is the same as Mṛttikāvarapura mentioned in the *Viṣṇupuruṣa* (IV.13.7). We are told in the *Viṣṇupuruṣa* that on account of living in this town the Bhojas came to be known as Mārṭṭikāvāra which appears to be a mistake for our Mārtṭikāvata. Dey proposes to identify the town with ancient Sālvapura, modern Alwar, or with Merta in Marwar, 36 miles north-west of Ajmer. Thus, according to him, the country comprised parts of the former Jodhpur, Jaipur and Alwar States.\(^2\) But as the *Viṣṇupuruṣa* associates Mṛttikāvatapura with the Bhojas, its identification with the country of the Bhojas by the side of the Parṇāśā (Banas) in Malwa, as proposed by Wilson, seems to be more probable.

130. *Maru* (XVI.37), in Madhyadesa (XIV.2), corresponds to Marwar in Rajputana. Our author refers to people born or articles grown in Marwar (*Maru-bhava*, V.68). In IV.22, we have the compound *Nepāla-Bhrīṇgi-Maru-Kaccha-Surāṣṭra-Madrān*. While commenting on this verse, Utpala simply repeats the compound adding the words *etān janān*. It cannot be determined whether Marukaccha is to be taken as one word or to be split up into Maru and Kaccha. Kern proposes to replace Marukaccha by Marukucca which is the name of an ancient people in modern Kafiristan or thereabouts.\(^3\)

131. *Marukacchapa* (V.40) is the name of a people, according to Utpala.

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\(^{1}\) They may be identified with the people Madavika known from an early copper coin whose findspot has not been recorded. Cf. *JNSt*, IV, pp. 21-2. Māṇḍavi of the *Mahāmāyūrī* (line 54) which is sometimes identified with Mandawar, 8 miles north of Bijnor (*JUPHS*, XV, p. 43n), or Māṇḍāvapura (Mandor near Jodhpur) (*EI*, XVIII, pp. 87ff.) may have been their chief town.

\(^{2}\) Dey, p. 127.

\(^{3}\) *JRAS*, 1870, p. 453, fn. 2. The statement of Kern that Utpala takes it to be one word is incorrect.

133. *Matsya (V.37, 38; IX.18; XVII.22; XXXII.11)*, a country and the people of it, in Madhyadeśa (XIV.2). Half the rural nation of the Matsyas (*Matsyārdha-grāmarāstrāṇi*) is referred to in XVI.21. There is a reference to the lord of Matsya (*Matsyādhipa*, IV.24). Matsya comprised parts of Jaipur and Bharatpur and had Virāṭanagara, modern Bairat in Jaipur, for its capital. Some include even Alwar region in Matsya; but it seems to have formed part of Sālva.

134. *Mleccha (V.79; IX.13; XVI.11, 34; XVII.14, 16, 20)*, a people styled as lawless in the western division (*Nirmar-yādā Mlecchā ye paścima-dik-sthitās-te ca*, XIV.21). The Agni-purāṇa (LV.17, 19) also assigns the Mlecchas to the west and north of Bhāratavarṣa. Kern renders it by ‘barbarians’ or ‘foreigners’. In II.15, Yavanas (Greeks) are spoken of as Mleccha (*Mlecchā hi Tavanāḥ*). Varāhamihira probably refers to the Yavanas so frequently mentioned in inscriptions in western Indian caves. In Alberuni’s time, it was used to denote the Arabs (I.302).

135. *Nagna-śabarā (XIV.10)*, ‘nude Śabarās’, a people in the south-east division. The text gives *Nagna-parṇa-śabaraih*. According to Utpala, the word Śabarā is connected with both nagna and parṇa. Thus he takes Nagna-śabarās and Parṇa-śabarās to be two different peoples. See Śabarā below.

136. *Nālikera-dvīpa (XIV.9)*, literally ‘the island of cocoa-nuts’, some region in the south-east division. According to the Kāthā-sarītsāgara, it is a big island.²

137. *Nārīmukha (XIV.17)*, literally ‘a people with feminine faces’, in the south-west division.

138. *Naṣṭa-rājya (XIV.29)*, literally ‘kingdom of the dead’, in the north-east division. The text gives *Meruka-naṣṭa-rājya* which Utpala splits into Meruka and Naṣṭarājya. There is nothing to support Fleet’s conjecture that the original reading was *Meru-kanishkārājya*.³

139. **Nepāla** (IV.22; V.65), Nepal.1

140. **Nīpa** (XIV.2), a people in Madhyadeśa.2

141. **Niśāda-rāṣṭra** (XIV.10), the country of the Niśādas, an aboriginal people, in the south-east division. A corporation of the Niśādas (**Niśāda-saṅgha**) is mentioned in V.76.3 Commenting on the last verse, Utpala takes Niśāda in the sense of a hunter (**Niśādānāṁ prāṇighāṭakānāṁ saṅghāḥ**). The celebrated Vedic commentator Mahidhara understands Niśāda as meaning a Bhil.4 The **Mahābhārata** (III.130.4) mentions Vinaśana or the place of the disappearance of the Sarasvatī as the gate of Niśādarāṣṭra (**dvāraṁ Niśādarāṣṭrasya**). It places a Niśāda settlement (**Niśādabhūmi**) between Matsya and the Chambal (II.31.4-7). A Niśāda named Kāyavya is described there as **Pāriyātracara** (XII.135.5). Thus in the Epic period, the Niśādas were settled among the hilly regions that form the western boundary of Malwa and Khandesh in the range of the Vindhya and Satpura. The earliest epigraphic reference to a tribal state of the Niśādas5 occurs in the Junagadh inscr. (A.D. 150), where it is said to have been included in the dominions of Rudradāman I.6

142. **Pahlava** (V.38; XVI.37; XVIII.6), the Parthians in the south-west division (XIV.17). As the Pahlavas are assigned to the same division as Kāmboja and Sindhu-Sauvīra, Parthian settlements in the north-west of India seem to be intended. Parthians were an Iranian people who are known to have occupied parts of north-western India in a few centuries before and after Christ. The presence of sporadic Parthian settlements in western India is rendered probable by some inscriptive references.7

1. In the Allahabad pillar inscr., it is mentioned as one of the kingdoms on the boundary of Samudragupta’s empire. Cf. **CII**, III, p. 8, line 22.

2. Cf. **Mahābhārata**, II, 51.24, where Nīpas are associated with the Anūpas.

3. The statement of B.C. Law that BS, XIV,10 places a Niśāda settlement in the east is incorrect.


5. Probably in the western Vindhya and Aravalli hills.


7. Junagadh inscr. of Rudradāman I (**SI**, p. 174, line 19. Rudradāman I appointed Pahlava Suvisākha, the son of Kulaipa, as governor of Anarita and Surāṣṭra); Sātakaṇṭi is described as the extirpator of Shakas, Yavanas and Pahlavas, cf. **SI**, p. 197.
143. Pañcāla (IV.22; V.35, 38, 41; IX.29; X.4, 13), the inhabitants of Pañcāla, in Madhyadesa (XIV.3). The king of Pañcāla, called Pañcāla, is spoken of as the chief king of Madhyadesa (XIV.32). Pañcāla was originally the country north and west of Delhi from the foot of the Himalayas to the river Chambal. The Gaṅgā divided it into Uttara (North) and Dakṣiṇa (South) Pañcāla with Ahicchatrā or Chatravatī (present Ramnagar in the Bareilly district) and Kāmpilya (Kampil in Farrukhabad) as their respective capitals.

144. Pañcanaḍa, literally ‘the country of the five rivers’, the Panjab, in the western division (XIV.21). The people and the ruler of Pañcanaḍa are called Pañcanaḍa (X. 6; XI.60).

145. Pañduguda (XIV.3), a people in Madhyadesa. Alberuni (I.300) splits it up into Pāṇḍu and Guḍa, the latter being the same as Thaneshwar. So do Kern and Fleet. But Utpala takes it to be one word. Even if Pāṇḍu and Guḍa are intended, the Pāṇḍu-varṇa to which Indrabala, Nannadeva and Tivararāja belonged, according to the Rajim grant, has nothing to do with our Pāṇḍus who are allotted to Madhyadesa.

146. Pāṇḍya. The Pāṇḍya country comprised the districts of Tinnevelly and Madura in the Madras State. Varāhamihira refers to the Pāṇḍya ruler as Pāṇḍya-narēśvara (IV.10), Pāṇḍya-nātha (VI.8) and Pāṇḍya-nṛpa (XI.56). Pāṇḍyas were a very ancient people and are mentioned by Megasthenes, Ptolemy and the author of the Periplus (frag. 54, 59). Our author refers to Uttara (North)-Pāṇḍya (XVI.10), indicating that the Pāṇḍya country was divided into two parts, North and South. The mention of the Pāṇḍyas (Pāḍā) in nominative plural in Asoka’s R. E. II, may indicate, as suggested by D. R. Bhandarkar, that there were two Pāṇḍya kingdoms even in Asoka’s time. Bhandarkar thinks that North Pāṇḍya comprised the tract now occupied by the Mysore State.

147. Pāraśava (XIV.18), a country and its people in the south-west division. It is Persia celebrated for its pearls (LXXX, 2, 5).

1. CII, III, p. 298.
148. Pārata (X.7; XIII.9; XVI.4, 12, 21), a people in the western division (XIV.21). In X.5, we come across the compound Pārataramaṭhāḥ which Utpala splits into Pāratara and Maṭha. A better division would be Pārata and Ramaṭha. Pārata is also mentioned in the Buddhist work Mahāmāyūrī. As already pointed out by Fleet and Lévi, Pāratas are probably the same as the Pāradas,1 whom the Rāmāyana (IV.44.13) places in the trans-Indus region. Lassen identifies them with Ptolemy’s Pardene in the centre of Gedrosia (Baluchistan).2

149. Parṇa-śabara3 (XIV.10), literally ‘the Śabaras subsisting on or clad in leaves’, a people in the south-east division. Kern thinks that they are Ptolemy’s Phyllitai4 who “occupied the banks of the Tapti lower down than the Rhamnai, and extended northward to the Satpura range”.5 According to Yule, however, Phyllitai may represent the Pulindas.6 The Parṇaśabaras may be identical with the hill-tribe of the Sawaras living in the hilly region adjoining the Bastar State who still dress themselves in leaves.

150. Paśuṭāla (XIV.29), literally ‘tenders of animals’, probably a nomadic people in the north-east division.

151. Paṭola, (v. l. Palola, XIV.30,) a region in the north-east division. Kern gives Palola which, according to him, must be a vulgar pronunciation for the Skr. Palvala, ‘swamp, marsh’. He further suggests that by Palola is meant the eastern part of the Tarai near Cooch-Behar.7

152. Paurava (XVI.21; XXXII.19), a people allotted to the northern and north-east divisions (XIV.23, 31). The Pauravas or Purus lived on the eastern bank of the Jhelum including the Gujarat district. In the fourth century B.C., when Alexander invaded India, Porus, probably a Puru chief, was ruling over the region between the rivers Jhelum and Chenab.

153. Phañikāra (XIV.12), a people in the southern division.

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1. IA, XXII, p. 187; JUPHS XV, Pt. II, p. 47.
2. Ibid. Vide also Oppert, The Original Inhabitants of Bhāratavarṣa,
P. 35.
3. Not mentioned by Fleet.
4. JRAS, 1871, p. 83, fn. 4.
6. Ibid.
7. JRAS, 1871, p. 86, fn. 4.
154. _Piśika_ (XIV.14), a people in the southern division.
155. _Prāgjyotisa_ (XVI.1), in the eastern division (XIV.6),
    comprised the region round Gauhati. In the _Harsacarita_ (VII),
    Kumāra Bhāskaravarman of Assam is styled as Prāgjyotis-
    āvara. It was also the name of a city, probably identical with
    modern Gauhati.1 According to the _Raghuvanśa_ (IV.81),
    Prāgjyotisa lay on the other bank of the Lauhitya or Brahma-
    putra. In the Bargaon grant of Ratnapāla also Prāgjyotisa
    is described as beautified by the Lauhitya.2 Hemacandra
    regards Prāgjyotisa and Kāmarūpa as synonymous.3

156. _Prasthala_ (XIV.25), according to Pargiter, denotes
    the district between Ferozepur, Patiala and Sirsa.4 B. C. Law5
    suggests to identify it with Patala, the capital of the little state
    of Patalene in the Indus delta mentioned by the Greeks.

157. _Pulindas_ (IV.22; V.39, 77, 78; IX.17, 29, 40;
    XVI.2, 32) are an aboriginal people. Their tribal organization
    (_gaṇa_) is mentioned in V.39. According to Pargiter, there
    were three main branches of Pulindas, i. e. western, Himalayan,
    and southern.6 Our author associates the tribe with Avanti,
    Śabaras, Dakṣiṇāpatha, Draviḍas and the Maikal range (IX.17,
    29, 40; XVI.2, 32; V.39), showing that their southern settle-
    ments in the Vindhya regions are intended. In the _Aitareya
    Brāhmaṇa_ (VII.18) and in Rock Edict XIII of Aśoka, they are
    associated with the Andhras. Kālidāsa (_Raghuvanśa_, XVI.
    19, 32) places them in the Vindhya region. In the Nava-
    grāma grant of the Parivrājaka Mahārāja Hastin reference is
    made to a _Pulinda-pāya-rāṣṭra_ lying in the Parivrājaka dominion,
    viz., Ṭabhāla-manḍala in the northern part of the Central
    Provinces.7 According to some, Ptolemy's Phyllitai occupying
    the banks of the Tāṃti and extending northward to the
    Satpura range represent the Pulindas.8

158. _Paṇḍra_ (V.70; IX.15; X.14; XI.27; XVI.3) or
    _Pauṇḍra_ (V.74, 80; XIV.7), a people and their country in the

1. _JRAS_, 1900, p. 25.
2. _EI_, XII, pp. 37 ff.
3. _Abhidhāna-Cintāmani_, IV.22.
5. _Historical Geography_, p. 117.
6. _Mārkandeya-purāṇa_, pp. 316, 335, 338 and notes.
eastern division. The lord of the Puṇḍras is referred to in XI.58 (Puṇḍr-ādhipati). Puṇḍra corresponds to North Bengal with Puṇḍravardhana or Puṇḍranagar as its capital. The Mahasthan stone plaque inscr. places the identification of Puṇḍranagar with Mahasthan in the Bogra district beyond doubt.¹

159. Purika (XIV.10), in the south-east division, appears to be intended for Purikā, which, according to the Hariyamśa (Viṣṇuparvan, 38.21-2), was situated at the foot of the mountain Rākṣavat (Satpura). Fleet locates it on an open area on the south of the island-village of Onkar Mandhata, where the map shows the villages called Godurpoora, Bainpoora, Baintanpoora and Dhooka.²

160. Pūruṣāda (IV.22) or Pūruṣāḍa (XIV.6), ‘cannibals’, in the eastern division. Kern observes, ‘The cannibals being always placed in the far east must denote either the inhabitants of the Andamans and Nicobars, or the cannibal tribes of the Indian Archipelago, or both.³

161. Rājanya (XIV.28), a people in the northern division. The Rājanyas appear to be the same as the Kṣatriyas or Xathrois of the Greek writers.⁴ The Hoshiarpur region where coins of the Rājanya-janapada are found in abundance⁵ was evidently their homeland. Later, they migrated to Mathura which has also yielded a large number of their coins.

162. Ramatha (X.5; XVI.20), a people in the western division (XIV.21). S. Lévi⁶ places the Ramaṭhas between Ghazni and Wakhan.

163. Romaka (XVI.6), It is translated by Kern as ‘Romans’. According to some, ‘the Romakas may be the people of Ruma lying probably near the Salt Range.’⁷

164. Rṣabha (XIV.15), a people in the southern division.

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² JRAS, 1910, p. 446. Also cf. EI, XXVI, p. 151. For epigraphical references to Purikā see Lüders’ List, Nos. 782, 812, 837, 838, 839.
³ JRAS, 1870, p. 453, fn. 3.
⁴ Mr Grindle identifies Xathrois with the Kṣatri (Kṣatriyas) of Sanskrit literature, cf. Invasion of India by Alexander the Great, p. 156 note.
⁵ Allan, BMC, AI, p. cxxiii.
⁷ D. C. Sircar, Geography of Ancient and Medieval India, p. 62, fn. 2.
165. Ṛṣika (XIV.15), a people in the southern division. In the epic literature, the Ṛṣikas are grouped with Vidarbha, Mahiśaka, Aśmaka and Anūpa. The Ṛṣika country was, thus, contiguous to Vidarbha, Aśmaka (Aurangabad region) and Anūpa (region round Māhiśmatī). Dr. Mirashi thinks that Ṛṣika was the ancient name of Khandesh. According to others, the Ṛṣikas are the same as the Asikas of the Hathigumpha inscr. of Khāravela whose country ‘possibly lay between the Krishna and the Godavari, and to the south of Aśmaka’. But as we have seen above, Varāhamihira draws a distinction between the Asikas and the Ṛṣikas.

166. Śabara (V.38; IX.15; X.18; XVI.1), an aboriginal people often associated with the Pulindas (IX.29; XVI.32) and Dravīḍas (XXXII.15). ‘A band of the Śabaras, hunters and thieves’ is referred to in LXXXVI.10 (Śabara-tyādha-corasāṅgha). In the Purāṇas, the Śabaras are described as the inhabitants of Daksināpatha. They are identified by Cunningham with the Suari of Pliny and the Sabarai of Ptolemy, and are represented by Savaris or Saharias of the Gwalior territory occupying the forests on the Kota frontier to the westward of Narwar and Guna and by the Rajputana Surīrias along the course of the Chambal and its branches. In the south they extend as far as the Pennar river while in the north they are found in large numbers to the south-west of Gwalior and Narwar and in the southern Rajputana. The Sorae Nomades of Ptolemy are the Śabaras of Central India ‘who occupy the wild hilly country about the courses of the Wainganga, and who are also found along the valley of the Kistna river.’ A Śabara king named Udayana is mentioned in a grant of the Pallava king Nandivarman Pallavamalla.

167. Śaka (V.38, 75; IX.21; XIII.9; XVI.1; XVII.26;

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1. Cf. Rāmāyaṇa IV, 41.10; Mahābhārata, Bhīṣmaparvan, 9.64; Udyogaparvan, 4.18-9, Karnaparvan, 8.20.
2. ABORI, XXV (1944), pp. 167-68.
3. Siracar, Geography of Ancient and Medieval India, p. 31; SI, I, p. 158, fn. 3.
4. Vide supra, p. 69.
5. Matsya-purāṇa, CXIV.46-8; Vāyu-purāṇa, XLV.126; PHAI, p. 93; also p. 94 fn. 1.
6. CAGI, p. 583.
7. ID, VIII, p. 279.
XVIII.6). The Śakas are assigned to the western division (XIV.21). In XIV.21, Kanakaśaka is taken as one word by Kern who translates it by ‘gold-Scythians’.\(^1\) The Agni-purāṇa (LV.16) locates the Śakas in the south-west of India. Apart from the Scythian rulers of North-western India, Śaka Kṣatrapas and Mahākṣatrapas of the lineages of Bhūmaka and Caṇṭana are known to have ruled over western India in the early centuries of the Christian era. Śakas are mentioned in a large number of inscriptions found in western Indian caves, and in the Allahabad pillar inscr. they are said to have paid homage to Samudragupta. Thus Śaka rule appears to have continued in the north-west down to the fourth century A.D. In western India, the Śakas were supplanted by Candragupta II Vikramāditya in the last decade of the fourth or early in the fifth century A.D.

168. Sālva (v. l. Sālva, V.76; XVI.20; XVII.13, 18), a country, and the people of it, in Madhyadesa (XIV.2). In literature, Sālva is associated with Matsya.\(^2\) Therefore, these two geographical divisions must be contiguous. Sālva comprised the territory extending from Alwar to north Bikaner\(^3\) with Sālvpura, probably modern Alwar, as its principal city.

169. Samataṭa (XIV.6), a country in the eastern division. The earliest epigraphic reference to Samataṭa is to be found in Samudragupta’s Allahabad āraṇi where it is associated with Ďavāka (Nogong district of Assam) and Kāmarūpa (Assam).\(^4\) According to Cunningham, Samataṭa corresponded to the whole of the Delta or the triangular tract between the Bhāgirathī river and the main stream of the Gaṅgā.\(^5\) In the time of the Khadga rulers, Karmmānta (modern Kamta near Comilla) was the capital of Samataṭa.\(^6\) The inclusion in Samataṭa of the region round Comilla is proved by the Baghaura inscr. of Mahīpāladeva which mentions Bilakinda (the village of Bilkendui near Baghaura in Comilla district) as a village situated in Samataṭa.\(^7\) We find the kings of Karmmānta granting land at Asrafpur in

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1. JRAS, 1871, p. 85, fn. 1.
2. eg. Gopatha-Brahmaṇa, I.2.9.
3. Cf. Agrawala, India as Known to Pāṇini, p 55.
4. CIT, 311, p. 8, line 22.
5. CAG, p. 576.
6. JASB, 1914, p. 87.
the Narayanganj subdivision of the Dacca district. The kingdom of Samataṭa thus seems to have comprised the districts of Tipperah, Noakhali, Barisal, Faridpur and the eastern half of the district of Dacca.¹

170. Saṅkhyāta (XIV.2), a people in Madhyadeśa.
171. Śāntika (XIV.20), a people in the western division.²
172. Śارadhāna (XIV.26), a people in the northern division.
173. Saurikirṇa (XIV.11), a people in the southern division. Kern³ and, following him, Fleet⁴ take Sauri and Kirṇa to be two separate words. But Utpala regards it as one word. According to Kern, Sauris are the Soraie or Colas of Ptolemy.⁵

174. Śibi (v.l. Śivi, IV.24; V.67; XI.59; XVI.25; XVII.19), the Siboi of Alexander’s historians, are probably the same as the Śivas of the Rgveda (VII. 18.7). Varāhamihira locates Śibika, a pleonastic form of Śibi, in the southern division (XIV.12). The Śibis are known to have changed their settlements from time to time. Śivas, who are mentioned in the Rgveda along with the Alinas. Pakhtas, Bhalānasas and Viṣāṇins as defeated by king Sudās, lived on or about the Indus.⁶ The Jātakas know of two Śibi settlements⁷ having their caitrpalas at Ariṭṭhapura (Ariṣṭapura), probably identical with Ptolemy’s Aristobothra to the north of the Panjāb,⁸ and at Jetuttara, Jattaraur of Alberuni (I.202), modern Nagari, 11 miles north of Chitor.⁹ The town of Śibipura mentioned in a Shorkot inscription has been identified with Shorkot in the Jhung district of the Panjāb.¹⁰ The Siboi of Alexander’s historians are to be located in this region.¹¹ The presence of a Śibi settlement in the Swat

¹. JASB, 1914, p. 88.
². According to some, the Satiya of Ašoka edicts corresponds to our Śāntika. Vide PHAI, p. 330, fn. 2.
³. JRAS, 1871, p. 83, fn. 5.
⁴. IA, XXII, p. 189.
⁵. Ptolemy, pp. 64, 65, 162, 185.
⁷. Jātaka Nos. 527, 547; Mehta, p. 440.
⁸. Ptolemy, p. 142; Dey, p. 11.
⁹. CASR, VI, p. 196. For coins of Śibi Janapada from Nagari, (ancient Madhyamikā) see, Allan, Catalogue of Coins of Ancient India, p. cxxxiii.
¹⁰. EI, XVI, p. 16. It is evidently the same as Patañjali’s Śivapura (Mahābhāṣya on Pāṇini, IV, 2. 104).
valley is rendered probable by the location of the scene of the Śibi-Jātaka there by Fa-hian. None of these settlements satisfies its location in the south. Our author seems to have intended the Śivas on the banks of the Kāveri mentioned in the Daśakumāra-carita (VI).

The Śibis of the Panjab also appear to have been known to Varāhamihira, for he associates them with the Mālavas, Taxila (XVI.26), Arjunāyanas and Yaudheyas (XVII.19). In the Mahābhārata they are associated with the Trigartas and Mālavas as conquered by Nakula and as paying tribute to Yuḍḍhiṣṭhira (Sabhā, 32.7; 52.11).

175. Sinjala (XI.60), allotted to the southern division (XIV.15), is Ceylon. Ceylonese pearls were highly valued (LXXX.2, 3).

176. Sindhu (IV.23; XVIII.6) is called a viṣaya in LXVIII.11. It is often mentioned in association with and before Sauvīra (Sindhu-Sauvīra, IX.19; X.6; XIV.17, 33). It is usually identified with Sindh-Sagar Doab, the region between the Jhelum and the Indus. But Yaśodhara, the commentator of the Kūmasūtra, clearly states that Sindhudeśa lay to the west of the Indus. Yuan-Chwang's Sin-tu was also situated on the west side of the Indus. The inhabitants of Sindhu-viṣaya are called Saindhava (V.71). Utpala takes Sindhu-Sauvīra to be one name and in all likelihood it formed one geographical division. In the Jñagadh inscr. of Rudradāman I also Sindhu-Sauvīras are mentioned together. Varāhamihira locates Sindhu-Sauvīra in the south-west (XIV.17, 33). According to some, Sauvīra comprised only southern Sindh and Sindhu and Sauvīra together correspond to modern Sind. But this view is opposed to the clear statement of Alberuni (I.302) that Sauvīra denoted Multan and Jāhravar, thus making Sauvīra extend as far north as Multan. The forms Sindhu-

2. V.S. Agrawala, India as Known to Pāṇini, p. 50.
3. Saindhavānām=iti, Saindhunām nādas=taśa pāścimenā Saindhudeśas=tatra bhavānām.
5. This view is expressed by Jayachandra Vidyalankar (JBORS, XV, pp. 47-63) and ably criticised by Raychaudhuri, PHAI, pp. 618 ff.
Sauvīraka (IX.19), Sauvīraka (IV.23) and Suvīra (V.79) also occur.

177. Śītaka (XIV.27), a people in the northern division.
178. Śmaśrudhara (XIV.9), a people in the south-east division.

179. Strīrājya (XVI.6), a ‘kingdom of women’, in the north-west division (XIV.22). Yuan Chhwang knows an amazonian kingdom in the Himalayan valley of the Sutlej. Dey states that it was ‘a country in the Himalaya immediately on the north of Brahmapura, which has been identified with Garwal and Kumaun.’ Atkinson informs us that a woman named Pinchiu ruled over the Nu-wang tribe in Eastern Tibet, and the people in each successive reign chose a woman for their sovereign. Vātsyāyana (II.5.27) also mentions Strīrājya, which Yasodhara places to the west of Vaṅga (Vaṅgadesāt paśicmena Strīrājyam). The Agni-purāṇa (LV.17) mentions it as a country in the west of India.

180. Śūdra (IX.40; XVI.31), a people in the south-west division (XIV.18). In the Mahābhārata (II.32.10; IX.37.1), the Śūdras are associated with the Ābhīras and are located in West Rajputana near Vīnaśana. Alexander’s historians call them Sodrai who lived between the Indus and the Sutlej above the junction of the five rivers near Mithankot and south of the district of Multan. They had their capital on the Indus.

181. Suhma (V.37; XVI.1), a people and their country in the eastern division (XIV.5). Nilakaṇṭha, the commentator of the Mahābhārata, identifies it with Rādhā to the west of the Gaṅgā. Kālidāsa, too, places Suhma to the west of Vaṅga which lay to the east of the Gaṅgā. According to Daṇḍin (Daśakumāracarita IV), Dāmalipti or Tāmralipti, modern Tamiluk in the Midnapur district, was included in the Suhma country.

182. Śūlika (IX.15; 21; X.7; XVI.34), a people in the

1. Dey, p. 194.
2. Ibid.
3. McGrindle, Invasion of India by Alexander the Great, p. 236.
4. Dey, p. 203.
5. Raghuvamśa, IV.35-36.
6. Kern reads Śūlika but regards Śūlika as preferable (JRAS, 1871, p. 58, fn. 1).
north-west division (XIV.23). Śūlikas are also called Cūlikas in the Purāṇas. According to the Matsya-purāṇa, the country of the Śūlikas is watered by the river Cākṣu (Oxus). Gauthiot identifies them with the Sogdians living to the north of the Oxus, and P. C. Baghchi connects the Śūlikas (Sogdians) with the Prakṛt called Cūlikā Paśāci and with the Cālukyas of the Deccan.¹ A branch of the Śūlikas probably migrated to Orissa and in the Haraha inscr. of Maukhari Iśānavaraman they are mentioned after Andhra and before Gauḍa.² They are to be identified with the Śulkis of Orissa and are probably the same as the Sālikas, a people in the south-east division (XIV.8), mentioned by our author.³

183. Śūrāsena (v.l. Sūrasena, V.35, 69; IX.17; XI.54; XVII.13, 22; LXVIII.26), a people in Madhyadesa (XIV.3). The pleonastic form of Śūrāsena is met with in IX.11. The Śūrasenas lived in the region round Mathurā. The classical writers refer to them as Saurasenoi and their towns Mathurā (Methora) and Kṛṣṇapura (Cleisobora).

184. Suraśītra (IV.22; V.79; X.6; XXXII.19; LXVIII.11), a country in the south-west division (XIV.19), corresponds to the Kathiawad peninsula. The derivatives Saurāśītrakā (V.68; XXXII.11) and Suraśītra (IX.19; XVI.17, 31) are also met with.⁴ The name still survives in the modern Surat.

185. Śūrpakarna (XIV.5), literally ‘people having ears like winnowing baskets’, in the eastern division.

186. Swarnabhū (XIV.31), a country allotted to the north-east division, is sometimes identified with Ptolemy’s Golden Khersonese or the delta of the Irawadi forming the province of Pegu. But it should be taken in a much wider sense including also Malaysia and the islands of eastern archipelago.⁵

3. For the identification of the Śūlikas of Haraha inscr. with the Cālukyas, see JDL, XXI, pp. 1-10; PHAI, pp. 602-3.
5. Ptolemy, p. 198, Kern (JRAS, 1871, p. 86, fn. 5), however, remarks, ‘in all likelihood a mythical land; with Ptolemy it is called Chryse (cf. Lassen, Altori, iii.242), which is not to be confounded with the real island and peninsula Chryse. The latter is held to be Malakka; the Golden Island, however, the existence of which is denied by Lassen (Altori, iii.247), but sufficiently attested not only by the Greeks, but also in the Kathāsāritaśāstra (X,54, 99; 56, 62; 57, 72; XVIII.123, 110), cannot be but Sumatra, including perhaps, Java.'
187. Śvamukha (XIV.25), 'a people with dog-like faces', in the northern division.

188. Śveta (XVI.38). See Hūnas above.

189. Śyāmāka (XIV.28), a people in the northern division. Lévi identifies it with Chō-mi of Sungyun, Pei-che and T'ang-chou and with Chang-mi of Yuan Chwang which Chavannes and Vivien de Saint Martin have identified with Chitral.¹

189(a). Tāla (XIV.22), a people in the north-west division.

190. Taṅgaṇa (IX.17; X.12; XVI.6; XVII.25; XXXII.15), a people in the north-east division (XIV.29), are Ptolemy’s Tanganoi whose territory stretched from the Ramganga river to the upper Sarayū. They were one of the aboriginal tribes which the Āryans, while pushing their conquests to the east of the Gaṅgā and Yamunā, drove back into the Himalayas or towards the Vindhyas. The Tank or Toṅk Rajputs of Rohilkhand and the Dangayyas spread over the entire length of the Vindhya mountains and the adjacent territory from the southern borders of the ancient Magadhā to the heart of Malwa to the north of the lower Narmadā ‘are the present representatives of the Taṅgaṇas.’²

191. Tārakṣiti (XIV.21), a country or place in the western division.

192. Taskara³ (XVI.4), according to Utpala, is the name of a country or people.

193. Timiṅgilāsana (XIV.16), literally a ‘whale-eating people’, in the southern division. Utpala regards it as one name. Kern is evidently wrong in observing that ‘the commentator sees two words in it in the compound, viz. Taimiṅgilas and Sanas or Śanas.’⁴ The Mahābhārata (II.31.69) speaks of Timiṅgila as a southern king defeated by Sahadeva. Dey proposes to identify it with Ḍinḍigala valley in the district of

¹ JUPHS, XV, Pt. II, p. 38.
² Ptolemy, pp. 210-11.
³ Not mentioned by Fleet.
⁴ JRAS, 1871, p. 84, fn. 3.
Madura in Madras. He thinks that it is Tangala and Taga of Ptolemy.  

194. Trigarta (IX.19), a country in the northern division (XIV.25). The people of Trigarta are referred to as Traigarta (X.11; XVI.21; XVII.16) and Traigartaka (IV.24). Trigarta denotes the country drained by the three rivers, Ravi, Beas and Sutlej, and comprised the whole of the upper Doab between the Ravi and the Sutlej. Hemacandra in his Abhidhānacintāmaṇī (IV.24) identifies Trigarta with Jālandhara (Jālandharā = Trigartās = syukh)² and this seems to be supported by epigraphic evidence.³  

195. Trinetra (XIV.31), literally a ‘three-eyed people’, in the north-east division.  

196. Turagānana (XIV.25), literally a ‘horse-faced people’, in the northern division. See Aśvamukha above.  

197. Tuṣāra (XVI.6), a people in the north-west division (XIV.22). The Tuṣāras are Ptolemy’s Tochari who are said to be under subjugation to the Bactrians and are described as ‘the most distinguished.’⁴ According to Stein, the Turkhāra (Tuṣāra) country comprised the upper Oxus valley including Balkh and Badakhshan.⁵ It corresponds to the Tukharistan of the Arab writers.  

198. Uddehiuka (XIV.3), a people and their country in Madhyadeśa. Alberuni (X.300) tells us that Uddehiuka was situated near Bazana which was twenty farsākh (1 farsākh = 4 miles) = eighty miles in a south-western direction from Kanauj, 60 farsākh north-west of Anhilwara, and 20 farsākh to the north of Maiwar. We are further told that Bazana was the capital of Gujarāt (ancient Gurjaradeśa) and is called Narayan by our people. After it had fallen into decay the inhabitants migrated to another place called Jadura (?).⁶ Coins bearing the inscription Udhehi in Brāhma characters of the second century  

1. Dey, p. 204; Ptolemy, p. 184.  
3. EI, I, pp. 102, 116.  
5. Stein, Rājatarangini I, p. 136; Dey, p. 207.  
6. Alberuni, I, 300, 202, 205. Bazana is a conjectural reading (ibid, II, p. 392). Fleet (IA, XXII, p. 192) wrongly gives the distance from Kanauj to Bazana as twenty-eight farsakhs.
B. C. evidently belong to our Uddehikas.\textsuperscript{1} One of these coins mentions an Uddehika king named Suryamitra. Cunningham identified Alberuni's Bazana or Narayan with Narayanpur, a small town in the erstwhile Alwar state, 10 miles to the north-east of Bariat.\textsuperscript{2} S. K. Dikshit proposes to identify Bazana with Naraina in the Sambhar district of Rajasthan, 70 miles south-west of Bairat, and Uddehika, capital of the Uddehikas, with Bari Udal in the former Jaipur State, 40 miles north-east of Rairh, and about 92 miles east-south-east of Naraina.\textsuperscript{3}

199. \textit{Udra} (V.35; XVI.1; XVII.25), a country and its people in the eastern division (XIV.6). The derivative \textit{Audra} occurs in V.74. Udra or Audra is the original of Orissa. But the Udras could not have occupied the whole of Orissa for parts of it were occupied by the Utkalas and Kalingas. It has been suggested, therefore, that ancient Udra comprised Western Midnapur, Manbhum, Eastern Singhbhum and South Bankura. At a later time, the Udras overran the Utkalas and the Kalingas and imparted their name to the whole of Orissa.\textsuperscript{4}

200. \textit{Udumbara} (V.40; XVI.3), a country the people of which called Audumbara are assigned to Madhyadesa (XIV.4). As indicated by the find-spots of their coins, the Udumbara territory comprised Pathankot in Gurdaspur district, the eastern part of the Kangra valley and the Hoshiarpur district.\textsuperscript{5}

201. \textit{Upajyotiśa} (XIV.3), a people or country in Madhyadesa.

202. \textit{Upavanga} (XIV.8), a country in the south-east division, has been identified with the central portion of the eastern part of the delta of the Gaṅgā.\textsuperscript{6}

203. \textit{Urdhvakaṇṭha} (XIV.8), literally a people with high throats,\textsuperscript{7} in the south-east division.

204. \textit{Uśīnaras} (IV.22; XVI.26) had their territory to the north of the Kurus, probably between the Chenab and the Ravi. The king of the Uśīnaras is called \textit{Auśīnara} (XI.55).

6. \textit{DS}, p. 211.
205. Utkala (XIV.7), a people in the eastern division. Kālidāsa (Raghuvaṃśa, IV.38) places Utkala to the south of the river Kapiśā which has been identified with the Kasai flowing through the Midnapur district of Bengal. The Bhuvaneśvara stone inscr. of Narasimha I refers to Ekāmra, modern Bhuvaneśvara, as situated in Utkalaviṣaya. It shows that the Puri district was included in Utkala. Thus Utkala comprised the tract from Balasore to Lohardaga and Sarguja.

205. Uttara-Pāṇḍya (XVI.10). See Pāṇḍya above.

207. Vaiśya (X.7), a people in the western division (XIV.21).

208. Vaṅga (V.72, 73, 79; IX.10; X.14; XVI.1; XVII. 18, 22; XXXII.15), a country and its people in the south-east division (XIV.8). The ruler of Vaṅga is called Vāṅga (XI.60). Kālidāsa locates the Vaṅgas in the delta formed by the Gaṅgā and the Brahmaputra (Raghuvaṃśa, IV.36). Vaṅga is one of the four traditional divisions of Bengal bounded by the Brahmaputra on the west, the Gaṅgā on the south, the Meghna on the east and the Khasi hills on the north. According to Pargiter, it comprised the districts of Murshidabad, Nadia, Jessore, parts of Rajshahi, Pabna and Faridpur.

209. Vāricara (XIV.14), meaning mariners, in the southern division. Kern thinks the Vāricaras may be the pirates of the Greek writers.

210. Vāsātis (XVII.19) of the northern division (XIV. 25) are the Ossadioi of Alexander’s historians, settled in the region between the Indus and the Jhelum. comprising Rawalpindi. Vāsāti is also mentioned in the Mahābhārata (on Paṇini, IV.2.52) and the Mahāmāyūrī (27).

211. Vāṭadhāna (XVI.21), a people in the northern division (XIV.26). In the Märkanḍeya-puruṣa (Ch. 51), Vāṭa-dhānas are mentioned between the Bāhlikas and Ābhīras. According to Pargiter, Vāṭadhāna was a country on the east side of the Sutlej, southwards from Ferozepur. Dey identifies

1. Law, Historical Geography, p. 197.
2. JASB, LXVI (1897), p. 85; CAGI, p. 733.
3. S. N. Majumdar Sastri in CAGI, p. 730.
4. JASB, 1897, p. 85.
5. JRAS, 1871, p. 83 and note.
it with Bhatnair. In the Mahābhārata (II.32.8), mention is made of a Vātadhāna settlement near Madhyamikā, modern Nagari in Rajputana.

212. Vatsas (X.5; XVII.18, 22), assigned to Madhyadesa (XIV.2) and to south-east division (XIV.8), are an ancient people whose country lay near Allahabad with Kauśāmbi, modern Kosam, on the Yamunā, for its capital.

213. Vidarbha (XIV.8), in the south-east division, included modern Berar and the tract between the rivers Varadā and Wainganga. The Agni-purāṇa (LV.13) also mentions it as a country in the south-east Bhāratavarṣa. The people of Vidarbha are referred to as Vaidarbha (IX.27).

214. Videha (V.41, 71; XVI.11) corresponded roughly to Tirabhukti (modern Tirhut) in north Bihar and comprised the country from Gorakhpur on the Rapti to Darbhanga, with Kosala on the west and Aṅga on the east. On the north it approached the hills, and in the south it was bounded by the small kingdom of Vaiśāli. Mention is also made of its capital Mithilā. The people of Videha are called Vaideha (IX.13, 21; XVI.15) and Vaidehaka (XXXII.22).

215. Vidyādharas (IX.27, 38) are a class of demigods. Kern renders the name by ‘the inhabitants of Fairy-land’ and compares them with the wise elves of the Teutonic mythology.

216. Viṭakas (XVI.2) are, according to Kern, the same as the Utsasasāṃketas and Lampākas of the great epic.

217. Vokkāna (XVI.34), a place and its people in the western division (XIV.20). It is referred to in the Mahāmāyūri (I.99) and has been identified with Wakhan.

218. Vṛṣadvipa (XIV.9), an island in the southern division.

219. Vyaṅghramukha (XIV.5), literally a ‘people with faces like that of a tiger’, in the eastern division.

220. Vyaṅlagrīva (XIV.9), literally a ‘people with necks like that of a serpent’, in the south-east division.

221. Taudhēya (V.40, 67, 75; XVI.21; XVII.19), a people

1. Dej, p. 27.
3. JASB, 1897, p. 89.
4. JRAI, 1871, p. 60, fn. 2.
in the northern division (XIV.28). The pleonastic form Yau-
dheyaka is also met with (IX.11; XI.59). Yaudheyas are first
mentioned in Pāṇini’s Aṣṭādhyāyī (V.3.117). Their coins ranging
from second century B. C. to third-fourth century A. D. have
been found in Eastern Panjab and in the region between the
Sutlej and the Yamunā. They lived on both banks of the
Sutlej along the Bāhawalpur frontier which is known as Johi-
yawar,¹ a name still reminding us of the Yaudheyas. The Johiya
Rajputs are their present descendants. In the second century,
they were vanquished by the Šaka Mahākṣatrapa Rudra-
dāman I² and about two centuries later, they had to pay tribute
to the Gupta monarch Samuḍragupta.³

222. Tavanas (IV.22; V.78, 80; IX.21, 35; X.6, 15, 18;
XIII.9; XVI.1; XVIII.6), Greeks, are located in the south-
west division (XIV.18). Probably some Greek settlement near
Nasik is intended. The Yavanas are referred to in several
epigraphic records in western Indian caves, particularly, at
Nasik.⁴ In II.15, Yavanas are styled Mlechhas and a reference
is made to their proficiency in astrology.

223. Yugandhara (XXXII.19). The Mahābhārata (Vanaparvan,
129.9) speaks of it as a prosperous jauapada in the
Yamunā region (Yamunām=au) and associates it with Ṣālva
(Virātaparvan, I.13). Its location by Dr. Agrawala in Ambala
district between the Sarasvatī and the upper Yamunā, where
Jagadhari probably is a relic of the old name, is quite plausible.⁵

¹. CASR, XIV, p. 114.
². SI, p. 172, line 12.
³. CH, III, p. 8, l.22.
⁴. SI, p. 171, l.8; p. 197, l.5; ASWI, IV, 90-5, 115.
⁵. India as known to Pāṇini, pp. 57-8.
IV

LOCALITIES


2. Ayodhyā (IV.24) is situated on the Sarayū in the Fyzabad district of Uttar Pradesh. Varāhamihira refers to the rulers of Ayodhyā (Āyodhyakān pārthivān).

3. Baladevapattana (XIV.16), a town in the southern division, is, according to Kern, ‘the Balaiapatna of Ptolemy, so that the reading Palaipatna, preferred by Lassen, is proved to be a false form.’ It is identical with the town of Balaipattam in Malabar. The Periplus mentions it as Palaepatmae. Its identification with modern Dabhol as suggested by Schoff does not appear to be probable.

4. Bharukaccha (XVI.6; LXVIII.11) a town in the southern division (XIV.11), is the the Greek Barygaza, modern Broach.

5. Bhogaprastha (XIV.25), in the northern division. From the analogy of the name Indraprastha it appears to be the name of a city.

6. Bhogavardhana (XVI.12). The verse containing this name is not commented upon by Utpala and, therefore, appears to be spurious. The Mārkandeya-purāṇa (LVII.48-9) places Bhogavardhana in the southern division. It is mentioned in inscriptions from Bharhat and Sanchi and may be identified with Bhokardan in the Aurangabad district of Maharashtra.

7. Bhūratpura (XIV.27), a city in the northern division.

8. Brahmapura (XIV.30), a city in the north-east division. The Agni-purāṇa (LV.20) also locates it in the north-east of

1. JRAS, 1871, p. 84, fn. 2.
2. Periplus, pp. 43, 201.
3. For place-names ending in prastha, see Agrawala, op. cit. p. 67.
5. Ibid, Nos. 264, 266; 295, 296, 373, 572.
Bhāratavarṣa. M. Julien renders Yuan Chwang’s Po-lo-ki-mo-pu-lo as Brahmapura, and Cunningham identifies it with Variat-pattan on the Ramganga river, about 80 miles in a direct line from Madawar. Yuan Chwang mentions it as a country which lay in the Garhwal and Kumaun region.¹

9. Candrapura (XIV.5), a city in the eastern division.
10. Daśapura (XIV.12) in the southern division is present Mandasor.

11. Dharmapattana (XIV.14), a city in the southern division. It may be the same as Dhamavaḍhana mentioned in Sanchi inscriptions. Another possible identification is with Dharmapuri in the Salem district of the Madras State.

12. Gajāvaya (XIV.14) in Madhyadesa is another name of Hastināpura, the ancient capital of the Kurus, in Meerut district, Uttar Pradesh.

13. Gayā (II, IV.47). At Gayā piṇḍas were offered to manes.

14. Girinagara (XIV.11) in the southern division is modern Junagadh. Originally, the town of Junagadh itself was called Girinagara,³ but this name was subsequently transferred to Mt. Girnar which was anciantly known as Urjayat or Raivataka.

15. Girivraja (X.14). Two towns of this name are known —(1) Girivraja, capital of Magadha, represented by modern Rajgir in Bihar, and (2) Girivraja, Kekaya capital, now represented by Jalalpur or Girjak in the Panjab.⁴

16. Gonarda (IX.13; XXXII.22), a locality in the southern division (XIV.12). The Mārkandeya-purāṇa (LVIII.20-9) also mentions Gonarda among the countries of southern India. In the pārāyaṇa incorporated in the Pali Suttanipāta, Gonarda (Gonaddha) is mentioned as an intermediary step between Ujjayinī and Vidiśā. The locality, however, cannot be precisely identified.⁵ In his Mahābhāṣya, Patañjali often styles himself Gonardiya, i.e., one hailing from Gonarda.

¹. CAGI, p. 407.
². Lüders’ List Nos. 234, 351.
³. Lüders’ List, Nos. 165, 166; CII, III, p. 57.
⁴. CAGI, p. 188.
17. Hemakūḍa\(^1\) (v. l. Hemakūṭa, -kūṭya, -kuṇḍya, XIV. 9), a place in the south-east division.

18. Kāḻajina (v. l. Kāḻajana, XIV.11), a place in the southern division. Fleet\(^2\) points out the possibility of its being identical with Kāḻajara which is sometimes wrongly spelt in inscriptions as Kāḻajana.


20. Kāṅcī (XIV.15) in the southern division is the present Conjeeveram on the Palar, 43 miles south-west of Madras. According to Burnell, Skr. Kāṅcī is a mistranslation of the Dravidian Kaṅji.\(^3\)

21. Kaṅṭakasthala (XIV.10), a place in the south-east division. It should be identified with ancient Kaṅṭakāsaila, modern Ghaṅṭasāla where a number of early Buddhist inscriptions have been found.\(^4\)

22. Kāṅtipura (XVI.11) cannot be identified definitely. Cunningham identifies Kāṅtipurī with Kotwal, 25 miles north of Gwalior.\(^5\) Wright holds that the ancient name of Kathmandu in Nepal was Kāṅtipura or Kāṅtipurī.\(^6\) K. P. Jayaswal identified the Nāga Capital Kāṅtipurī with Kantit in the Mirzapur District of U. P.,\(^7\) while others identify it with Kutwar in the Morena District of Madhya Pradesh.

23. Kāpiśṭhala (v. l. Kāpiśṭhaka, XIV.4) in Madhyadesa is Kaithal in the Karnal district, Panjab. Some connect it with the Kambishtholoi of Arrian. Alberuni (I.206) calls it Kavital.

24. Kārmāṇeṣa (XIV.15), implied in Kārmāṇeṣaka (a people in the southern division), is mentioned in inscriptions as Kārmāṇeṣa, Kamaṇiṣa, and Kammanijja, and is modern Kamrej in the former Baroda State.\(^8\)

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1. Kern gives Hemakūṭa in his text, but in translation (Juras, 1871, p. 83, fn. 2) prefers Hemakūḍya for ‘Parāśara exhibits the same form.’

2. IA, XXII, p. 180.

3. Burnell, South Indian Palaeography, p. x, fn. 2; IA, XXII, p. 180.


5. CASR, II, p. 308.

6. History of Nepal, pp. 9, 154; DEY, under ‘Kāṅtipuri.’


25. Kāśi (V.72; X.4, 13; XXXII.19), in the eastern division (XIV.7). Rāsi-ḍesa (XVII.25) denotes the country round Banaras. The word Kāśi when used in plural means the people of Kāśi (V.69). The king of Kāśi is called Kāśiśvara (IX.19), Kāśīpa (XI.59) and Kāśi-rāja (LXXVII.1).

26. Kaǔśāmbi (XVI.3) is at present represented by the ruins of Kosam, a village on the left bank of the Yamunā about 30 miles from Allahabad.

27. Kollagiri (XIV.13) in the southern division is identified by Fleet with modern Kolhapur which is mentioned as Kollagira in a Terdal inscr. The Mahābhārata (Sabhāparvan, 31.68) speaks of Kolagiri as a mountain and of Kollagireya (Aśvamedhika, 83.11) as a country in the south conquered by Sahadeva.

28. Kṛṣṇavellūra (XIV.14), a place in the southern division. Kern seems justified in taking it as one word. Fleet, however, splits it up into Kṛṣṇa and Vellūra, the first, according to him, referring to the river Krishna, and the second being identical with Ellora, mentioned in inscriptions as Vallūra and Valūraka. Fleet’s view lacks plausibility, for Kṛṣṇa ends in short a and not longer ā as should have been the case if it were to refer to the river Krishna.

29. Kuñjaradari (XVI.16), literally the elephants’ cave or glen, a place in the southern division. Utpala explains Kuñjaradari as Hastikhaṇḍā. It is situated on the boundary of Travancore and Tirunelveli districts.

30. Madhyamikā (XIV.2), implied in the word Mādhyamikāḥ, the inhabitants of Madhyamikā, in Madhyadeśa. It has been identified with Nagari near Chitor in Rajasthan.

31. Marucipattana (XIV.15), a city in the southern division. As suggested by Kern, Maruci or Muraci or Marīci seems to be Muziris (transposed from Murizis) of the Greeks. It is mentioned by the author of the Periplus (Muziris) and

1. IA. XXII, p. 182.
2. IA, XIV, p. 23.
3. IA, XXII, pp. 182, 193. Vellūra may be identified either with Karle which is called Valuraka, Vāluraka and Valūraka in inscriptions (Lüders’ List, Nos. 1099, 1100, 1109) or with Elur within the Godavari district of Andhra Pradesh.
4. JRAS, 1871, p. 83, fn. 9.
5. Periplus, pp. 44, 205.
Ptolemy and has been identified with Muyiri-kotta near Cranganore on the Malabar Coast.

32. Mathurā (IV.26). The Mathurakas (XIV.3) are placed in Madhyadeśa. Varāhamihira refers to the eastern and western halves of Mathurā (XVI.17, 21).

33. Mithilā (X.14), a city in the eastern division (XIV.6), has been identified with Janakpur within the Nepal border.

34. Nāsikya (XVI.12), in the southern division (XIV.13), is modern Nasik. The form Nāsika appears in Ptolemy and in some epigraphic records at Bedṣa and Nasik.

35. Paraloka (LXXX.2, 4), celebrated for its pearl-fisheries, may be the same as the Paralia of the Periplus, derived from Purali, an ancient local name for Travancore, or as Ptolemy’s Paralia which ‘designated exclusively the sea-board of the Toringoi’.

36. Prabhāsa (XVI.32) is Prabhāsapaṭṭan, a famous place of pilgrimage, near Dwārakā. It is described as a pūnya-tīrtha in a Nasik cave inscription of the time of Nahapāṇa.

37. Prayāga (XI.35), Prayag near Allahabad.

38. Puṣkalavatī, as implied in Puṣkalavata (XIV.26), ‘the inhabitants of Puṣkalavatī, in the northern division, has been identified with Charsadda, about 17 miles north-east of Peshawar. The pleonastic form Puṣkalavataka occurs in XVI.26.

39. Sāketa (XIV.4), a town in Madhyadeśa, is generally supposed to be just another name for Ayodhyā; but as both these cities are mentioned as existing in Buddha’s time, Rhys Davids suggests that they were possibly adjoining towns like London and Westminster.

40. Simhapura (V.42), as implied in Simhapuraka, the
inhabitants of Simhapura. Yuan Chwang mentions a town named Seng-ho-pulo (I.2, 49) which Cunningham and Stein identify with the present Ketas, 'on the north side of the Salt Range, at 16 miles from Pind Dadan Khan, and 18 miles from Chakowal, but not more than 85 miles from Shahdheri or Taxila.' Another Simhapura is referred to in the Komarti plates of Caṅḍavarman,2 Brihatposhṭha grant of Umāvarman,3 Belva grant of Bhojavarmadeva as also in the Mahāvaṃsa (VI 35 ff.) and is generally identified with Singupuram between Chicacole and Narasimhapeta.

41. Sirindhra (XIV.29), implied in Sairindharā, the people of Sirindhra, in the north-east division, is, according to Cunningham, represented by modern Sirhind.5

42. Srughna (XVI.20) is the same as the modern village of Sugh, on the old Jumna, near Jagadhari.6

43. Śūrpāraka (LXXIX.6), noted for its diamonds, is the same as Suppara of the Periplus7 andSoupara of Ptolemy.8 It is modern Sopara in the Thana district, 37 miles north of Bombay.

44. Takṣasilā (X.8). Its inhabitants called Tākṣasila (XVI.25) are placed in the northern division (XIV.26). The site of this great city is now occupied by the villages of Shahdheri, Sir-kap, Sir-sukh and Kacheha-kot at a short distance to the north-west of Rawalpindi.

45. Tāpasāśrama (XIV.15), literally ‘the hermitages of the sages’, in the southern division. Tāpasāśrama is sometimes identified with Pandharpur in Maharashtra. Dey connects it with Ptolemy’s Tabasoi.9

46. Tāmrālipti (X.14), the inhabitants of which called

1. CAGI, pp. 142-44; Trubner’s Oriental Records, No. 249, p. 6. M. Vivien de St. Martin had identified it with the town of Sangahi, near Jhelum (CAGI, p. 143).

2. EI, IV, p. 144.

3. Ibid., XII, p. 4.

4. Ibid., p. 37; N. G. Majumdar, Inscriptions of Bengal, III, p. 19.

5. CAGI, p. 167.


7. Periplus, pp. 43, 197.


Tāmraliptaka are placed in the eastern division (XIV.7), is Tamluk in the Midnapur district, Bengal.

47. Talikáta (XIV.11), a city in the southern division, is doubtfully identified by Fleet with Talikot in the Bijapur district. It seems more reasonable to identify it with Talkad or Talakkāḍu, the celebrated Gaṇga capital, 30 miles to the east by south of Mysore.

48. Tripura (V.39) or Tripuri in the south-east division (XIV.9) is modern Tewar in the Jabalpur district, Madhya Pradesh.

49. Tumbavana (XIV.15), in the southern division. Its identification with Tumain, 6 miles south of Ashoknagar in the Guna district of Madhya Pradesh, is placed beyond doubt by the Tumain inscription of the time of Kumāragupta dated G.116 (A.D. 435). It is referred to in some early inscriptions from Sanchi.

50. Ujñayini (X.15; XII.14; LXVIII.30), Ujjain on the Śiprā. The ruler of Ujñayini is referred to as Aujñayinika (XI.56).

51. Ujjihāna (XIV.2) in Madhyadeśa. According to N. L. Dey, Ujjihāna is the same as Uḍḍiyāna, which is corrupted into Urain in the district of Monghyr, near Kiul, containing several Buddhist remains. This suggestion is untenable for in that case Ujjihāna should have been placed in the eastern division, not in Madhyadeśa. J. Ph. Vogel thinks that it is the same as Ptolemy's Ozoana and identifies it with Ujjhana on a bend of the river Rind about two miles to the east of Bhikdeo in the Derapur Tehsil of the Kanpur district, while according to others it is represented by the town of Ujhani, in Badaun district of Uttar Pradesh.

52. Vaḍavāmukha (XIV.17) in the south-west division. It is a mythical place which in the astronomical siddhāntas is the supposed abode of the dead at the South Pole.

1. IA, XXII, p. 191.
3. Lüders' List, Nos. 201, 202, 449, 450, 520.
4. Dv., pp. 208, 211.
6. JUPHS, XV, pp. II, p. 43n.
7. JRAŚ, 1871, p. 84, fn. 5.
53. Vanavāsi (IX.15; XVI.6) in the southern division (XIV.12). Utpala invariably takes it as an appellative denoting the inhabitants of the forest and, following him, Kern says that this being a general term would comprehend all tribes living in forests, consequently Śabaras too. But it is more reasonable to take it as a place-name and identify it with modern Banavasi in the North Kanara district.

54. Vardhamāna (XVI.3; LXVIII.21; CIII.2), a city in the eastern division (XIV.7), is Burdwan in Bengal.

55. Vidiśā (XVI.31), Besnagar near Bhilsa.

55. Virāṭa (XVI.12). Fleet invites our attention to Virāṭakoṭa, an old name of Hangal in Dharwar. But it is most probably identical with Bairat, 40 miles to the north of Jaipur.

57. Yaśovati (XIV.28), a city in the northern division. Kern regards it as "a mythical city of the Elves."
CHAPTER III

RELIGION

1

BRĀHMAṆICAL RELIGION

Varāhamihira’s works furnish us with an immensely rich store of data which may be profitably utilised in reconstructing a comprehensive account of the religious conditions obtaining during his age. It was a period of marked upheaval in the religious outlook of the people. Although heterodox sects like Buddhism and Jainism continued to find favour with certain sections of society, there was a decided diminution in their importance. Brāhmaṇism was in the ascendant; but it fundamentally differed from its Vedic counterpart. Some of the Vedic gods disappeared altogether, and those that still retained their existence underwent great transformation in regard to their nature and attributes. Whereas the major Vedic deities like Indra, Varuṇa and Agni were relegated to a much inferior status, Viśṇu and Rudra-Śiva, who hardly played any significant role in the Vedic pantheon, emerged into pre-eminence and claimed amongst themselves the religious affiliation of the masses. Although the link with the Vedas was not altogether severed and Vedic sacrifices, especially of a politico-religious nature, continued to be celebrated with great zeal, image-worship and similar other observances enjoyed much greater popularity. In the following pages we shall try to scrutinise our evidence with a view to reconstruct a picture of the religious life of the people during our author’s period.

A. PANTHEON

I. Vedic Gods

INDRA. Indra,1 variously referred to as Śakra2,

1. VIII. 26; XXXII. 6, 18, 24; XLII. 51, 55; XLVII. 78; LII. 43; LVIII. 14; LIX. 11, 12; LXVIII. 29; LXXIX. 8; LXXX. 7; XCVI. 8; XCIX. 1.

2. VIII. 23, 33; XXXII. 6; XXXIII. 20; XLII. 6, 11, 14, 30, 37, 39, 55; XLIII. 25, 26; XLV. 73; XLVII. 77; LXXXV. 1; XCVI. 4; 5; XCIII. 1.
Mahendra,¹ Maghavan², Puruhūta³ and Sahasrākṣa (XLVII.9) or Sahasra-cakṣuṣ (XLII.58), was the greatest god of the Vedic pantheon and his exploits are celebrated in about 250 hymns of the Ṛgveda.⁵ In theory his supremacy was retained even after the advent of the bhakti cult. Thus he was regarded as the overlord of gods and as such received several secondary epithets such as surapati (XXXII.7, 16; LXXXV.75), sureśa (XLII.55), amarapā (XII.12; XLII.8), amarāt (XLII.7), devarāja (XLII.18), devarāt (XXXII.27), vibudhādhipati (LI.47) and animiṣa-bhārī (XLII.60). Some of his exploits are also alluded to. The killing of the demons Vṛtra, Bala and Pura is implied by his epithets Vṛtrahan (XLII.55),⁷ Balabhid (VIII.23; XLII.67; IV, IV.29) and Purandara (XV.14; XLII.24) respectively. The popularity of the belief that by performing one hundred horse-sacrifices one attains to the status of Indra is indicated by his style Śatamanyu (XLII.54).⁶ Elsewhere, he is represented as surrounded by gods who had vanquished their foes (XLIII.26). He was believed to cause an earth-quake in the 3rd part of the day (XXXII.7) and a red halo round the moon and sun (XXXIV.2). He is also described as the presiding deity of the eastern quarter (LIII.3; LXXXV.75), the 3rd quinquennial period of the Jovian cycle of 60 years (VIII.23), certain kinds of diamonds (LXXIX.8) and pearls (LXXX.7), the constellation of Jyeṣṭhā (XCVII.5), the 7th lunar day (XCVIII.1), and the karaṇa named Vava (XCIX.1). He was regarded as the god of rain⁷ and is said to have chopped off the wings of the mountains and made them stationary.⁸ We are told that he was consecrated in former times with a ceremonial ablution by numerous gods, goddesses, demi-gods, seers and others (XLVII.55-70).

1. XXXIII.24; XLIII.14; XLV.80; XLVII.2; LVII.42.
2. XLII.9; XLVII.70.
3. XLII.56; LIII.3.
4. For an epigraphic allusion to Indra as thousand-eyed Vide CII, III, No. 47, 1. 1. Also Cf. Raghuvamśa, III.43.
5. i.e., 1/4th of the Ṛgveda. Vide A. A. Macdonell, Vedic Mythology, p. 54.
7. XII.12; LXXXII.26; LXXXI.6. Cf. Ṛgveda, II.12.7, 12.
8. XXXII.3-6. Cf. Ṛgveda, II.12.2 where this idea occurs.
Indra retains his former association with Agni and in their joint capacity they preside over the 10th yuga of the 60-year cycle and the constellation of Visākhā.¹

The Paurānic legends concerning Indra’s family appear to have enjoyed considerable popularity. Mention is made of his mother, wife, son (Jayanta) and daughters.²

Turning to the other side of the picture, we find that in practice he was surpassed in importance by his quondam juniors, Viṣṇu and Śiva and even by the new personal god Brahmā. Thus it is at Brahmā’s instance that he is said to have cut off the wings of the mountains. When overpowered by Asuras in war, he has to beseech Viṣṇu and seek his help in vanquishing them (XLII.2-7). But in spite of the subsidiary position ascribed to him there was no dearth of his devotees (Parandara-bhakta, XV.14)³ It must, however, be noted that while priests qualified to instal the images of various gods are named in the Pratimā-pratiṣṭhāpanādhyāya (Ch. LIX), there is no reference to the consecration of Indra’s image. It indicates that Indra was worshipped only as a Lokapāla and that there were no temples dedicated to him.

In a couplet devoted to his iconographic features, we are told that the elephant (mount) of Mahendra is white and four-tusked; (he) holds vajra (thunderbolt) in his hand, and a horizontally placed third eye on the forehead is (his) cognizance.⁴ The Buddhist god Śakra who corresponds to our Indra and accompanies Buddha in the Gandhāra and Mathurā art con-

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1. Śakrānala (VIII.23), Indrāgni (VIII.45), Śakrāgni (XCVII. 4). Cf. “With Agni Indra is more frequently coupled as a dual divinity than with any other god” (Macdonell, op. cit., p. 57)
2. XLII 39-40; XLV.80; LII 43, 54.
3. The existence of Indra cult in the post-Maurya epoch is attested to by a large number of yāpas found in U. P., Rajasthan and Central India. Symbols like Indradhāja, vajra and kalpa-stūpa occur profusely on coins, seals, sealings and sculptures of North India assignable to the period between 200 B.C. and 500 A.D.
4. शुक्लद्विशिष्येऽविशिष्यं महेन्द्रस्य वच्चपा विलावतम्।
   नियाख्यस्यमस्य तौर्यमणि लोकं च निज्जम्॥ LVII. 42.

His elephant is named Airāvata LXXX.20. For an epigraphic allusion to it vide CH, III, No. 17, p. 74, l.1. Indra is styled kuleśa-dhara and kuleśa-bhṛt (XXXII.28 ; TII, I.17).
tantly holds a vajra. Particular reference should be made in this connection to a late Gupta grey sandstone relief from Paharpur depicting the two-armed god holding an indistinct object, probably vajra, in his right hand; the third eye is placed horizontally on the forehead and his elephant mount is shown standing behind him. (Fig. 1). Rao Bahadur K. N. Dikshit who regarded the third eye 'as a peculiar feature' was evidently unaware of the Bṛhatsaṁhitā description noticed here. In a Mathura stone head of the 6th century A.D. the third eye is indicated horizontally. The head belonged to an image of Indra, and not to that of Viṣṇu as is hitherto wrongly supposed.

**INDRAMAHĀ.** It will not be quite out of place here to give a brief description of a festival in Indra’s honour celebrated mainly by kings from very ancient times. It consisted in the raising of and bidding farewell to Indra’s flag. The festival began on the 8th of the bright half of Bhādrapada and ended on the 1st of the dark half of the same month. It is mentioned in the Kāṇḍikā Sūtra (140), and Yājñavalkya-smṛti (I.14) and briefly described in the Mahābhārata and other works. It is called Śakrotasa and Indramahā in the Mahābhārata and Indradhvajā-sampad and maha in our work which contains by far the most elaborate treatment of this topic in Ch. 42 contents whereof are summarised below.

When unable to defeat the Asuras in war, the gods headed by Indra went on Brahmā’s advice to Viṣṇu, who, besought by them, was pleased to give Indra a flag which enabled him to overpower his foes. Indra in his turn gave a bamboo flagstaff to the Cedi king Vasu Uparicara who worshipped it duly and

4. It prescribes a holiday when the flag in Indra’s honour is raised and taken down. Vide also Rājakṣaṇīṣṭa sutta, Kāṇḍikā I.48; Nāyaḍhammakahā, I. 25.
8. Ch. XLII is entitled Indra-dhvaja-sampad; it is called maha in XLII.9.
thus started the festival. The first act in this connection was procuring suitable timber. For this purpose a carpenter accompanied by an astrologer went to the forest at an auspicious time. The timber of arjuna, ajakarna, priyaka, dhava and udumbara is said to be the best. According to a couplet from Garga cited by Utpala this selection was to be done on the first day of Bhādrapada. After the selection was over, a Brāhmaṇa went to the forest in night and made offerings (bali) to the spirits (bhūtas) haunting the tree in question; it was cut down the next morning; the tree-trunk was to be chopped off at the top to the extent of 4 aṅgulas and 8 aṅgulas at the bottom, put into water, taken out, covered with new cloths and decked with garlands, perfumes and incense; and then on the 8th of the bright half of Bhādrapada brought by cart or men to the town adorned with attractive banners, arched gates, garlands, clean thorough-fares, well-attired courtisans and beautifully decorated shops, resounding with puyaḥ and the chanting of Vedic

1. The Mahābhārata does not bring in Brahmā and Viṣṇu and simply states that the festival was started by Vasu who obtained the staff from Indra and planted it in the ground at the end of the year and raised it on the other day. As suggested by Kane (HDS, II, p. 826), the raising of the bamboo staff on the 1st day of Caitra every year in Deccan and other places may be its reminiscence.

2. XLII.15. Forbidden for this purpose were the trees growing in parks, near a temple, on a cremation ground or an ant-hill, by the roadside; caitya-ṛṣikas; those that are extremely bent, withered at the top, thorny and entwined by creepers and parasitical plants; those that contain birds' nests or holes, are damaged by wind or fire, and bear feminine names (XLII.13-4).

3. प्राणपादे प्रतिपदि ध्वजायं पूर्वतो वनम्।

4. XLII.16-18. Verses 17-8 asking the spirits to leave the tree in question are said to be a mantra.

5. The carpenter while felling the tree faced north or east. The creaking sound of the axe was considered inauspicious, while soft and deep one auspicious. A tree falling unbroken and without being bent and entwined with another tree was supposed to bestow victory on the king; one falling under contrary circumstances was to be rejected (XLII.19-20).

6. It was originally a very simple ceremony; the performer of a religious rite honoured the assembled Brāhmaṇas and requested them with folded hands 'may you declare the day to be auspicious for such and such a ceremony which I....am about to perform' and then the Brāhmaṇas responded by saying 'Om, may it be auspicious'. Vide HDS, II, pp. 216-7, fn. 503.
mantras, and with cross-roads crowded by acrobats, dancers and songsters and to the accompaniment of the sounds of conches and other musical instruments. It was again chiselled and ceremoniously fixed into a pedestal (yantra); the king ordered a vigil on the 11th night of the bright half of Bhādrapada; the priest offered a sacrifice and the astrologer interpreted omens. Next Brāhmaṇas were fed and the staff raised on the 12th day, whether the moon be in the constellation of Śravaṇa or not; near it were to be placed five or seven smaller staffs called Śakra-kumāris; of these, those named Nandā and Upanandā respectively were to be 1/4th and a half less in height than the main staff; Jayā and Vijayā taller than Nandā and Upanandā respectively by a 16th and the two Vasundharās taller than Jayā and Vijayā respectively by a 16th; the 7th named Śakra-jañitri was to be taller than the second Vasundhārā by an eighth and placed in the centre. In order to

1. XLII.29-30.

2. XLII.38. Cf. Garga as cited by Utpala. According to Garga quoted by Aparārka on Yājñavalkya, I.147, the banner was to be raised on the 12th of the bright half of Bhādrapada when the moon is in conjunction with Uttarāśādha, Śravaṇa or Dhanis'ha. According to the Kāṇikā Sūtra, the festival began on the 8th of the bright half of Bhādrapada or Āśvina and the flag raised on the 12th of the same month.

3. शक्रकुमारिः कायः प्राह ननुः सद्य पञ्च वा तज्जःः ।
नन्दोपनन्दसंते पादोनानीव ज्ञोत्त्यायत ॥
पोष्ट्यामाणिस्यायिक जयविजय् हैं बलमुण्डे चायेःः
अविक्रा शक्रजनिष्ठी मध्यवेशतायों चेतसामाम ॥

Cf. Garga cited on the above—

ढुङ्काचाष्टकता पञ्च्च सद्य वा लक्षणानिबिताः ॥
इन्द्रियस्य शोभायं कुमारीः कारयेद् हिजः ॥

Varāhamihira does not give the measures of the flag. Garga gives the following measurements:

तथा च गगः,

अष्टाबिंवयक्षर ब्रह्मरत्रहस्ता ततोज्जरा ॥
विष्कम्बश्च च लोकस्यः पद्मभिमिर्गणितं समूतं ॥
समप्रभमुलोम वा तथा प्राक्ष ब्रह्मवाणिक्षम ॥
कुञ्जदिरं मद्रवज्ज शुभं सारदामयं श्रमम् ॥

Śakra-kumāris were to be made of strong and unbroken wood (XLII. 58).
keep the principal staff erect it was fastened with eight strong ropes in eight directions tied to the wooden pegs (mātykās) fixed in the ground on both sides of the staff; it was also adorned at the bottom with an arch which was fastened with tight nails (argala). Then on the full moon day of the same month the king fasting and reciting certain mantras decked it with thirteen ornaments said to have been given to it in former times by various gods, the first being 1/3rd of the flag in circumference and each of the succeeding ones being smaller than the preceding one by an eighth, and with an umbrella, banners, mirrors, garlands of fruits, crescent-shaped ornaments, multi-coloured garlands, bananas, sugar-cane pieces, toys shaped like the cālasiṁha, windows (gavākṣa) and the Lokapāla images placed in their respective quarters. Thus decorated, the flag was again erected amidst the unceasing sounds of benedictory words, invocations and the chanting of Vedic hymns by Brāhmaṇas; and in the presence of the people bowing their heads in homage and invoking it with fruits, curds, clarified butter, fried rice, honey and flowers the staff was raised in such a manner as to point to the enemy's town with its top, for it was believed to spell enemy's ruin. Great care was taken in raising it and sāntis observed to mitigate procedural mistakes.

1. ācintanrajyō duṣṭakāsandatukāmuśūliṣṭaṁvaṁgatyapadāndorāśma

XLII.58.

Cf. Utpala— तथा अचिंतनरज्यस्त्र प्रवर्तनायार्यमार्धस्तु दिक्षु अध रज्जुः कायाः तथा च गगः; यवादिव च रज्जुवर्त्ती मी जीर्णयामसहिता।

निबब्धाः छं जा कायाः निव्वधासैन्थ्रमण्डले। इस निबब्धजन्योपासनाय पाश्चे धम्मानं मातृकांहित्य कार्यम्। अयक्तययः। पद्मलश्वजन्य तारणा कायाः तत्र वा मातृका पाश्चे स्वयमिनि निपातनां काद्यानि तासां मातृकाणां नियमकृत्वा यानि काद्यानि निदिन्यन्ते तात्यथापरं यज्ञोद्धारयत्।

2. XLII.41-56. Verse 7 names groups of small tinkling bells, garlands, umbrella, bells and piṭakas as ornaments of the staff—

गृहनोभयपरिकृतेः सहार्धवस्थापितकाविशेषेन।

Many illustrations of banner and umbrella being shown on one and the same staff are found in Ajanta frescoes (NPP, LVIII, p. 243). Varāhamihira seems to use the word piṭaka in the sense of ornaments. It is evident from the fact that he calls the thirteen ornaments both as piṭaka and bhūpana. Cf. verses 41, 50.

3. Utpala (on verse 57) takes phala to mean a plough (lāṅgala). It is difficult to understand how a plough could be used in adorning the staff.
It was worshipped and erected in this manner for four days and was taken down on the fifth day.¹

VARUṆA. In the Rgveda Varuna along with Indra was the greatest of gods and was regarded as the upholder of physical and moral order and as regulator of waters. But as early as the time of the Atharvaveda he was divested of his greatness, except as controller of waters.² In the later Hindu pantheon, he sank to the position of an Indian Neptune. Varahamihira represents him as the presiding deity of an earthquake in the fourth part of the day, slightly white halo round the sun or the moon, an eclipse, certain kinds of diamonds and pearls and the constellation of Šatabhīṣaj.³ Twenty-two comets called Kaṅka are said to be his sons (XI.26) and so is the sage Agastya (XII.13). But he was best known as the guardian deity of the western quarter⁴ and as the lord of waters. The latter attri-

1. In conclusion mention may be made of the omens inferred at various stages of the festival. The performance, according to rules, of Indramaha was supposed to bestow prosperity and victory on the king and happiness, freedom from fear and disease and a good supply of food on the subjects and to give indications of good or bad happenings in future (vv. 9-10, 68). The breaking of the spoke, wheel, rim and axle-pins of the cart at the time of carrying the tree-trunk to the town was taken to augur destruction of army, wealth and the carpenter (v.22). The banners of white, yellow, variegated and red colours (hung for adornment) indicated victory, outbreak of disease, victory and war respectively. Similarly, elephants and other animals felling the trunk and the boys clapping their hands or animals fighting with one another foretold impending fear and war respectively (vv. 27-8). Carnivorous birds, owl, pigeon, crow and kaṅka sitting on the staff were believed to indicate great danger to the king; caṇa, to the crown-prince; a hawk, destruction of king’s eye; the breaking or falling of umbrella, king’s death; bees clinging to the staff, feast from thieves; a meteor falling on it, the death of purahita; a lightning, queen’s death; a banner falling, as above; the fall of an ornament, drought; the staff breaking in the middle, top and the bottom, death of the minister, king and the town-folk; the staff being covered with smoke or dark, outbreak of fire or mental aberrations; snake-figures breaking or falling, death to ministers; ill-omens in the north, east, south and west, death to Brāhmaṇas etc.; the breaking of Ṛakṣa-kumāris, death to harlots; the ropes giving way, trouble to children; if the prop near the toraṇa (maṭkā) breaks, trouble to queen-mother; the good or bad acts of bards and boys were believed to have corresponding effects (vv. 62-6). The omens derived from fire will be noticed subsequently.


3. XXXII.7, 20; XXXIV.2; V.19, 22; LXXIX.9; LXXX.7; XC VII.5.

4. LIII 3; LXXXV.75. Cf. Junagadh stone inscr. of Skandagupta (CII, III, p. 89, l.9)—Niyujya deva Varuṇam pratiejam svastā yathā n-onmanasobahhuṇahi.
bute gave him such epithets as *ambupati* and *jelesvara.* It was again in this capacity that he received worship to ward off the evil outcomes of a portent relating to water, and *bali* was offered to him at the commencement of digging a well.

Varuṇa, says our author, rides a swan and holds a noose (*haṁs-ārūḍhas = ca pāṣa-bhṛd = Varuṇaḥ*), LVII.57). In sculpture, however, he is depicted standing on a crocodile, not on a swan. Reference may be made to a side-piece from the Rajarani temple at Bhubaneswar depicting the two-armed god standing and holding a looped noose by its end in the right hand, the left one being in the *varada-mudrā*. Figure 39 from a basement wall of the temple at Paharpur depicts a two-armed deity standing in the *samaṇḍa* attitude, holding in his hands the ends of a *pāṣa* which passes round his head, and accompanied by a male and a female attendant. The late Rao Bahadur K. N. Dikshit identified him with Yama; but while the absence of a *daṇḍa*, which is Yama's characteristic weapon, goes against this identification, the presence of *pāṣa*, which is invariably associated in iconographic texts with Varuṇa, tends to suggest his identification with the latter (Fig. 2).

**PRAJĀPATI-BRAHMĀ.** Already in the 10th *maṇḍala* of the *Ṛgveda*, Prajāpati is celebrated as the creator of the heaven and earth, waters and all life and as the one lord of all that exists. In the later Sāṁhitās and the Brāhmaṇas he is recognised as the supreme god who created gods as well as demons. But as early as the time of the *Āśvalāyana Grhya Sūtra* (III.4) we find him identified with the personal god Brahmā, the first member of the well-known Hindu trinity of gods (*trimūrti*). Varāhamihira employs these two names as synonymous. He was

1. LII.44; *YY*, VI.12. Also cf. XXXIV.2.
2. XLV.50; LIII.124.
3. Cf. *YY*, VI.12 where *gadā* is mentioned as another attribute of Varuṇa—*Jal-sivaram pāṭi-ānītaḥ saha godāyā ca pūjitam*.
4. J. N. Banerjea, *DHI*, p. 527, Pl. XLVI, Fig. 1.
7. Prajāpati VIII.24, 29; XI.25; XLVII.68. Brahmā I.5, 6; II.12; V.19, 20; XI.25; XXVI.5; XXXIII.22; XLV.10. XLVII.55; LXXIII.20.
regarded as self-born, creator of the universe, first among the sages and as the grand-father of the mankind and as such is called Svayambhū, Dhātr and Visva-kṛt, Prathama-muni and Pitāmaha.

He is represented as causing a green halo round the sun or the moon and as presiding over an eclipse, the fourth year of the quinquennial yuga, the 5th year of the 1st yuga, the aserism Rohinī, the first lunar day of a fortnight (pratipad), and the karana called Vālava. The comets named Brahmadanda, Gaṇaka and Caturasra are said to be his sons (XI.15, 25). Curiously enough the weighing balance is called his daughter (XXVI.5).

He was considered to be the first exponent of every science, astrology being no exception. Our author claims to have consulted his work on this subject (I.2-5).

He is represented as the chief of gods and Indra is made to obey him (XXXII.3-6); he is always solicitous of the welfare of gods; he is said to have taught Pusaṣṭi to Brahaspati for the sake of Indra (XLVII.2). The heavenly abode of Brahmā (Dhātrbhavana LXXIII. 18, 19; Brahma-loka II.12), which was the goal of the spiritual aspirations of the god-fearing people, is said to be inhabited, among others, by gods, sages, Siddhas, bards and manes (LXXIII.19).

The Paurāṇic legend that as a result of a boon granted by Brahmā, Rāhu appropriates a share of sacrifices and gifts offered at the time of an eclipse is referred to (V.2, 14).

Brahmā seems to have enjoyed considerable importance and we have a reference to temples dedicated to him (Brahmāyatana, XXXIII.22). In later Hindu pantheon Brahmā was the most prominent representative of Vedicism which had lost much of its importance. This is confirmed by the fact that his images could be consecrated only by Brahmānas learned in the Vedas (LIX.19 and comm.).

Varāhamihira seems to be conscious of the concept of the

1. XLVII.2.
2. LXXIII.18, 19; I.6.
3. I.2.
4. I.4; XXXII.3, 5; XXXIV.2; LXXXVII.40.
5. XXXIV.2; V.19, 20; VIII.24; VIII.29; XCVII.4; XCVIII.1; XCIX.1.
6. Cf. LXXXVII.40 where gods are referred to as Pitāmahādi.
triumvirate of gods as is evident from the mention of Brahmadeva, Viṣṇu and Rudra (Śiva) in their fixed order (XLVII.i.55). Although regarded as the first constituent of the triad, he was surpassed in importance by Viṣṇu and Śiva. He was now conceived as born from the mundane egg floating on cosmic waters (I.6) or from the lotus springing from Viṣṇu’s navel in consequence of which he came to be called Kamalaja, Kamalyoni, Padmodbhava and Paṅkaja-prabhava. Many are the images illustrating this myth. When gods are unable to meet their foes in battle, Brahmadeva is not in a position to come to their rescue and advises them to seek Viṣṇu’s help. Moreover, only half a verse is allotted to the description of Brahmadeva’s iconographic features, while even minor deities like Baladeva claim much more space.

We get very few details about his iconography: Brahmadeva has a water-vessel in his hand, is four-faced and seated on a lotus-seat (Brahmadeva kamanḍalakaṇṭha = ca, LVII. 41). Curiously enough, no information is given about the number of his hands, the other objects held, his mount and consort. Two two-armed Kuṣṇa stone figures from Mathura are worthy of special note for a unique arrangement of his heads: the difficulty of depicting the fourth head is overcome by placing three of them in one row, the fourth one being superimposed over the central head. In one of these images he holds a nectar vase (amṛtaghaṭa) in his left hand. A caitya-window at the Śiva temple at Bhumara contains a four-headed and four-armed figure of Brahmadeva seated.

1. It was customary with the devotees of Viṣṇu and Śiva to represent Brahmadeva as subordinate to their respective deity. Cf. CII, III, No. 35; lines 1-2 where Śayambhaśu is said to be obedient to Śiva’s commands.
2. XCVII.4; XCVIII.1; XCIX.1.
3. V.2.
4. TJ. I.2; III.2.
5. E.g. M. S. Vats, The Gupta Temple at Deogadh, MASI, No. 70, Pl. X (b).
6. See supra, p. 119.
7. Kāśyapa (as cited by Utpala on p. 785) describes him as four-faced, having a staff, skin of a black antelope and a water-vessel:—

on a lotus-seat; two of his four hands are broken, the remaining
right and left ones holding a lotus with stalk and a staff re-
spectively.\(^1\) A stone relief from Aihole illustrates a beautiful
three-faced (it being impossible to show the fourth back head
in relief sculptures) and four-armed figure of Brahmā seated
on lotus-petals; three of his hands carry a rosary, a noose, and
a kamanḍalau, the left natural hand being shown in varada-mudrā.\(^2\)

**VIŚṆU.** Viśṇu was a solar deity in the Ṛgvedic pan-
theon and occupied quite an insignificant position in the hier-
archy of gods. But with the advent of the bhakti cult Viśṇu
lost his solar character and reappeared as one of the most im-
portant cult gods with an added splendour and vigour.
Varāhamihira gives various names by which Viśṇu\(^3\) was known
in his time, viz., Nārāyaṇa, Hari,\(^5\) Keśava,\(^6\) Mādhava,
Madhusūdana, Govinda, Śrīdhara, Hṛṣīkeśa, Dāmodara
(CIV.14-5), Vāsudeva (LXVIII.32) and Kṛṣṇa (LVII.37). He
is called Bhāgavat\(^7\) which name is also implied in the word
Bhāgavata standing for the devotees of Viśṇu. He is described as
incomprehensible (acintya), peerless (asama), impartial (sama),
unknowable to all beings (sarvadehināṁ sūkṣmam), the Supreme
Soul (paramātman) without beginning (anādi), without end
(avijñātaparyantam), all-pervasive (Viśṇu) and the God (deva,
XLII.4-5). The undisputed supremacy enjoyed by Viśṇu
over all other gods with the sole exception of Siva and Sūrya
is apparent from the story of the gods overpowered by demons
in war seeking his protection. The fact that while giving icono-
graphic features of various gods Varāhamihira accords first place
to Viśṇu also points to the same conclusion. He, under various

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1. MAŚI, No. 16, p. 12, pl. XII(b).
   CXLVI. For another Brahmā figure hailing from the same place vide
   ibid, Pl. CXLIV; G. H. Khare, *Mūrti-vijñāna* (Marāṭhī), pp. 7-8, Pl. I.
3. VIII.23, 26; XLII.4, 6, 30, 54; XLIII.6; XLV.11; XLVII.26,
   55; LVII.31, 35; LIX.19; LXXIX.8; LXXX.7; CIV.6,14.
4. VIII.21; XLII.5; XLVII.77; CIV.14.
5. XXIV.18; XCVII.5; XCVIII.1; TT, I.2.
6. XLH.2; CIV. 8,14.
7. XLII.2. Fleet (CII, III, p. 28, fn. 5) has rightly observed that the
title Bhāgavat seems to belong most particularly to Viśṇu, and to reserve him
wherever there is nothing in the context to give any other application.
names, was believed to preside over the first yuga of the sixty-year cycle (VIII.21, 23, 26), diamonds of any shape (LXXIX. 8), pearls resembling a lin flower in colour (LXXX.7), the constellation of Śravaṇa (XCVII.5), the 3rd lunar day (XCVIII.1), all the twelve months of the year beginning with Mṛgaśīrṣa (CIV.14-5) and Mercury (BJ, II.5).

Some of the Paurāñcic legends relating to Viṣṇu are also noticed. Thus he is represented as having his abode in the milk-ocean (kṣīroda), as the consort of the goddess Śrī (Śrīpati, XLII.2-4) and as wearing yellow garments (XXIV.18). The myth regarding the lotus issuing from his navel giving birth to Brahmā is alluded to in names like Kamalanābha (XLIII.1), Abjanābha (LXVII.94), Padmanābha (CIV.15) and Padmadhana (TY, I.2) and that of his killing the demon Madhu in Madhusūdana (CIV.14). The Popular belief of Viṣṇu's slumber during the four months of the rainy season and his waking up in autumn is also recorded (XLIII.1).

Viṣṇuism was and is still indeed one of the two most prominent Brāhmaṇical sects which share between themselves the affiliation of larger strata of society. The commingling of the cults centring round the Vedic god Viṣṇu, the cosmic god Nārāyaṇa and the historic god Vāsudeva-Kṛṣṇa which culminated in sectarian Vaiṣṇavism was a fait accompli long prior to Varāhamihira. It is amply evident from our work wherein the names Viṣṇu, Nārāyaṇa and Kṛṣṇa are employed to denote the same god: The account of the propitiation of Viṣṇu by gods is immediately followed by the statement that Nārāyaṇa gave them a banner leading to victory over demons (XLII.3-5). After describing the iconographic features of Viṣṇu and Baladeva, Varāhamihira states that the goddess Ėkānaṁśa should be placed between Baladeva and Kṛṣṇa (LVII.31-9). In these instances, Viṣṇu, Nārāyaṇa and Kṛṣṇa evidently stand for one and the same god. Although the intrusion of the cowherd element is indicated by such names as Govinda and Dāmodara,

there is no reference to Kṛṣṇa's amorous dalliances with cowherdesses.

Varāhamihira refers to the followers of Viṣṇu cult as Vaiṣṇava\(^1\) and Bhāgavata.\(^2\) Utpala explains Bhāgavata as Bhagavad-bhakta or Vaiṣṇava and Vaiṣṇava as Viṣṇu-bhakta.\(^3\) These technical sectarian titles were very popular among the votaries of Viṣṇu as is evident from their use in a large number of Gupta epigraphic records and coin-legends. Thus the Gupta emperors Candragupta II\(^4\), Kumāragupta\(^5\) and Skandagupta\(^6\) style themselves as Parama-Bhāgavata, i.e., the most devout worshipper of the Divine one (Viṣṇu). Many other rulers and ordinary individuals are also styled as Parama-Bhāgavata,\(^8\) Atyanta-Bhagavad-bhakta\(^9\) and Parama-Vaiṣṇava.\(^10\) There can be no doubt that the great popularity enjoyed by Viṣṇuism must have been at least partly due to its adoption and patronage by many powerful ruling families.

It has been pointed out by Dr. P. C. Bagchi that whatever connection Bhāgavatism might have had with the Pāñcarātra in the beginning, in the Gupta period they became completely different from each other. The caturūṣyāha doctrine which

1. LXXXV. 33; BT, XXIII. 29.
2. XV. 20; LIX. 19; LXXXVI. 25 Cf. LXVIII. 32 which mentions devotees of Vāsudeva.
3. XV. 20; LXXXVI. 25; LXXXV. 33.
4. CII, III, No. 4, l. 11; No. 7, l. 1; No. 12, l. 20; No. 13, l. 5;
5. CII, III, No. 8, l. 1; p. 41, l. 1; No. 10, l. 5; No. 12, l. 22; No. 13, l. 5-6. Altekar, Op. cit., pp. 218, 222, 224, 226, 229, etc.
7. CII, III, No. 25, l. 10; No. 38, l. 8; No. 40, l. 3; No. 41, l. 3; No. 46, l. 2. The Traikūṭakas describe themselves as Bhagavat-pāda-karma-kara, vide CII, IV, No. 8, ll. 1-2; No. 9, l. 1.
8. Ibid., Vol. III, No. 27, l. 7.
9. Ibid., No. 36, l. 4; No. 19, l. 6; V.V. Mirashi, CII, V, No. 2, l. 8.
10. CII, III, No. 81, l. 18. BMC, AWK, etc. pp. 198ff.; CII, IV, pp. cxxvii, clxxx.

Although the style Parama-Bhāgavata is not applied to Samudragupta in any genuine record (he is styled Parama-Bhāgavata in the Gaya CP. of A.D. 328-9, CII, III, No. 60, p. 236, l. 6, but it is regarded as spurious), his adoption of Garuḍa, the vehicle of Viṣṇu, as his royal emblem and the representation of garuḍadhvaja on his coins amply attest to his Viṣṇuistic leanings,
formed one of the central tenets of the Pāñcarātra, it is pointed out, is totally absent from Bhāgavatism which lays stress on the theory of avatāravāda.\(^1\) It must be mentioned in this connection that Varāhamihira refers to at least three of the four vyūhas, viz., Viṣṇu (Vāsudeva-Kṛṣṇa), Baladeva (Saṅkarṣaṇa) and Pradyumna, and gives rules for making their images. The Amarakoṣa (I.1.20, 23-4, 25, 27) refers to all the four vyūhas including Aniruddha whose name is omitted by Varāhamihira. The joint worship of Kṛṣṇa, Baladeva and Ekānariśā is regarded by some as a modified form of vyūha-vāda.\(^2\) Also it seems that the vyūhavādins could not escape from the influence of avatāravāda. Moreover, if we are to rely on Utpala, we cannot but be led to the conclusion that Vaiṣṇavas of all denominations worshipped Viṣṇu in the Pāñcarātra mode. While dealing with the ceremony of the Rūpasattra, Varāhamihira states that one should worship Kṛṣṇa according to the prescribed mdoe (Kṛṣṇa-pūjanaṁ sva-viśhīnaṁ, CIV.8) which Utpala explains as the Pāñcarātra or Vedic manner (svavidhīnā ātmiya-viśhīnena... Vaiṣṇavaṇa Pāñcarātra-vihitena pūjākrameṇa Vaidikena va).\(^3\)

We learn from the Mora stone slab inscr. of the first century A.D. that the five Vṛṣṇi heroes, viz. Saṅkarṣaṇa, Vāsudeva, Pradyumna, Śāmpa and Aniruddha, were apotheosised and worshipped in the Mathura region in the early centuries of the Christian era.\(^4\) Although their cult, with the only exception of that of Vāsudeva, steadily declined, its continuation to some extent down to the Gupta age may be inferred from Varāhamihira’s mention of the first four (LVII.31-40).

An important feature of Bhāgavatism during our period was the worship of Viṣṇu’s avatāras or incarnatory forms. The lists of incarnations in the Purāṇas, the Mahābhārata and the Pāñcarātra-Samhitās diverge widely from one another regarding their number and names.\(^5\) Our author mentions the following

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1. R. C. Majumdar (ed.), History of Bengal, I, p. 402 f.
3. Cf. Utpala on LIX.19—Pāñcarātra-viśhīna Viśpoṭ,
4. ASI, AR, 1911-12, Pt. II, p. 127; R. P. Chanda, Archaeology and Vaiṣṇava Tradition, MASi, No. 5, pp 166-67; EI, XXIV, p. 194. The inscription was correctly interpreted by J. N. Banerjea, vide JIśOA, X, pp. 65-68; PIHC, 7th Session, p. 82.
5. R. G. Bhāndarkar, Vaiṣṇavism, Śaivism, etc., pp. 58-60; Classical Age, pp. 415-6.
incarnations: Varāha (XLII.54), Vāsudeva-Kṛṣṇa (LVII.37; LXVIII.32), Vāmana-Trivikrama (CIV.14) and Rāma, the son of Daśaratha (LVII.30). It must, however, be remembered that Varāhamihira nowhere describes them as avatāras. The Vāmana avatāra is already anticipated in the three strides of Viṣṇu so vividly described in the Rgveda (I.155.5 etc.) and in the story of Viṣṇu the Dwarf growing so large as to encompass the whole earth and thereby securing it for the gods as narrated in the Satapatha-brāhmaṇa (I.2.5). Its popularity during the Gupta period is evidenced by the Junagadh rock inscr. of Skandagupta which refers to the story that Viṣṇu seized the goddess of fortune from Bali for the sake of Indra. This story is also implied in Viṣṇu's appellations Indrānuja (Indra's younger brother) and Upendra found in Skandagupta's Bihar stone inscr. and Śilāditya VII's Alina copper-plate inscr. respectively. The popularity of the Kṛṣṇa incarnation is proved by Kālidāsa's reference to Viṣṇu attired as a cowherd (Barheṇa eva sphurita-rucinā gopa-veṣasya Viṣṇoh, Meghadūta, Pūrvamegha, verse 15), by Viṣṇu's association with Jāmbavati, traditionally a wife of Kṛṣṇa, in the Tusham rock inscr. (Jāmbavati-vadan-ārvind-orjjit-ālinā dānav-āṅganā-mukh-āṃbhoja- lakṣmi-tuṣāreṇa Viṣṇunā), and by the description of Lakṣmi as Vāsudeva's consort in the Sarnath stone inscr. of Prakaśāditya. Sir R. G. Bhandarkar and Dr. H. C. Raychaudhuri held that though Rāma, son of Daśaratha, was regarded as an avatāra, "there was no cult in his honour." The former went so far as to suggest that the cult of Rāma must have come into existence in about the eleventh century A.D. This opinion needs substantial modification in view of the facts stated below. The Vākāṭaka queen Prabhāvatiguptā, who styles herself as atyanta-bhagavat-bhaktā, was a votary of Bhagavat Rāmagirisvāmin (probably an allusion to a Rāma temple at Rāmagiri, modern Ramtek, near Nagpur); Kalidāsa describes Viṣṇu's descent as Rāma for killing Rāvana (Raghunātha, Canto X) and refers to Rāmagiri as marked by the foot-prints of Rāma.
(Vandyaith punsāṁ Raghupati-padaṁ=aṅkitam mekhalāsu, Meghadūta, Pūrva, 2); Varāhamihira states that the image of Rāma, son of Daśaratha, should be 120 aṅgulas high (LVII. 30); some interesting stone slabs of the Gupta period depicting the story of Rāma have been recently discovered at Nachna in the Panna District of Madhya Pradesh; the scenes from the Rāmayana are also to be found in the reliefs of the Daśavatāra temple at Deogadh. It may be casually noticed that Varāhamihira uses the word Rāma in the sense of ‘three’ (VIII.20), indicating his awareness of the three Rāmas, Paraśurāma, Daśarathi Rāma and Balarāma. But we are not told that they were regarded as avatāras. By far the most popular incarnation was Varāha (Boar). It is anticipated in the Satapatha-brāhmaṇa (14.1.2) which states how Prajāpati in the form of a boar raised the earth from the bottom of the ocean. The Taītirīya-āranyaka represents the earth as having been raised from the waters by a hundredarmed black boar. In order to obtain the concept of the incarnation in question, we have only to transfer this function from Prajāpati to Viśṇu. The popularity of this incarnation during the period under review is countenanced by references to Varāha’s exploits in inscriptions and literature and by some beautiful and vigorous Varāha images found in different parts of the country.

Describing Viśṇu’s iconography, Varāhamihira states

1. MAI, No. 70, Pls. XV-XVII.
3. जयति वर्षदार्शरण धन्योत्तमात्मणि तमहीदेव: ||
   देवो वराहमिश्वरेष्वाक्षम्हाम् गुह्यस्तम्भ: ||
   Eran stone inscr. of Toramāṇa, CH, III, No. 36, l.l. Also Cf. IHQ, XXI, p. 56 f.;
5. E.g., the famous Varāha panel at Udayagiri and two beautiful Varāha statues, one in human and the other in animal form, recently found at Eran. Personal names beginning with the word varāha also indicate the popularity of the Varāha cult. cf. Bhandarkar’s List, Nos. 9, 13, 67, 1195, 1196, 1329, 1712.
6. कामालमः भगवांशतम्भः दिमृज एव व विषण: ||
   श्रीवत्साः वृक्षवश: कृतस्मरणैः विदितोरस्क: ||
   अतोककुमारवथामः पीताम्बरनिमान: प्रसादमुः: ||
   कुष्ठलकृष्णेश्वरी पीनालोर: संलयास्मृत: ||
   बंडगान्दे, दारापतिविशिष्टत: शान्तिदशलुः कः ||
   वामकरेशु च कामुं कलेक्षकाविष्णु शक्लश्च: ||
that his breast should be marked with the sign Śrīvatsa and adorned with the Kaustubha gem;¹ he should be yellowish green in complexion like a līna flower and clad in yellow garments, his face being placid; he wears kundalas and a kiriṭa, his neck, breast, shoulders and arms being full and fleshy; the worshipful god Viṣṇu may be represented eight-, four-, or two-armed. In the case of an eight-armed image, three of his right hands hold a sword, a mace and an arrow, the fourth being in the sāntida pose;² the hands on the left should carry a bow, shield (khetaka), discus and conch.³ If he is intended to be four-armed, his right hands show a mace and sāntida-mudrā, while the left ones carry a conch and a discus. Of the two-armed image, the right hand should be shown in sāntida-mudrā, the left one holding a conch-shell. Two eight-armed images of Viṣṇu

अथ च चतुर्मूर्तिमिच्छिति शान्तिद एको गदाघर्षाचायः।
दक्षिणावलि त्वेव वामे शक्तर्वचच्चक्ष्व च।।
विन्युस्य तु शान्तिकरो दक्षिणहस्तोपरर्व शक्तवधः।
एवं विविद्यः प्रतिमा कतोब्या भूतिमिच्छिद्भिः॥
LVII.31-5.

1. Cf. श्रीवत्साक्ष्ण कौस्तुमभणिकिरणोवभ्रसितोरस्कमः॥

2. Utpala explains it as 'the hand facing the visitor (turned to the front) with fingers raised upwards: Draṣṭur=abhimukha ārdha-āṅguliḥ sāntiḍaḥ karah. It is apparently the same as the abhaya-mudrā with which the students of Buddhist art are well acquainted.

3. Some of the weapons held are referred to in inscriptions. Nandaka is the name of Viṣṇu's sword. Cf. Aphasad inscr. of Ādityasena, CII, III, No. 42, p. 203, ll.13-4: Cakrāṁ pāṇiṭalena sa=py=ud=avahat tasy-āpi śāṅgāṁ dhanur=āśāy-āsuḥrāṁ sukhāya suḥrāṁ tasy-āpy=asir=Nandakaḥ. A Gupta inscription mentions him as carrying cakra and gadā (cakrāgadādharasaṇa, CII, III, No. 17, p.75, l.26); he is called 'the wielder of discus—Cakrāḥ (Ibid, No. 14, p. 61, l. 27), Cakradhara (Ibid, No. 47, p. 220, l. 2), Cakrāpāṇi (No. 55, p. 237, l.13; No. 56, p. 248, l.12). His bow was called Śāṅga in consequence of which he received the appellations Śāṅgāpāṇi (Ibid., pp. 146, 176 (l.32) and Śāṅga (Ibid., pp. 54 (l.17), 83 (l.22). For a reference to four-armed Viṣṇu, cf. Ibid., No. 19, p. 89, ll.1-2; Jāyati vibhui=caturbhujah catur=arṇava-vipulasālilaparyankuh, Jagataḥ sthitā=ulpattiyandhitur=garṇḍaketaḥ. Also cf. IV, 30: Viṣṇor=tv-odayagodāraṭhepāda- pāveḥ. Rathopaḍa here denotes a wheel.
are preserved in the Mathura Museum (Nos. M.M. 1010; M.M. 3550\textsuperscript{a}), but they are very much mutilated and the objects held in the remaining hands do not fully correspond to the above description. A stone relief from Badami depicting the eight-armed god described as Vaikuṇṭha and reproduced by T. A. Gopinatha Rao on Plate LXXV of his Elements of Hindu Iconography (Vol. I, Part I, p. 256) is rightly taken as Viṣṇu by Dr. J. N. Banerjea. Here Viṣṇu shows in his four right hands a discus, an arrow, a mace and a sword, and in the three left ones a conchshell, shield and a bow, the fourth one being in kaṭhasta pose. This partially corresponds to the description given by our author. As to the four-armed Viṣṇu, Dr. V. S. Agrawala has shown that the earliest form is one in which he holds his right natural hand in the abhaya-mudrā (sāntida of Varāhamihira) and an amṛtaghāta in the left one, the extra hands carrying a gadā and a cakra, and that this form evolved from that of Bodhisattva Maitreya.\textsuperscript{a} The form next to be evolved was that described by our author, and some specimens illustrating our account are preserved in the Mathura Museum (Fig. 3).\textsuperscript{a} The usual form with conch, wheel, mace and lotus evolved last and is illustrated by numerous specimens of the Gupta and subsequent periods hailing from different parts of the country. Two-armed statues of Viṣṇu are extremely rare. A two-armed colossal sthānaka-mūrti from Rupwas near Fatehpur Sikri (U.P.) wrongly described as Buddha or Sūrya by Carleyle and rightly regarded as Viṣṇu by J. N. Banerjea, carries in its two hands a conch and a disc.\textsuperscript{a}

ŚIVA. Śiva (IV.30; XLIX.2), also known as Hara (XLII.52), Rudra (XLV.6, 10), Śaṅkara (LI.III.3; LXXXV.75), Śambhu (LVII.43; LIX.19), Iśa (XXXIV.2; LXXIII.20; XCVIII.1), Iśāna (XI.13, 17), Paramēśvara (TY, 1.2), Trinayana (XLVII.77) and Trinetra\textsuperscript{a} (BT, XVI.5).

4. V. S. Agrawala, Brahmanical Images in Mathura Art, Nos. 936, 2007, 2032, 2487, 512; JUPHS, Jan. 1932, Pl. 2, fig. 3.
5. CASR, VI, p. 20; DHII, pp. 400-401, fn. 1.
6. An allusion to his three eyes which form an important iconographic feature of the god.
along with the last two gods makes up the Hindu Trinity. He is said to preside over the 5th year of the quinquennial yuga of the 60-year cycle (VIII.24), a variegated halo round the sun or the moon (XXXIV.2), the constellation of Ārdṛa (XCVII.4), the titiḥ ekādaśi (XCVIII.1) and the north-eastern region (LI.3; LXXXV.75). While defending women against the allegations levelled against them by men, Varāṇamihira states that the whole world right from Brahmā to the minutest worm is based on the union of the male and female principles and illustrates it by telling us that the greed of having a look at a woman made even Śiva assume four faces.1 Utpala explains this allusion by referring to the Paurānic legend that once the celestial nymph Tilottamā was circumambulating Śiva in whose lap was seated Pārvatī; Śiva, afraid of offending Pārvatī, created four faces in four quarters to look at the peerless beauty of the divine courtezan.2 The myth that Śiva burnt Kāma, the god of love, to ashes is alluded to (Haradhā-mūrtik, LXXXVII.14). Mention is also made of Śiva’s hosts called Pramathas (LV.15) or Gaṇas (LVIII.9-11). It was believed that any unnatural behaviour in the images of Rudra and other guarding deities of the quarters forebodes evil to the cattle, indicating Śiva’s association with animals (XLV.10). Varāhamihira refers to temples dedicated to Rudra (XL.6) and gives the mode of representing him in human as well as phallic form (liṅga).

The high antiquity of the representation and worship of Rudra-Śiva in both anthropomorphic and phallic forms is

1. आण्डामकीटानमितिन निवर्द्ध पुरुषकार्यमेण जगतु समस्तम्

2. अत्र पौराणिकी श्रुति,

proved by the unimpeachable evidence of seals from Mohen-
jodaro and other sites and by the money minted by some early
Indian and foreign rulers. In later times, the liṅga was
enshrined in the sanctum while his human representations
were placed as accessories in different parts of the temple.
Our author summarily describes his anthropomorphic form
thus, Śambhu has a crescent on his head, a bull for his ensign
and a vertically placed third eye (on his forehead); (in his
two hands) he holds a trident and the bow called Pināka
(Śambhoḥ śiras-īndukalā ṭṛityam = api locanam e-ordhvaṁ)
śūlaṁ dhanuḥ pinākaṁ, LVII.43). Although all these emblems
are well known and severely represented in plastic art, I am
not aware of any image fully answering our description. Re-
ferring to his androgynous form, he further states that ‘his half
may consist of the half of the daughter of the mountain’
(vām-ārdhe vā girisut—ārdhdham, LVII.43). This motif is styled
by Utpala as Ardhaagauriśvara which is the same as that popularly
called Ardhanārīśvara. Several Ardhanārīśvara busts of the
Kuśāna and the Gupta periods finished by the sculptors of
Mathura have come down to us (Fig. 4). We get also
some interesting details about the shape and proportions of the
liṅga. Thus we are told, ‘The periphery of the round (upper-
most) portion of the liṅga, measured lengthwise, should be
divided into three parts; the lowermost portion should be square,
the middle one octagonal and above that circular. The square
section must be placed in a hole dug out in the ground and
the middle one (octagonal) into that (cut) in the pedestal

1. For a comprehensive discussion of the evidence of coins and seals
vide DHI, Ch. IV-V.
2. For epigraphical allusions to the crescent on Śiva’s forehead, cf.
CH, III, No. 18. ll. 22-3; No. 37, l. 8.
3. Cf. BY, XVI.6, where Śiva is called वृपवाहन. Cf. CH, III, No.33,
l.1.
4. Cf. his names शुल्मत्यु (XCVII.4) and शुल्मयुक्त (BY, XVI.6).
Besides he is described as dwarf (वामन), ugly (विलप्स), god of gods
(देवदेवेश) and as lord of dreams (स्वनाधिपति) in BY, XVI.5-6.
5. V. S. Agrawala, Brahmanical Images in Mathura Art, Nos. 362, 800,
874. Recently a partly mutilated life-size Ardhanārīśvara figure has been
found at Sagar, cf. K. D. Bajpai, Sagar Through the Ages, Pl. VI.
(only the circular section being visible); (in diameter or extent) the pedestal on all the sides of the hole should be equal to the height of the visible (topmost cylindrical) section. A līṅga lean and long beyond proportion, shorn of its sides and injured at the top was supposed to spell ruin to the country, town and its master respectively.

Its adoption and patronage by a number of rulers in different parts of the country gave Šaivism a fillip. We know from inscriptions that most of the Vākātaka kings, early Kalarciy kings, Kṛṣṇarāja, Śaṅkaragaṇa and Buddhārāja, the Later Gupta chiefs Devagupta and Viśṇugupta, Maukharī king Śarva-varman, Mahāśāmantaka Mahārāja Samudrasena of Punjab and most of the Maitraka rulers of Valabhi were all devotees of Śiva and bore the sectarian title Parama-Maheśvara, i.e. devout worshipper of Maheśvara.

(1) PĀŚUPATA. While dealing with the installation of images, Varāhamihira lays down that the image of Śambhu

1. लिङ्गस्य वृत्तपरिवर्त दृष्येष्यासूत्रम तत् बिष्णु विभवेत्।
मूले तत्त्वमुर्दः मध्ये त्वत्त्वाश्च वृत्तमति।
चतुर्सभ्रविन्दान्ति मध्यं कार्यं तु पिन्धिकाश्रयेत्।
(५७.५३-५४)

Cf. Utpala-वृत्तमतः पीठविरात् समंततः सवः दिशं पीठिका
दृश्योच्चायेष्यो समा कार्यं दृष्यभागस्य परीक्ष्यो द्वे द्वे यशों या उच्छग्रास्तकसः।
एतदुक्तं भवितं वात्रिस्माणि वृत्तभागस्य दृष्यं तात्रिस्माणि समंततः
पीठिकापूर्वकं कार्यंमिति।

Dr. J. N. Banerjea’s rendering of the last line, viz., “the height of the visible (i.e., the topmost cylindrical) section from the pedestal hole should be equal to its periphery” (DHI, pp. 588-9), is not borne out by the text or commentary thereon.

2. कृतंश्च देशास्य पाथ्यविहीन पुरस्य नाथाय।
यथव क्षतं मेघे स्तं किरतानय तलिङ्गसम्। (५७.५५)

3. V. V. Mirashi, CII, V, pp. xl ff.
5. CII, III, No. 46, l-3.
6. Ibid., No. 47, l-1.
7. Ibid., No. 80, l-5.
8. Ibid., Nos. 38 and 39.
must be consecrated by the ash-besmearing Brāhmaṇas (Śambhoḥ sabhasma-dvijān, LIX.19) whom the commentator takes to be the followers of the Pāṣupata sect. He appears to be justified in view of the fact that besmearing the body with ashes thrice a day and sleeping on ashes was an important practice of the Pāṣupatas.1 Yuan Chwang refers to them as ash-besmearing tirthikas. Mathura was an important centre of the Pāṣupata school in the Gupta period.2 The Pāṣupatas attained some importance towards the close of the sixth century A.D. The early Kalacuri king Kṛṣṇarāja and Anantanāhlāyī, queen of Buddhārāja, were followers of the Pāṣupata sect.3 Yuan Chwang found large bodies of the Pāṣupatas at Jālandhara, Ngo-hi-chita-lo (Ahicchatra) Malakūta (Tamil country), Malwa, Mahēśvarapura, Lang-kie (ka)-lo, Bannu and Khotan.4 Bhaṭṭotpala further states that Śiva images should be consecrated in accordance with the mode prescribed in the Vātula-tantra or some other tantra (Vātula-tantra-okten-ayatantr- oktavidhinā vā Śambhoḥ, on LIX.19). The Vātulatantra is no more extant.

(II) KĀPĀLIK. Varāhamihira also refers to the Kāpālikas (LXXXVII.22) who were so called because they used human skulls as receptacles of food and wore garlands of skulls. Utpala tells us that the Kāpālikas were well-known ascetics (Kāpālikāḥ prasiddhas = tapasvī), indicating their popularity and large number in his time. Vṛddha-Śrāvaka (L.20), literally meaning an old ascetic, denotes, according to Utpala, a Kāpālika.5 This sect appears to have attained some popularity in the Panjab and North-western India in the sixth and seventh centuries A.D. The Mandasor stone

3. CIH, IV, No. 12, l.4: No. 14, ll. 32-33. The Dātaka of the Abhoṇa pls. was named Pāṣupata, vide CIH, IV, No. 12, l.34. According to some scholars, the Elephanta caves were excavated in the second half of the sixth century A.D. when the Kalacuri power was at its peak, and the cave temple was caused to be carved by the Pāṣupatas as is indicated by the figure of Lakulīśa in the recess at the north end of the shrine in the western court of the caves. Vide CIH, IV, p. cxlviii; Hiranyakastri, A Guide to Elephanta, pp. 33 ff.
5. Cf. BJ, XV. 1, where the word vṛddha is used to denote a Kāpālika.
inscr. of Yasodharman-Viṣṇuvardhana (A.D. 532) refers to Śiva as wearing a chaplet of bones on his head. A copper plate inscr. of Samudrasena (A.D. 612-13) found at Nirmam near the right bank of the Sutlej refers to a temple of Śiva under the name Kapāleśvara. Mahendravarman's Mattavilāsa-prahasana depicts the revelry of an innocent Kapālikā whose kapāla was taken away by a dog. The ascetics wearing on their heads garlands of bones and skulls whom Yuan Chwang saw at Kapiśā and other places were no doubt affiliated to this sect.

SŪRYA. Although the worship of the Sun-god had been in vogue in India from very early times, in northern India it underwent reorientation under the impact of the East Iranian Sun cult. The story of the importation of the Persian form of the Sun worship is related in several Purāṇas, viz., Bhaviṣya, Varāha, Śāmba. We learn from the Bhaviṣya-purāṇa that Śāmba, the son of Kṛṣṇa by Jāmbavati, got cured of leprosy by worshipping Sūrya, installed his image in a large temple at Mūlāsthānapura (mod. Multan, probably so called because it was the original (mūla) centre (sthānā) of the introduction of the Iranian Sun cult) on the bank of the river Candrabhāgā (Chenab), and when no Brāhmaṇa priest was prepared to conduct Sun-worship in its new form, brought from Śākadvipa (E. Iran) eighteen families of the Maga priests who are described as the sons of the Sun from Nikṣubhā, the daughter of Rgjihva or Sujihva. These Magas were none else than the fire and Sun-worshipping Magi priests of Iran. Alberuni (I.21) was fully aware of this identity when he wrote,

1. विररसि विनिवधन् रसिन्ध्रीमिस्थिमालाम् ।

2. Ibid., No. 80, 1.9. Nāgavardhana, a nephew of Pulakeśin II, sanctioned a grant for the worship of Kapāleśvara and for the maintenance of Mahāvratins attached to the temple, vide JBBRAS, XIV, p. 26,


4. Brahmaparvan, Ch. 139 ff.; see also D. R. Bhandarkar, Foreign Elements in Hin du Population, IA, XL (1911), pp. 17 ff.

5. It was also known as Śāmbapura, evidently after the name of its founder.

6. Alberuni (I.116) also refers to a 'famous idol' dedicated to the Sun and called Āditya at Multan, 'It was of wood and covered with red Cordovan leather; in its two eyes were two red rubies. It is said to have
"There are some Magians upto the present time in India where they are called Maga." The introduction of this reorientated form of the cult was a fait accompli by the Kuśāna period when we find in Śūrya icons such alien features as a close-fitting waist-coat and Central Asian long boots which are in standing contrast to his earlier form at Bodh-Gaya where he is represented as wearing a dhoti and riding a four-horsed chariot. Its continuance in this alien form upto the late Gupta period is attested by Varāhamihira who, himself a Maga, lays down that the proper persons to instal a Śūrya image were Magas (LIX. 19) and gives the following details about his icons¹ which also point to the same conclusion. "The nose, forehead, shanks, thighs, cheeks and breast of the Sun should be elevated; he should be attired in the Northerners’ dress being covered from feet to the breast; holding in his two arms two lotus flowers born of his own hands (i.e. by their stalks);² he wears a crown and his face is adorned with ear-rings; he has a long necklace and the girdle called viyadga (Sanskritised form of the Persian name Aiwiyaonghen which a Zoroastrian is enjoined to wear) round his waist; he is covered by a kaṇcuka, his face being shown as possessing the lustre of the inside of a lotus, smiling and pleasant; he has a halo brilliant on account of gems; a Sun image fashioned in this manner confers blessings on its maker." Kaṇcuka is undoubtedly the long close-fitting

been made in the last Kṛtayuga. The Sun-cult appears to have been popular in Multan region even as late as the eleventh century A.D. as may be inferred from the following statement of Alberuni—"The Hindus of Multan have a festival which is called Śāmbapura-yātra; they celebrate it in honour of the Sun and worship him" (Ibid., p. 184).

¹. नासाल्लाटक्ष्रोत्वोष्मण्ठवक्षा कोनतानि रव: ।
कुरष्ट्वोच्यवेव सूर्य पादातुरो शाब्द: ॥
विभ्रण: स्वकरस्ते वाह्मयां पश्चे मुकृतपरीः ॥
कुष्ठलमिविवव: प्रलम्ब्हिरो विवश्वव: ॥
कमलोपरतमुसू: कप्पुपकाय: दमित्वसनमुख: ॥
रत्नोज्जलस्माधमण्डलस्व कुः शुभकरस्त्रः ॥

LVII.46-8.

². Cf. Utpala—स्वकरस्ते स्वनले वाह्मयां पश्चे कमले विभ्रण: सहजनवसय करशनलवात् सपत्मधाऩसय वाहोनालतवाच्च कमले विभ्रण: ।
coat found in Sūrya images, and the long boots, though not specified, are implied in the udityawesa. Curiously enough, no details are given regarding Sūrya’s chariot, his charioteer Aruṇa, his attendants Daṇḍa and Piṅgala and his wives Uṣā and Pratyūṣā who are not infrequently represented in art. Many specimens of the Gupta age answering this description are preserved in the Mathura Museum.1 Attention may also be invited to a stone relief of Sūrya, carved in a caitya-window of the Śiva temple at Bhumara, which shows the god with a tall cylindrical head-dress (mukuta) and a plain halo behind his head, holding lotus flowers in both of his hands raised up to shoulders, and wearing long coat (kañcuka) tied on the waist with a sash (viyadga) and long boots of soft leather. He is attended by two male figures, perhaps Daṇḍa and Piṅgala, similarly clad.2 It may be noticed here that in Kuṇāṇa art Sūrya is usually shown with a cluster of lotuses in the right hand and a dagger in the left and seated in a chariot drawn by two or four horses.3 It is interesting to note that a verse of Kāśyapa, quoted in the commentary, gives us these features of the Kuṇāṇa art except for the chariot. Thus we are told that Āditya should be represented as youthful and lustrous, wearing a garland, kiriṇṭa and a mail and holding a sword and lotuses in his hands.4

The Sun cult appears to have been very popular during our period. The Maitraka ruler Dharapaṭṭa,5 and the Puspa-bhūti rulers of Thanesar Rājyavardhana, Ādityavardhana and Prabhākara-vardhana6 were Paramāḍitya-bhaktas, i.e. devout worshippers of the Sun. We learn from inscriptions of the existence of a number of Sun temples in different parts of North India in the Gupta and late Gupta times. We have references

2. MASI, No. 16, p. 13, Pl. XIV(a).
3. V. S Agrawala, Brahmanical Images, Nos. 269, D 46; see his remarks.
4. आदित्यस्तनुषण: सम्बी कवची लक्ष्मण्ट्ट तथा।
   तेजस्वी पद्मकंकर: पश्वार्णं किरितवा।
5. CII, III, No. 38, p. 165, l.10. Some Gurjara chiefs of Nandipuri branch also were devotees of Sūrya, Vide CII, IV, No. 16, l. 4, No. 21, ll. 1-2; No. 24, l. 1.
6. Ibid., No. 52, p. 232, ll.2, 3, 6.
to the temples dedicated to Sūrya at Indor in the Bulandshahar District of U.P.\textsuperscript{1} and on the bank of the Tons to which jointly with a Viṣṇu temple the village of Āśramaka was granted.\textsuperscript{2} The Gwaior inscr. of Mihirakula records the building of a Sun temple at Gopagiri, modern Gwaior.\textsuperscript{3} The Deo-Baranark inscr. of Jīvitaṅgaṇa II purports to record the grant of a village to the Sun under the name Varuṇavāsin.\textsuperscript{4} The Mandasor stone inscr. of Kumāragupta and Bandhuvarman\textsuperscript{5} informs us that a weavers’ guild built a temple of Sūrya at Daśapura in A.D. 437-8 and repaired the same in A.D. 473-74. Its popularity in the region round Kanauj is testified to by Yuan Chhwang who refers to a temple of the Sun god there.\textsuperscript{6}

The Sun, under various names, was believed to preside over the 2nd year of the quinquennial yuga (VIII.24), the constellation of Hasta (XCVII.4) and the ṛtiḥi dvādaśi (XCVIII.1).

AGNI. Judging from the number of hymns dedicated to him, Agni was one of the first three deities of the Rgvedic pantheon, others being Indra and Soma.\textsuperscript{7} But the gradual decline in the popularity of Vedic sacrificial cult affected adversely the status of Agni in the hierarchy of gods and in the wake of Paurānic mythology he was relegated to the office of a Loka-pāla. Varāhamihira refers to him by various names denoting fire, e.g., Agni\textsuperscript{8}, Dahana\textsuperscript{9}, Hutabhuj\textsuperscript{10}, Hutavaha\textsuperscript{11}, Hutāśa\textsuperscript{12} and Anala\textsuperscript{13}. He is represented as presiding over an eclipse, a diamond resembling the śrṅgāṭaka fruit and hued like a tiger’s eye, a pearl having the lustre of smokeless fire or lotus, the constellation of Krṣṭikā and the fourth yuga of the Jovian cycle and as causing quake in the 2nd part of the day.\textsuperscript{14}

\textsuperscript{1} Ibid., No. 16, p. 70.
\textsuperscript{2} Khoh CP. of Mahārāja Śarvanātha, Ibid., No. 28.
\textsuperscript{3} Ibid., No. 37, pp. 162-63.
\textsuperscript{4} Ibid., No. 46, p. 216, l.12.
\textsuperscript{5} Ibid., No. 18, pp. 81 ff.
\textsuperscript{6} Watters op. cit., I, p. 352.
\textsuperscript{7} Macdonell, Vedic Mythology, p. 88.
\textsuperscript{8} V. 19, 22; XI.23; XCVII. 4.
\textsuperscript{9} XXXII.7; XCVII.4.
\textsuperscript{10} LXXIX.9; IV, VI.6.
\textsuperscript{11} LXXXV.75.
\textsuperscript{12} XI.11; VIII.23.
\textsuperscript{13} VIII. 26; LIII.3.
\textsuperscript{14} V. 19, 22; LXXIX. 9; LXXX. 8. XCVII. 4; VIII. 23, 26; XXXII. 7.
He is said to be the father of 25 unnamed comets and of 120 comets called Viśvarūpa (XI. 10-11, 23). He was regarded as one of the eight guardians of the quarters presiding over south-east (LIII.3; LXX XV.75) which came to be known as Āgneyī. As we have seen above, Agni retains his former association with Indra, Agni is described as seven-rayed (sapta-marici, XLIII. 37) and as seventongued (sapta-jihva, LXXIII.16). No other detail about his iconography is given. It is interesting to note that Agni is usually represented in sculpture with flames issuing from his body. Thus, for example, a Paharpur relief shows twoarmed Agni with seven flames emanating from his body on either side and holding a rosary and kamandalu in his right and left hands respectively.¹

YAMA. Yama is also referred to by the patronymic Vaivasvata (XLII.52). He is described as causing an eclipse and a blue halo round the sun or moon and as presiding over the southern quarter, the asterism Bharani, caturthī and the karanā called Viṣṭi. Black colour is especially associated with him. Thus black diamonds shaped like serpent’s mouth and black pearls are represented as belonging to him and he is said to have given a black ornament to Indra’s banner.² Utpala styles him as ‘the lord of manes (pitrpati).

As to his iconographic features, we are simply told that he holds a staff in his hand and rides a buffalo (Danḍi Yamo mahuṣaṇaḥ, LVII.57; cf. pradyota-danḍa-hastaṃ Yamam, YY, VI.8).³ Several are the images representing Yama with a staff or club, but no early Yama image with a buffalo is known so far. Thus in a medallion from the Śiva temple at Bhumara we see the god holding an indistinct round object in his right hand and a staff in the left and attended by a fly-whisk-bearing female attendant on either side; he is, however, seated here on a throne or bedstead, not on a buffalo.⁴ But some sculp-

1. MASI, No. 59, p. 48, pl. XXXII (b).
2. V. 19, 23; XXXIV.12; LIII.3; LXX XV.75; XC VII.4; XCVIII. I; XCV. 11; LXXIX.8; LXXX.7; XLII.43, 52. Cf. YY. VI.8, where black-flowers, flag and perfumes are prescribed for him.
3. Bāna in his Harpa-carita describes canvass paintings of Yama riding a terrific buffalo.
4. MASI, 16, p. 12, Pl. XII c.
tures representing Yama riding a buffalo are found decorating some mediaeval temples in Orissa (Fig. 5) and elsewhere.

**KUBERA.** Kubera, also called Vaiśravaṇa, is for the first time mentioned and connected with the Yakṣas (called Itarajana or Punyajana) and riches in a passage of the Atharva-veda (VIII.10.28). Our author associates him with the Yakṣas^1 and refers to him as Dhanada (XXXIV.3; *YV*, VI.16), Dhaneśa (XLII.52) and Dhaneśvara (*YV*, XI.17), evidently in allusion to his overlordship of riches. He was believed to preside over an eclipse (V.19, 21) and cause a halo coloured like peacock’s neck round the sun or the moon (XXXIV.3). Usually he was regarded as a Lokapāla governing the northern quarter which was consequently known as *Kauberī* (XIII.1; XLVII.18; LXXXVI-25). But curiously enough in two verses of the Brāhmaṇhītā (LIII.3; LXXXV.75) Varāhamihira accords this position to the moon-god. We shall have occasion to say more on this question subsequently.

His iconographic features are thus given: Kubera is pot-bellied, has a man for his mount and a *kirīṭa* (topped crown) is placed on his head slanting to his left (*Naravāhanaḥ Kubero vāmakirīṭi bhag-kukṣih*, LVII.57). The *Yogayātrā* (VI.16) mentions gadā as one of the emblems held by him. According to a variant reading (*kharā-vāhāna*) his mount is a donkey. It is curious to note that in this sketchy description of Kubera’s iconography, nothing is said about his purse, his *nadhis* Śaṅkha and *Padma*, and Hārīti, usually associated with him in contemporary art. Although no image of Kubera belonging to the Gupta or later periods riding on a man has been noticed, a Bharhut relief depicts him (there called Kupiro) standing over a malformed man (perhaps a Yakṣa); he is slightly pot-bellied and his head-dress aslant on his left (Fig. 6). This figure, it would appear, fully answers the Brāhmaṇhītā description. Some Śunāga and Kuśāṇa terracotta figurines of *naravāhana* Yakṣas and Yakṣīs are preserved in Mathura Museum.

^1. In *YV*, VI.1 (I.1) which names the guardians of the quarters the lord of the northern quarter is called a Yakṣa. It appears to be a veiled allusion to Kubera as the king of Yakṣas.
Other gods

The details that we get about a few other Vedic gods may be noted here. The twin-gods Aśvins who, ‘judged by the frequency with which they are invoked’, were in importance next only to Indra, Agni and Soma in the Ṛgvedic pantheon,¹ are referred to as presiding over the 11th quinquennial yuga of the Jovian cycle (VIII.23) and the constellation of Aśvinī (XCVI.4). The word aśvīn is used to denote the numeral two (XCVI.1). They are described as physicians par excellence (Aśvinaḥ ca bhīṣagvarau, XLVII.56). Viśvakarman heads the list of the gods who gave ornaments to Indra-dhvaja (XLII.42). There is a reference to the image of Viśvakarman (XLV.12), but no details about his iconography are given. In classical Sanskrit the word bhaga stands among other things for female genital organ and is synonymous with yoni and consequently the latter word is also used to denote the deity Bhaga. He is the presiding deity of the 12th quinquennial yuga of Jupiter’s cycle (VIII.23) and of Pūrvā-Phalguni (XCVI.4). Puṣan, the lord of the asterism Revati (XCVI.5), is one of the constituent deities of Vāstupuruṣa (LII.44). Aryaman presides over Uttarā-phalguni (XCVI.4) and the karaṇa called Taitila (XCIX.1). Tvaṣṭṛ is associated with Sūrya,² He gave an ornament to Indra’s banner and presides over the constellation of Citrā (XCVI.4). Mitra appears to be closely associated with Agni.³ He presides over Anurādhā (XCVI.4) and Kaulava karaṇa (XCIX.1). Vāyu and other names of wind are used to denote both the physical phenomenon and the deity representing it. Thus the god is called Vāyu⁴, Pavana⁵, Anila⁶, Śvasana⁷, Māruta⁸ and Samīraṇa.⁹ He is

¹. Macdonell, Vedic Mythology, p. 49.
². रघुचक्रां दसमं सूयास्त्रा राजायुक्तम् | XLII.46. In the Vedic pantheon Tvaṣṭṛ probably represented the creative aspect of Sun. Cf. Vedic Mythology, p. 117.
³. The six-month period presided over by Agni is known as Mitra, V. 22. Cf. Ro 10.8.4; 3.5.4; 5.3.1, etc. where Mitra is closely connected with Agni.
⁴. XI.24; XXXII.8; XLV.63.
⁵. LIII.3; LXXXV.75; XCVI.4.
⁶. XXXII.7.
⁷. XXXIV.2.
⁸. XCIX.2.
⁹. XLV.45.
the guardian of the north-western region (LIII.3; LXXXV.75),
the presiding deity of the asterism Svāti, the karana called Kim-
stughna, an earthquake in the first part of the day and a dark
halo round the sun and the moon. Seventy-seven comets named
Aruṇa are said to be his sons. Sacrifices were offered to
him in order to avert the evil effects of portents partaining to
rain and wind.1 Nirṛti occurs in the later Śaṁhitās as a god
of evil and in later times he was regarded as a Lokapāla pro-
tecting south-west.2 He is also said to preside over the con-
tellation of Mūla (XCVII.5) and to cause a dove-coloured
halo round the sun or moon (XXXIV.2). But the idea under-
lying the conception of Nirṛti underwent a fundamental change.
He came to be deprived of his divinity and conceived as the
lord of demons as is clearly stated by Utpala.3 In some of
the Purāṇas (e.g., Viśnuḥarmottara) Nirṛti is described as
the wife of Virūpākṣa, the lord of the Rakṣas. Varāhamihira
gives no details about his iconography but simply states that
he should be carved on a piece of cloth (ṬṬ; VI.10).

II. Post-Vedic Gods

Vaiṣṇava gods

As we have seen above, there is reason to believe that in
addition to Kṛṣṇa, four other Vṛṣṇi heroes—Baladeva (Saṅkar-
śaṇa), Pradyumna, Śamba and Aniruddha—were also deified
and worshipped independently in the early centuries of the
Christian era. The first three of them are named by Varāha-
mihira.

BALADEVA. In the syncretic religion of the Bhāgavatas,
Baladeva was closely associated with Vāsudeva-Kṛṣṇa from
the very beginning. This is evidenced by a number of epi-
graphic records which mention them together. Varāhamihira,
who devotes one full couplet to the description of his icons,
lays down that ‘Baladeva should be depicted with a plough-
share in his hand, eyes round and rolling owing to inebriety,
and with one ear-ring, his complexion being as white as a
conch-shell, lotus-stalk or the moon’ (Baladevo halapānir= 63-64.

1. XCVII .4; XCIX.2; XXXII.7-8; XXXIV.2; XI.24; XLIV.45,
2. LIII.3; LXXXV.75; ṬṬ. VI.1.
3. Cf. Comm. on XCVII.5 (Nirṛti ṛākṣasa mūlasya); LXXXV.
75 (Ṛkṣasādhipatiḥ); LIII.3 (Ṛkṣasādhipatiḥ).
mada-vibhrama-locanaś = ca kartavyah, kundalam = ekañ bibhrat sankh-endu—mrdala-gauratanuñ, LVII.36). A two-armed figure of Baladeva of the Yaksha type from Mathura, now preserved in the Lucknow Museum and generally regarded as ‘the earliest Brahmânical image’, shows him standing under the canopy of serpent-hoods, wearing kundala only in the left ear and holding a musala (pestle) and a hala (plough-share) in his hands (Fig. 7). In the Kuśâna art, he is often represented as holding a drinking cup in one of his hands, evidently alluding to his addiction to wine. A four-armed Balarāma image of the Gupta period is to be seen in the Mathura Museum (No. 1399). Reference must also be made to an early Balarāma image hailing from Tumain in the Guna district of Madhya Pradesh: it represents the god standing under the canopy formed by the seven hoods of the snake, holding musala and hala in his right and left hands respectively and wearing kundalas differing from one another in form, his eyes being shown rolling. In later art, hala and musala are his constant emblems. A four-armed sandstone figure from Paharpur (late Gupta period) depicts him standing under the canopy of a six-hooded serpent, holding a plough in the upper left hand, a mace in the upper right and a drinking vessel (in which a female attendant on right is about to pour wine from a handled jug) in the lower right, the lower left hand resting on his thigh. The two kundalas he wears are of different designs, one being apparently of the conchshell bangle and the other of the makara-kundala type (Fig. 8). It seems that later artists modified the iconographic formula of showing Balarāma with only one kundala and represented him wearing kundalas in both the ears but of different shapes and materials.

PRADYUMNA. He is simply described as carrying a bow and as being of comely form, probably because he was regarded as identical with Kâmadeva (Pradyumnaś = cäpabhṛt surūpaś = ca, LVII.40).

1. V. S. Agrawala, Brahmanical Images in Mathura Art, p. VIII.
2. Mathura Museum, Nos. C 19, D 36, etc.
3. G. H. Khare, Murti-vidyana, Pl. XI.
4. MASI, No. 55, p. 45, Pl. XXII (b).
5. For a Kuśâna terracotta figure of Kâmadeva from Mathura standing on the prostrate body of Surpaka holding a bow and a sheath of arrows in his left and right hands respectively see V.S. Agrawala, Indian Art, p. 316, fig. 241.
Śamba. We have seen above the role that Śamba played in introducing the new form of the solar cult. It was probably due to this reason that Śamba was expelled from the galaxy of Brāhmaṇical gods and his image is not described in most of the Purāṇas. But a Sun-worshipper as he was, Varāhamihira accords him the divine status due to him and lays down that he should be shown with a mace in his hand (Śambaḥ = ca gāḍāhastaḥ, LVII.40). Utpala adds that he should be represented as two-armed (dvibhujā). Similar direction for making his image is contained in the Viṣṇudharmottara which adds that he should have a very comely appearance (BK, III, Ch. 85: Śambaḥ kāryo gāḍāhastaḥ surūpas = ca viśeṣataḥ). No image that may be definitely said to be Śamba’s is known. But a Mathura sandstone figure of the Kuśāṇa period holding a club in his right hand and a staff in the left and riding in a car which is taken to be Śīrya by A. K. Coomaraswamy is regarded by J.N. Banerjea as an image of Śamba. Similarly, another image of the same period, holding a cup and a staff in his left and right hands respectively and flanked by two small female figures is a Bacchanalian Yākṣa according to Coomaraswamy but Śamba according to Banerjea.

Śaiva gods

GANEŠA. The genuineness of BS, LVII.58 which describes iconographic features of the lord of the Pramathas (Pramathādhipa), i.e., Gaṇeśa, is doubtful. It is not found in most of the manuscripts. Although Kern retains this couplet within parenthesis (Bibliotheca Indica ed. Ch. 58, v. 58), he

1. Another reason of his expulsion may have been his birth from Jāmbavatī, the non-Aryan consort of Vāsudeva. According to epic and Purāṇa tradition, she was a daughter of the Rōṣa king through Śiva’s grace. The Mahāummagga-Jātaka makes her a Cāndāla woman. See Comprehensive History of India, II, p. 388.
3. JISOA, XII, pp. 129 ff.
4. Coomaraswamy, History of Indian and Indonesian Art, p. 68.
5. JISOA, XII, pp. 129-34.
6. प्रभाचिरियो गंभीरः प्रलम्बजरः कुठारधारी स्यात्।
एकविषाणो विभ्रमालङ्करः सुनीलदलङ्करः॥
suggests it to be an interpolation. It is included in V. S. Sastri’s edition (Ch. 58) which does not even bracket it. It is altogether omitted by Sudhakara Dvivedi. It may be pointed out that a lengthy quotation from Kāśyapa extracted by Utpala first describes the image of Vināyaka, i.e. Gaṇeṣa. But as this extract from Kāśyapa also describes the icons of Vitastā, Narasimha, Varāha and Caṇḍikā not described by our author, the same cannot be taken to prove the authenticity of the verse in question. Be that as it may. Varāhamihira’s knowledge of Gaṇeṣa, however, can be inferred from the facts that at least once he mentions Vināyaka in singular (i.e. Gaṇapati, XLV.12) and pays obeisance to Gaṇeṣa in the beginning of the Tīkanikayātra (I.2), probably because he had come to be regarded as the remover of obstacles. It will not be quite out of place here to make a cursory survey of the various vicissitudes through which this cult had to pass. The oldest authoritative account of the propitiation of the Vināyakas is to be found in the Māṇava-grhyasūtra (II. 14) which gives their number as four, viz., Śālakaṭaṇkaṭa, Kuśmāṇḍarājaputra, Usmita and Devajajana. The Tājñāvalkya-smṛti (I.271) states that Vināyaka was appointed by Rudra and Brahmā as leader of the Gaṇas and assigned the function of removing obstacles in human acts. It mentions the above-mentioned four Vināyakas (Sammita for Usmita) but regards them as the four names of one Vināyaka who is described as the son of Ambikā (ibid, I.285). Thus the four Vināyakas of the Māṇavagrhya are transformed into one Vināyaka-Gaṇapati. But Sir R. G. Bhandarkar questions the authenticity of the Gaṇapati-prakaraṇa of the Tājñāvalkya-smṛti, places it not earlier than the sixth century A.D. and suggests that the cult of Gaṇa-

1. एकदेत्रो ग्रहंकर्तव्याविलक्ष्याय: ।
   लम्बोदरम् स्मृत्व, नात्र मुख्यविवृत्ति: ॥

2. The Baudhāyana-dharmaśūtra (II.5.83-9) which prescribes the propitiation of Vighna, Vināyaka, Vira, Stūla, Varada, Hastimukha, Vakra-śūndha, Ekatuṇḍa and Lambodara, is of doubtful authenticity.

3. The Baijavāpa Gṛhya, cited by Aparārka on Tājñāvalkya I. 275, replaces Usmita and Devajajana by Sammita and Mita.

4. Viśvarūpa and Aparārka take the Vināyakas to be four; but Vījñāneśvara makes them six by regarding Śāla and Kaṭaṇkaṇaṭa, and Kuśmāṇḍa and Rājaputra as distinct.

5. Vaiṣṇavism, Śaivism etc., p. 212.
pati must have come into vogue ‘between the end of the fifth and the end of eighth century.’ This view must be substantially modified in view of the fact that Mathura and Bhitargaon Brick temple have yielded Gana\(\ddot{a}\)pati figures assignable to the early Gupta period. That the cult of Gane\(\ddot{s}\)a must have developed considerably prior to Var\(\ddot{a}\)hamihira is apparent from his salutation, among others, to this god. It must be mentioned here that Gane\(\ddot{s}\)a is the first in the list of gods invoked by him. The long catalogue of the descriptive names of Gane\(\ddot{s}\)a in the Amarako\(\ddot{s}\)a (I.1.38), which must have been composed not later than the 5th or 6th century, also points to the same conclusion. To sum up, the concept of Gana\(\ddot{a}\)pati must have been in existence in 3rd or 4th century and the date of the Gana\(\ddot{a}\)patipra\(\ddot{k}\)arana of the T\(\ddot{a}\)j\(\ddot{n}\)avalkya-smriti need not be brought down to the sixth century A.D. It is interesting to note that Var\(\ddot{a}\)hamihira also knows numerous troublesome Vin\(\ddot{a}\)yakas and Gana\(\ddot{s}\)as whom he associates with such demoniac beings as Pi\(\ddot{s}\)\(\ddot{a}\)cas, R\(\ddot{a}\)ks\(\ddot{a}\)s\(\ddot{a}\)s, serpent\(\ddots\) and Asuras (e.g. LVIII.9).

SKANDA Versus VI\(\ddot{S}\)\(\ddot{A}\)KHA. The worship of Skanda appears to have gained in popularity in early centuries of the Christian era, more particularly in the Gupta age. Skanda-K\(\ddot{a}\)r\(\ddot{t}\)ti\(\ddot{k}\)eya was the tutelary deity of the Yaudheyas; the Gupta emperor Kum\(\ddot{a}\)ragupta, though styled Parama-Bh\(\ddot{a}\)gavat\(\ddot{a}\) in his inscriptions and coins, was a worshipper of this god as can be judged from the first part of his and his son’s (Skandagupta’s) names, from the replacement of the garuda\(\ddot{a}\)dvaja motif by that of peacock, the vehicle of Skanda, and from the representation of the latter on some of his coins. Under the name Mah\(\ddot{a}\)sena, Skanda was the tutelary deity of the early Kadambas and of the early C\(\ddot{a}\)lukyas. The Bilsad stone inscr. of the time of Skandagupta refers to an ancient shrine dedicated to Sv\(\ddot{a}\)mi-Mah\(\ddot{a}\)sena. K\(\ddot{a}\)lid\(\ddot{a}\)sa in his Kum\(\ddot{a}\)rasam\(\ddot{a}\)kava immortalises his birth-story.

3. IA, VI, p. 27.
5. CH, III, No. 10, p. 44, l.8. For other inscriptions connected with the worship of Skanda, vide Ibid., No. 42, l.6; No. 79, p. 286; No. 39, l.49; No. 12, l.9.
It is now usually believed that Skanda and Viśākha along with so many other names denote one and the same deity, i.e. Kārttikeya. Varāhamihira, however, seems to regard these as names of two distinct gods as can be inferred from the use of the two words in one and the same line of a stanza, one following the other immediately: In XLV.11 it is stated that an unnatural behaviour on the part of the images of Skanda and Viśākha spells evil to feudatory rulers (Skanda-Viśākha-samutthānam māṇḍali-kāṇām narendrāṇām), while XLVII.26 prescribes the drawing and propitiation, among others, of the figures of Skanda and Viśākha as a preliminary to the Puya-snāna rite (Skandaṁ Viṣṇuṁ Viśākhaṁ ca). Commenting on the first line, Utpala says that Skanda is the same as Kumāra and Viśākha is a certain god (deva-viceṣaḥ) ; in the second instance he understands Viśākha as the graha of Skanda (Viśākham Skandagraham).

For a satisfactory explanation of this curious feature, we have to go back to earlier literary and numismatic evidence. While commenting on Pāṇini V.3.99 (Jīvik-ārthe c—aṇyaye), Patañjali in his Mahābhāṣya mentions the images of Skanda and Viśākha (aṇyaye ity—ucaye tatr—edam na sidhyati-Śivah, Skandah, Viśākha iti)², indicating that he considered them as distinct from one another. The same inference can be drawn from his reference to the compound Skanda-Viśākha in his commentary on a vārtika on Pāṇini VI. 3.26.³ Further, among the coins of Huviṣṭa (2nd century A.D.), we have two types which have an important bearing on the present question: one of them bears on the reverse the figures of two gods who are named Skanda-Kumāra and Viśākha, while the other has three deities called Skanda-Kumāra, Viśākha and Mahāsena.⁴ This fully demonstrates that these were names of three distinct gods and not different names of one and the same god. Our evidence leaves no room for doubt that even in the sixth century A.D. Skanda and Viśākha were worshipped as two separate gods.

4. Gardner, Catalogue of Indian Coins in the British Museum, Scythians and Parthians, Pl. XXVIII, figures 22-23 (Skanda and Viśākha), 24 (Skanda, Mahāsena and Viśākha). Bhandarkar’s view that here we have representation of three and four gods respectively is incorrect.
Only half a verse is devoted to the description of Skanda's iconography. It lays down that Skanda has boy-like appearance, carries a śakti (spear) and has a peacock for his ensign (Skandaḥ kumāra-rūpāḥ saktidharo barhi-ketuḥ = ca, LVII.41). Elsewhere he is described as six-faced (ṣaḍvakra, XCVIII.1). It is curious to note that cock, which is another popular emblem of the god, is not noticed. It is, however, mentioned in a couplet of Kāśyapa extracted by the commentator which states, 'Skanda has peacock for his mount, holds a spear and a cock in his hands and has a handsome and child-like appearance (Mayūra-vāhanah Skandaḥ śakti-kukkuta-dhārakāh, Surāpadeho vikrānto devaḥ senāpatiḥ1 śisūh2). It is interesting to note that peacock as an emblem of Skanda is mentioned in the Apsah stone inscr. of Ādityasena 3 and Alina copper-plate inscr. of the Maitraka ruler Śilāditya VII.4 His oldest anthropomorphic representation is to be found on coins. On one of the silver5 and some copper coins6 of the Yaudheyas dating from the 2nd century A.D. he (called Brahmānideva there) is shown six-headed and holding a long spear in the right hand, the left one resting on his hip. On class 6 of their money belonging to the 3rd-4th centuries A.D., we find a new feature, his mount peacock7. On some coins of Huviṣka, Mahāsenā is shown holding a standard surmounted by a bird which, according to Dr. J. N. Banerjea, may be peacock.8 On the reverse of a type of Kumāragupta's money also we come across this god holding a spear in his left hand and seated on the peacock mount.9 The same tale is told by the plastic art. In some early Kuṣāṇa sculptures in the Mathura Museum he appears

1. It may be suggested here that 'devaḥ senāpatiḥ' would be a better reading in place of 'devaḥ senāpatiḥ'.
2. BS (Dvivedi's ed.), Vol. II, 786.
3. CHI, III, No. 42, p. 203, i.6; Hara iva sikhicāhano tanayam
4. Ibid., No. 39, p. 177, i.49, sikhādi-ketana; No. 79, p. 286, mentions Kārttikeya as god of war.
5. BMCAl, pp. cxlix, 270, Pl. XXXIX, 21.
6. Ibid., pp. cl, 270-71, Pl XXXIX 20; XL 10, 11, 12.
7. Ibid., p. cl, Pl. XL-1-7. For Kārttikeya on uninscribed copper coins from Ujjayini see ibid., Pls. XXXVIII-1-17, XXXVII. 19.21 (single-headed), XXXVII.18-22 (six-headed).
8. For a learned discussion of the numismatic material, vide DHI, pp. 141-46.
9. CCGD, Pl. XV, figs. 5-14; Altekar, Coinage of the Gupta Empire, Pl. XIII.11-14.
two-armed, holding a spear in his left hand, the right one being shown in the abhayamudrā (Nos. 1022, 1577, 2019). His peacock mount makes its appearance in the Gupta art. A very fine sculpture illustrating the scene of his consecration by gods at the head of devasena is also to be seen in the same museum (No. 466). A beautiful red sandstone relief now preserved in the Bharat Kala Bhavan, Varanasi, shows him holding a spear in his left hand and seated on a peacock whose outspread plumage forms his prabhāmandala (Fig. 9).¹

The Saura god—REVANTA. Revanta, son of Sūrya by Saṃjñā, is a creation of Paurāṇic mythology. It is laid down that he should be shown riding on the horse-back and accompanied by attendants engaged in hunting and sport (Revanto = śv-ārūḍho mṛgayā-kriḍ-ādi-parivāraḥ,² LVII.56). The Viṣṇudharmottara states that Revanta should be represented in the manner of Sūrya riding on the horse-back (III.70.53). This god appears to have gained some popularity in the mediaeval period and is still worshipped in Bengal. An Akaltara inscr. of the time of the Kalacuri king Ratnadeva II informs us that his feudatory Vallabharāja built a temple of Revanta at Vikarṇa- pura, modern Kotgadh³. The Brhat-samhitā description is fully corroborated by some late specimens preserved in Indian Museum, Calcutta and Rajashahi and Dacca Museums. A beautiful image of this god from Bihar shows Revanta on horse-back holding reins in his left hand; he is followed by two dogs, one running under the horse and the other chasing a deer, two antelopes in front of the horse; an archer ready to shoot the deer; two drummers, two cymbal-players, an umbrella-bearer, two pole-bearers, one water-carrier; another attendant carries some kind of game on his shoulders, probably a boar, while a number of armed attendants are marching in front of the cortege.⁴

¹ For a Kārttikeya image from Kanauj see IA, AR, 1960-61, Pl. LXXIX.13.
² Cf. Utpala’s remarks:—

व: परिवार सः मूलायुक्तः कृदयुक्तः आदि-प्रहणादवाहवाहने तपरीक्षण तदन्वेषपादि ।

³ Bhandarkar’s List of Inscriptions of Northern India, No. 1584; CII, IV, No. 95, l. 26.
⁴ Bidya Binod, An illustrated Note on an Indian deity called Revanta,
III. Goddesses

The goddesses played a comparatively insignificant role in ancient Hindu religion. Varāhamihira mentions many goddesses. We shall first refer to those about whom some details are given.

DIVINE MOTHERS. The Divine Mothers who are referred to by our author as Mātrgana (LXVII.66) or Mātarah (XLVII.68; and other plural forms of the word mātr, e.g. Mātrybhīṣ, XLVII.26; Mātṛnāṃ, LIX.19) and described as universal mothers (vīśvasya mātarah, XLVII.68) are personified female energies of principal gods. According to Paurānic mythology, these Mātrkās were created to assist Śiva in his fight against the demon Andhakāsura.1 According to the Mārkandeya-purāṇa, the Śaktis of Brahmā, Śiva, Guha, Viṣṇu and Indra originated from their bodies to help Caṇḍikā in her combat with the Asuras.2 The number of the Mātrkās was originally seven but was afterwards increased to 8, 9, 12 or even 16. Varāhamihira is silent about their number, but his scholiast first mentions Brāhmī, Vaiṣṇavi, Raudrīs, Kaumārīs, Aindrīs, Yāmīs, Vāruṇīs and Kauverīs and next names Nārasīnḥī, Vārāhī and Vaināyakī. In the opinion of the present writer this refers to the conditions in the 9th century.

JASB, 1909, pp. 391-92, Pl. XXX. For some other Revanta figures vide N. B. Sanyal, A New Type of Revanta from Dinajpur District, IHQ, III, pp. 469-72 and plate facing page 469 (The author quotes original texts from the Viṣṇu, Mārkandeya and Kālikāpurāṇa throwing light on Revanta's iconography); N. K. Bhattasali, Iconography of Buddhist and Brahmanical Sculptures in the Dacca Museum, p. 177, Pl. LXII (a); MASI, No. 23, Pl. XLVI (a); ASI, AR, 1928-29, Pl. LIV (b).

1. T. A. G. Rao, Elements of Hindu Iconography, I, pp. 381-2. According to the Suprabhedagama, however, the Mātrīs were created by Brahmā for killing Nairṛta: Nairṛtasya vadh-ārthāya Brahmāha c-āpi nirmitāḥ (quoted by D. N. Shukla in Pratimalakṣaṇa).

2. ब्रह्महृदविष्णु तथेऽन्तर्य च भक्तयः।
शरीरस्यो विनिष्क्षय तद्वैकृष्णिकाः ययुः॥
यस्य देवस्य यदृ हुष्य यथाभूमिणवाहनम् ॥
तदैव हि तच्छक्तितंसुरानम् योढ्यादे माययो॥

Mārkandeya-purāṇa, LXXXVII. 12-3.

3. एवमन्यायों नारिक्षिवसाराहिरभवानकस्तनामेवात्महुः॥

on LVII.56.
A.D. when the commentator flourished and not during Varāhamihira’s time. For the preamble of the early Cālukya inscriptions shows that the number of the Mātrkās was fixed at seven in the 6th-7th century; the Cālukyas are represented as nurtured by the seven Mothers (Saptamātrāhīr = vardhitānām).\(^1\) The evidence of sculpture is instructive on this question: In Kuśāna art ‘even two, three and more (Mothers) are shown in a group, which shows that their number was elastic.\(^2\) The popularity of the Mātrkā cult in the Kuśāna and Gupta periods is amply testified to by the evidence of art\(^3\) and inscriptions. It was closely associated with the Tāntrika form of Śaivism. A special mode of propitiating the Mothers had already developed and was called maṇḍalakrama.\(^4\) While treating of the consecration of the images of various gods, Varāhamihira lays down that the Mātr images should be installed by persons well-versed in the special mode of their worship and according to Utpala this implies the manner prescribed in their own Kalpa.\(^5\) It is interesting to note in this context that the Gangdhar stone inscr. of Viśvavarman (A.D. 423-25) speaks of building a ‘very terrible abode......filled with the female ghouls, of the divine Mothers, who utter loud and tremendous shouts in joy, (and) who stir up the very oceans with the

\(^1\) IA, VI, p. 74; VII, p. 162; XIII, p. 137f. They were also tutelary deities of the early Kadambas, vide IA VI, p. 27.

\(^2\) V. S. Agrawala, Brahmanical Images in Mathura Art, preface, p. XI, Nos. 880 (two) F, 34, 1962, 2005, 1024 (three Mothers). It shows that the Mother goddesses could be shown in early art in any number less than seven.

\(^3\) A number of Kuśāṇa sculptural panels are described by V.S. Agrawala in his Brahmanical Images in Mathura Art, pp. 59 ff.

\(^4\) Utpala explains it simply as Pājā-krama. It must, however, refer to the magical circles (maṇḍalas) which form an essential aspect of Tantric ritualism. It is noteworthy in this connection that almost all the 6-4. Yogini temples (e. g. Bheraghat, Ranipur Jharial, Mitali, Dudhai), which are closely connected with the mother goddess cult, are circular in plan. The maṇḍala ceremony played an important part in Śaiva ritual also when it came under the impact of Tantricism. cf. Harṣacari, pp. 155, 164.

\(^5\) मातामार्गिय मण्डलक्रमविद् रेष । मण्डलक्रमविद्यो ये मण्डलक्रम पुजाक्रम विद्यया जानतिं तत्तु स्थापकानां बिहुः ।……मातामार्ग स्वकल्पविहितविधि विधानेन ॥
mighty wind rising from the magic rites of their religion.\(^1\) A Gupta inscription engraved on a rock-tablet in the Pathari hill (Bhilisa) records the execution of a panel of Saptamātrkās near which the inscription is engraved.\(^2\)

As to their representation in art, Varāhamihira simply states that ‘the Mothers should be shown with the emblems of the gods corresponding to their names (Mātrganyah kartavyah svanāma-dev—anurūpa-cihna-kṛtah, LVII.56). A similar statement about their sculptural representation is contained in the Mārkanḍeṇa-purāṇa which lays down that the Saktis of individual gods are to be provided with the form, ornaments and vehicles of their representative gods.\(^3\) Utpala quotes extracts from the previous verses of the chapter giving iconographic features of corresponding gods and then observes that ‘they should be endowed with beautiful breasts, slender waist and heavy hips so that female beauty may be created’.\(^4\) We have collective as well as separate representations of the Mothers. The earliest specimen of the Saptamātrkās is No. F 38 of the Mathura Museum (also No. 126) belonging to the early Kuṣāṇa period. This is the simplest specimen in which the goddesses are shown ‘without any distinguishing vehicles, faces or attributes.’ Later on even in the Kuṣāṇa period, various kinds of distinctions make their appearance. Relief No. 552 in the Mathura Museum, for instance, shows a row of seven Divine Mothers, each holding a child in left arm; the first is Brāhmī having three heads (it being impossible to show the fourth head) and holding a ladle in her right hand, her vehicle being swan; Māheśvarī is shown standing with a triśūla, against her mount, a bull; Kaumārī holds a ṣaktī and has peacock

\(^1\) Madhva (taha) naḥ śramudayatvamātyavarchināḥBHāvvinām, 

\textit{tanaśeṣo bhūtābhshedupadeśitaḥbhūtvinnām}.

\textit{CII, III, No. 17, pp. 76, 78.}


\(^3\) See supra, p. 154, fn. 2.

\(^4\) Kintu tāsāṁ stānāvibhāma madhyakāmata nityānubhūtyām kāyaṁ yena pravrāṇaṁ 

\textit{Bṛhat Samhitā of Varāhamihira}
for her vehicle; Vaiśnavī is shown with a mace and a kneeling garuḍa as her mount; Vārāḥī is represented with a broken staff and standing against her mount, a māhiṣa; Indrāṇī held an object, now broken, which was probably a vajra, and has an elephant for her vehicle; and, lastly, Cāmuṇḍā with her preta-vāhana, garland of skulls (muṇḍa-mālā), emaciated body and sunken belly. On proper right of the row is Vīrabhadra and on the left Gaṅapatī¹, both of whom replaced the āyudhapuruṣas whom we meet in earlier specimens.² A number of Sapta-Māṭrākā panels as well as images of individual mother goddesses of later date are known³ which it is neither possible nor necessary to describe here.

EKĀNAMŚĀ. Another goddess about whom we get some details is Ekānaṁśā. Her origin is given in the Harivamśa (Chs. 58-60) which states how at the request of gods Viṣṇu decided to be born as Kṛṣṇa in the womb of Devaki, Vasudeva’s wife, ordered the goddess Nidrā to be born as the daughter of Nanda Gopa and Yaśodā and told her that when struck against a rock by Kaṁsa (for killing her), she will escape to the sky assuming four arms and holding a trident, sword, wine cup and lotus. She is named Ekānaṁśā and said to have been born from Prajāpatī’s particles.⁴ It would thus appear that she was closely associated with Vāsudeva-Kṛṣṇa. That she enjoyed considerable popularity in the 6th century A.D. is proved by the fact that in a small chapter of fifty-seven verses dealing with iconometry and iconography she claims as many as three verses while much less space is allotted to such important gods as Indra, Brahmā, Skanda, etc. Another peculiar feature about Ekānaṁśā that appears first in our work is her association with Baladeva. She is called Vaiśnavī Śakti

¹ It is curious to note that the Bihar stone pillar inscr. of the time of Skandagupta associates Skanda with the Divine Mothers: Skanda-pradhānāir = bhūvi māṭrībhiṣ = ca, CI, III, No. 12, p. 49, l. 9.
² Mathura Museum Nos. F. 38, F. 39, G. 57, 126, 1179, etc.
³ For a beautiful but late Sapta-Māṭrākā panel from Haveri (Dharmdad) beginning with Vīrabhadra and ending with Gaṇeṣa, see G. H. Khare, op. cit., fig. 76. For some separate reliefs from Puri and other places in Orissa vide DHI, PIs. XLII-XLIV.
⁴ For relevant text of the Harivamśa vide JRASB (Third Series), 1936, pp. 41-2, not.
in the *Mārkandeya-purāṇa* (XCl.4) As many as three varieties of her image, viz. two-, four-, and eight-armed, are described by Varāhamihira. He states: 'Ekānamśā should be placed between Baladeva and Kṛṣṇa; (if she is intended to be shown two-armed) her left hand should rest on her hip, the right one carrying a lotus. If she is to be represented four-armed, she should hold in her left hands a book and a lotus, one of her right hands being in boon-giving (*vara*) pose and the other holding a rosary. When she is to be represented with eight arms, her left hands should carry a kamanḍalu, a bow, a lotus, and a book, while her right hands should hold an arrow, mirror and a rosary, the remaining one being shown in the *varada-mudrā*.’ The *Viṣṇudharmottara* (III.85.71-2) describes two-armed Ekānamśā in almost identical words. Curiously enough no image exactly agreeing with our description is known. Slab No. G 58 of the Provincial Museum, Lucknow, is of some interest in the present context (Fig. 10). It depicts a two-armed female figure flanked on each side by a male figure with four arms which give us the impression of his divinity. The female figure holds a lotus stalk in her left hand while ‘the open palm of the right bears a lotus mark and is let down in boon-giving posture.’ The central position of the female figure leaves no doubt about her divinity and the importance attached to her. Rai Bahadur Prayag Dayal, the then Curator of the Museum, ‘tentatively’ identified the two male figures as Rāma and Lakṣmana, and

1. In the *Viṣṇu* and *Brahma* Purāṇas she is called Yoganidrā, Mahāmāyā and Vaiṣṇavi.

2. एकानंश्वा कार्या देवी बलदेवकृष्णयोक्त्ये।

   कार्तिकेश्वरांतमः स्वरोजःमितरेण चोड़क्ति।

   कार्या चतुःश्च या वामकर्कामाय लुप्तस्तं कन्दलम्।

   व्रतमप्पूर्णवाकाक्षुः वर्षाप्रपञ्चकृष्णाला।

   वामेद्याग्निहर्षायाः: कमलदृश्वाक्षमथ्यं शास्त्रम्।

   वरसर्वप्रपञ्चकृष्णात्: साक्षमः: साश्वातः।


3. Utpala defines *varada* as the pose in which the palm is shown inside-out with fingers pointing downwards—उत्तानोज्यो: कङ्कितहस्तो वरदः (on *LVIII*.38).

4. एकानंशापि कंठविद्या देवी पद्मकरं तथा।

   कार्तिकेश्वरांतमः सा मध्यस्थः रामकृष्णायोः।

   *LVII*.40.
the central female figure as Sītā. J. C. Ghosh proposed to identify this composition as Baladeva, Ekānariśa and Vāsudeva-Kṛṣṇa. According to D.P. Pandey, on the other hand, the images represented in the slab are Balarāma, Rukmiṇī and Vāsudeva-Kṛṣṇa. Drs. R. C. Majumdar and J. N. Banerjea invite our attention to a similar composition in bronze from Imadpur in Bihar: the two-armed goddess standing on a lotus-seat with her right hand in the boon-granting posture and the left holding a mirror is flanked by four-armed Balarāma and Kṛṣṇa on her proper right and left respectively. The female figure in these compositions, it would appear, does not correspond to the description of the two-armed Ekānariśa set forth above.

Śaci (also called Māhendrī and Indrāṇī), the consort of Indra, was regarded as an ideal of wifehood and was worshipped by girls before marriage (VP, 9-14). This custom is even now in vogue in certain parts of India. On some occasions she was to be worshipped along with her male counterpart (XLV.80).

The legend that Pārvatī, consort of Śiva, was the daughter of the mountain Himavat had developed and she is accordingly called Adrisutā (IV.30) and Śailasutā (VIII.24). As we have seen above, besides being represented independently, she was also shown in an androgynous form with Śiva.

The wives of some of the Vṛṣṇi heroes also appear to have been apotheosised and worshipped. Varāhamihira tells us that the wives of Pradyumna and Śamba should be shown holding a shield and a sword (Anayoḥ striyau ca kārye khetaka-nistriṃśa-dhārīnyau, LVII.40).

Mention is also made of the figures of the sons, daughters,

1. JUPHS, 1935, Part II.
2. JRSB (Third Series), II (1936), pp. 41-6.
3. JBORS, XXVII (1941), pp. 50-60.
4. JRSB, Letters, XVI, No. 2, 1950, pp. 245-51, Pl. XII.
5. Cf. CII, III, No. 33, p. 146, l. 1, where she is called Kṣitidhara-tanayā.
wives, attendants\(^1\) and mothers\(^2\) of gods, Sarasvati\(^3\), abstract goddesses like Kirti, Lakṣmi, Dhṛti, Śrī, Svāhā, Siddhi, the wives of Kāśyapa such as Danu, Suraśā, Vinatā and Kadru, Aditi, the mother of gods called Ādityas, and Diti, the mother of Daityas (XLVII.56-58).

IV. Gaṇa-devatās or Groups of Divinities

Varāhamihira refers to certain groups of divinities who are classed as gaṇa-devatās in the Amarakoṣa.\(^4\) The Ādityas are mentioned in connection with Indra’s consecration (XLVII.56). Their number is variously given as seven or eight in the Rgveda (9.114.3; 10.72.8) and as twelve in the Satapatha-brāhmaṇa (VI.1.2.8; XI.6.3.8). In the post-Vedic period they were regarded as the twelve sun-gods connected with twelve months of a year.\(^5\) Viśvedevāḥ, All-Gods, who preside over the eighth quinquennial yuga of the Jovian cycle, the constellation of Uttarāṣāḍhā, and the Paurṇamāsi and are said to have given an ornament to Indra’s flagstaff,\(^6\) are ten in number according to popular notions.\(^7\) The Vasus are repre-

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1. XLV.13; Cf. XLVII.26, 58 for references to consorts of gods.
2. XLVII.58.
3. XLVII.56; XXVI.2 (where balance is called Sarasvati); TY, I.2 (where she is invoked along with Viṣṇu, Brahmā, etc.).
4. आदिष्ठ-विषव-वसवस्तुषिता भास्त्रानितम्:।
   महाराज्ञिक-साध्वाश्च ह्रस्वच गणदेवत:॥
   
   Amarakoṣa, I.1.10.
6. VIII.23, 41; XCVII.5; XCVIII.1; XLII.47. The mantras addressed to them are referred to in XLIII.6.
7. Cf. the following verses cited from an unnamed source by Bhānuji Dikṣita in his commentary on Amara I.1.10:
   आदिष्ठो व्रहस्पत प्रभुत्वाद विस्वदेवाः दस स्मृता:।
   वसवस्तुषित: परः प्रभुत्वाद मत:।
   आभास्त्राश्च: प्रित्वाद: पन्चवासुदूनका:।
   महाराज्ञिकनामानो द्वे घये विस्ताशिरस्त्वा॥
   साध्वाः ह्रस्वच विस्वात: ह्रस्वचाकाश शमृता:॥
sented as led by Indra in the Rgveda and by Agni in the Brāhmanaś. Their number is variously stated to be 8 or 333,1 the former being generally accepted. In our work the word vasu is used to denote the numeral 8 (XCVII.1, 2). Though the Rudras (XLVII.56) are said to number thirty-three in the Taittiriya-sanhitā, their popular number is eleven according to to the Brāhmaṇaś.2 Our author employs the word Rudra in the sense of the numeral 11 (VIII.20; XCVII.1). Two of these Rudras are named by Varahamihira: Ajapāda (Ajaikapāda) and Ahirbudhnya, lords of Pūrva— and Uttara—Bhadrapadā respectively.3 The latter was also believed to preside over the sixth yuga of the Jovian cycle (VIII.23). The figures of the Rudras were to be drawn and worshipped as a preliminary to Pusya-snāna (XLVII.26), but no details about their iconography are given. The Maruts referred to under the name Marudgaṇa (XLII.52; XLVII.55) are evidently the same as the deity-group called Anilāh in the Amarakośa. In the Vedic pantheon Maruts were deities of lightning, and specially associated with Indra in the Vṛttra episode, their number being thrice sixty or thrice seven.4 According to a verse quoted by Bhānuji Dīkṣita in his gloss on the Amarakośa (I.1.10) they number forty-nine. The Sādhyas are mentioned in connection with Pusya-snāna (XLVII.55), their number according to the popular notion being twelve.

LOKAPĀLAS. By far the most important group of the Paurāṇic pantheon was that formed by the guardians of quarters and intermediary directions variously called Lokapāla (XLV.10; XLVII.26; XLII.57), Dīgīśa (BY, XX.1; YY, IX.2), Dīgīśvara (BY, XVI.1) or Diṁnātha (YY, VI.19).5 The concept of the guardians of the quarters is of high antiquity and goes back to the Atharvaveda and the Taittiriya-sanhitā (V.5-10). According to Varahamihira, Indra, Agni, Yama, Nirṛti, Varuṇa, Vāyu, Indu (Soma) and Śaṅkara are the lords of the east, south-east, south, south-west, west, north-

1. Macdonell, op. cit., p. 130.
2. Ibid., p. 130.
3. XCVII.5. It may be pointed out here that in the Āgamas the name Ajaikapāda is split up into Aja and Ekapāda who are regarded as two distinct Rudras. Vide D.N. Sukla, Pratīma-lokaṇa, pp. 184 ff.
5. Cf. diṁnāḥ patayaḥ, LIII.3.
west, north and north-east respectively.\footnote{1} This list is at
divergence with the stereotyped one of the Purāṇas in which Kubera,
not Soma, is the governor of the northern quarter. At the
same time, it is curious to find our author referring to the
northern region by the name Kauberī, meaning the direction
governed by Kubera, (XIII.1; XLVII.18; LXXXVI. 25). What is still more interesting is that in his Yogayāṭrā (VI.1)
he substitutes Yakṣa for Indu (Soma) as the ruler of the north.
There can be no doubt whatsoever that Yakṣa here stands for
Kubera, the Yakṣa king. It indicates that the list of the
protectors of the quarters was not yet completely stereotyped.\footnote{2}
We have noticed above details about all these deities except
Soma about whom something more will be said in connection
with the Navagrahas. It will appear that some of the promi-
nent Vedic gods were reduced to the insignificant position of
the Dikpālas and none of them except Śaṅkara (Śiva) was now
a cult god.

The honour of protecting the quarters was also shared by
eight planets, Ketu being excluded from the list. Thus the
Sun, Venus, Mars, Rāhu, Saturn, Moon, Mercury and Jupiter
are associated with Indra, Agni, Yama, Nirṛti, Varuṇa, Vāyu,
Yakṣa (Kubera) and Śiva respectively in their lordship of the
various quarters\footnote{3}, as stated above. Varāhamihira in his
Bṛhadyāṭrā enjoins upon a king undertaking a military expedi-

\begin{footnotes}
\footnotetext[1]{पुढुहृतान्तन्त्रविद्वा: क्षमस: प्राच्याधारान्तः दिशापत्यः पतयः: LIII.3.}
\footnotetext[2]{पुढुहृतान्तन्त्रविद्वा: क्षमस: प्राच्याधारान्तः दिशापत्यः: LXXXV. 75.}
\footnotetext[3]{The Mahābhārata (Karna-parva, XLI.32) also names Soma as the
lord of the northern quarter.}
\end{footnotes}
tion to meditate upon the regent of the quarter concerned. We learn from the Yogayātrā (VI.1-18) that kings while proceeding on an expedition carried the image of the particular Lokapāla and of the planet in front, e.g., images of Indra and the Sun while marching eastward. Quintus Curtius (VIII. 14.11) tells us that while marching against Alexander, the forces of Porus carried the image of Hercules aloft. E. R. Bevan thinks the image may have been either of Kṛṣṇa or of Indra. But in the light of the evidence set forth above for the first time, it may be suggested that the image in question must have been that of a Dikpāla.

V. Demi-gods (Devayonis)

Indians, from very ancient times, believed in the existence of semi-divine spirits or devayonis. Of them, Vidyādharas, Apsarases, Yakṣas, Rakṣas, Gandharvas, Kinnaras, Piśācas, Guhyakas, Siddhas and Bhūtas are mentioned by our author. The Amarakoṣa, it is interesting to note, classes them all as devayonis (I.1.11). Vidyādharas (XIII.8) and their consorts are described as living on the peaks of the Vindhyā mountain (XII.6). The wars of the Vidyādharas (IX.38) and their destruction therein (IX.27) are referred to. Apsarases were the divine damsels (divyāstrī, XLV.89), who were to be worshipped as a preliminary to the ceremony of Pusya-snāna (XLVII.25, 58). Their sight in autumn was considered to be auspicious (XLV.89). Yakṣas (XIII.8) are also called Yātudhānas whose sight was believed to cause pestilence to avert which an expiatory rite is prescribed (XLV.79). On the contrary, their appearance in Hemanta was regarded as

1. ॥ ब्रजेद् दिगीशं हृदये निवेश्य यवेन्द्रमन्द्रयामपरांस्थ तद्वर्त तु ॥

BY, XX.1.

Cf. पुष्पधातिविशं नृपोभियुज्यात् पुष्पहलं हृदये निवेश्यमययम् ॥ II.17. VI.3.

The king was also to worship the image of the protector of the direction concerned before undertaking a military campaign, cf. BY, XVI.1, which is identical with Viśvakarma-prakāśa, II.5; IT, VI.19.

2. Cambridge History of India, p. 326.

3. For a detailed discussion of this question see my article 'Hercules in front of the Infantry of Porus' in JIH, XLII, pp. 115-126.
auspicious (XLV.91). It was considered auspicious to have the
sight of the Rakṣas (XIII.11) in Hemanta (XLV.91). Gandharvas
(XIII.8; XIV.31) were the celestial musicians and the derivative
Gāṇḍharva stands for music as well as musicians. They were assigned an outer quarter in the body of
Vāstu-puruṣa (LI.44). Utpala describes the Gandharvas as horse-faced (aśvamukhā nara-devayogayāh, on XIII.8).
Kinnaras, also called Kimpuruṣas (XLVII.62), were supposed to
have horse-like faces and consequently known as Aśvamukhas
(XVI.34). Piśācas (XIII.11) are sometimes associated with
demons (XLVII.30; BY, XV.10) and in classical Sanskrit
literature, the word is loosely used to denote both a class of
demigods and demons or goblins. Varāhamihira associates
the gatherings of Piśācas (Piśāca-saṅgha) with night (XXXVIII.
4) and refers to places meant for worshipping them (Piśācālaya,
XI.3). Siddhas are mentioned in connection with Puṣya-
snāna (XLVII.55). The Guhyakas, Yakṣas, Rakṣas, Piśācas
and Bhūtas were propitiated for victory in war (BY, XV.1,10-11).
It is stated that when not propitiated they spell ruin to the
king, his conveyances or army, and when properly propi-
tiated they lead to success and cause trouble to the enemy.2
The sight of the Bhūtas in autumn is said to be favourable
(XLV.89). Mention must also be made in this connection
of the manes (piṭṛs, YY, IV.47) who were believed to preside
over the seventh yuga of the Jovian cycle (VIII.23),
the constellation of Maghā (XCVII.4) and Amāvāsyā (XCVIII.2).
Piṭṛs are represented as inhabiting the heavenly
abode of Brahmā (LXXIII.19).3 According to Utpala, Piṭṛ-
vana (XLII.13) denotes a cremation ground which, it appears,
was supposed to be haunted by them. Varāhamihira enjoints
drawing and worshipping the figures of Yakṣas, Piṭṛs, Gand-
harvas, Apsarasas and Siddhas as a preliminary to Puṣya-snāna

1. Utpala explains Piśācālaya as Takṣasthāna, confusing Piśācas
with Yakṣas.

2. अन्नगिरि नृत्य सवाहुत्त विनाशयति करणिति वा चमः ।
  सुपुजिता: सिद्ध्रक्रम भवन्ति ते प्रवाहकः: श्रुपदाये चाहे ॥
  BY, XV.14.

3. The manes, Piśācas, Rākṣasas and Bhūtas were believed to be
lurking trees and they were to be worshipped with offerings before cutting
down a tree (Vide XLII.17; LVIII.9-11).
(XLVII.25), but no information is given as to the mode of their representation. The images of Pṛṣṭ, informs Utpala, were at some places fashioned from clay (Pitarah prasiddhā bhūtajanāh lepamayāh kutsractīr kriyante). The Yakṣa cult appears to have been very popular in a few centuries preceding and following Christ. Sometimes they were treated as attendants of some major gods and sometimes they formed by themselves an object of worship. Some of the earliest beautifully finished sculptures in the round are those of Yakṣas, and reference may be made in this connection to the Parkham Yakṣa and Didarganj Yakṣini of the Maurya period.1 Vārānasī and Kurukṣetra were great centres of Yakṣa cult in ancient times.2

The hosts of Śiva called Pramathas or Gaṇas have been referred to above. There appears to have existed belief in the hosts of other gods and in those of demigods and goblins also. Thus, Varāhamihira in his Yogayātra (VI.20) and Bhṛhad-yātrā (XV.10-11) refers to the gaṇas of Indra, Viṣṇu, Agni, Yama, goblins (Niśācaras or Daityas or Asuras), Varuṇa, Mātariśvan, Kubera, Ahi, Suparṇa, Skanda, Piśācas, Yakṣas and Rakṣas whose favour was to be sought for securing victory in war. They are described as bearded, terrific, pot-bellied, hunch-backed and dwarf and as putting on topped crown (kiriṭā) and variegated garlands, ornaments and garments.3

VI. Demonology

While the gods were considered to be of benign nature and claimed spontaneous reverence of the masses, the demons inspired terror and received what may be called forced homage. The war between the gods and demons is alluded to (XLII.1-2).

1. Coomaraswamy, History of Indian and Indonesian Art (Dover ed. 1965), Figs. 9, 17
3. बुमसेमता अनुयायत्व पृष्ठो बिचित्रमाल्याभरणम्: िदेस्त्वन: ||
बिचित्रवस्त्रा जतिन: किरीटिन: करालमृश्वोदरकुल्जवामना: ||
BY: XV.12
4. Daitya XIII.11; XLII.2; LXXIX.3; Diti-tanaya, XLVII.30; Dānava, XLVII.30; XIII.11; Asura, XLII.1, 5.
The demon Bali, son of Virocana, was an object of worship, probably because he was a devout devotee of Viṣṇu. Varāhamihira lays down that his image should measure 120 āṅgulas in height (Baliś = ca Vairocaniḥ šatam viṁśam, LVII.30). Along with gods and demigods, demons were also worshipped at the commencement of some religious rites (XLVII.30), lest they might present obstructions in their completion. The gems were believed to derive their origin from the bones of Daitya Bala when he was killed by Indra (LXXIX.3). The name of the demon Vṛttra is implied in Indra’s appellation Vṛttrahan noticed above. Vātāpi is represented as hostile to gods and as the tearer of the abdomens of sages (Surarīpu, Muni-kukṣī-bhid).¹ The demonesses Carakī, Vidārikā, Pūtanā and Rākṣasī were supposed to inhabit the four outer corners of a house and as such received offerings at various stages in building a house (LII.81). Rāhu, the supposed obscurer of the sun and the moon, was regarded as an Asura (V.1, 14).

VII. Navagrahas, Nakṣatras and Divisions of Time

The nine planets (navagrahas) formed a non-sectarian object of worship. The movements of planets were believed to have immense effect on the course of worldly events in general and human life in particular. It was, therefore, quite natural to propitiate them and solicit their favour. Varāhamihira states that “when planets are pleased with a man, he will have no trouble even if he falls down from a great height or enters the midst of sporting snakes.”² Grahaśānti (XLIII.37) or Grahayajña (XLIII.14; XLVII.29; BY, XV.1; XVIII.1) was performed before launching on a military campaign.³ As we have seen above, the images of planets along with those of the Lokapālas were carried in front of an army while on march. The planets were worshipped on some other occasions also. Along with the constellations they were drawn in a circle on the ground.

1. Vide the SS couplet cited by the commentator on XII.13.

2. प्रीति: पीड़ा न स्याहुचायमि पति विश्वि यदि वा मुजंगविज्ञमिभस्मः।

3. For different sculptural materials, sacrificial fuel-sticks, flowers, priests and their fees, food, etc. in connection with Grahayajña see CIII.47; BY, Ch. XVIII.
and propitiated on the occasion of the ceremonial ablation called Pusya-snāna (XLVII.26, 29). In order to make predictions about rainfall and crops an astrologer went to a place north or east of a city or village and drew on ground planets and constellations and worshipped them (XXIV.6). The figures of Jupiter, Venus and Saturn are alluded to at another place also (XLV.11), but no information about their iconography is given. Like the Dikpālas, Navagraha panels were also employed as architectural pieces in mediaeval temples.1 The moon was believed to preside over an eclipse (V. 19-20), the 9th quinquennial yuga of Jupiter's cycle (VIII.23), 3rd year of a yuga (VIII.24), the constellation of Mrgaśīrās (XCVI.4) and the fifth lunar day (XCVAI.1). Mercury and Saturn were believed to be sons of the moon and sun and were consequently called Saumya or Cāndri (BY, XVIII.11-13) or Candrāśmaja (YY, VI.17) and Sauri (CIII.47; YY, VI.13) respectively. Brahmā is said to preside over the 2nd yuga of the Jovian cycle (VIII. 23, 26) and the constellation of Tiṣya (XCVI.4). The identification of Jupiter and Venus with Brahmā, the preceptor of gods and chancellor of Indra, and Śukra, the preceptor of demons, was a fait accompli.2

The nakṣatras were similarly carved and worshipped (XXIV.6; XLVII.26). All the asterisms were collectively represented in an anthropomorphic form called Nakṣatra-puruṣa or Dhīnya (CIV.1-5, 6) in the following manner: Mūla represents the feet of Nakṣatra-puruṣa, Rōhini, the shanks; Aśvinī, the knees; Pūrvā- and Uttarāśadhā, the thighs; Pūrva- and Uttarā-phalgunīs, the secret parts; Kṛttikā, the hips; Pūrva- and Uttarā-bhadrapadā, the sides; Revati, the abdomen; Anurādhā, the breast; Dhaniṣṭhā, the back; Viśākhā, the arms; Hasta, the hands; Punarvasu, the fingers; Āśleṣā, the nails; Jyeṣṭhā, the neck; Śravaṇā, the ears; Puṣya, the mouth; Svāti, the teeth; Śatabhisāj, laughter; Maghā, the nose; Mrgaśīrās, the eyes; Citrā, the forehead; Bharani, the head; and Ārdrā, the hair (CIV.1-5). In the Rūpasatra-

1. For late Gupta and mediaeval Graha reliefs cf. DHI, Pl. XXXI, figs. 1-2; for textual evidence on their iconography, see Khare, op. cit., pp. 140-43.
2. Cf. VIII.1 where Jupiter is described as devapati-mantrad; YY, VI.7 where Venus is styled ditisuta-guru.
vrata people worshipped this stellar deity with the desire of securing a handsome physique in the next life (CIV.5, 6, 8). The muhūrtas, the fortnight, morning and evening sandhyās, the year, and other divisions of time were also viewed with reverence and are said to have participated in consecrating Indra (XLVII: 59-60).

Mention must be made in this connection of Sinīvālī and Kuhū. Sinīvālī is a Rgvedic goddess, Kuhū being of later Vedic origin. In later Vedic literature they are connected with the first day of the new moon and the new moon itself respectively. They are also named by Varāhamihira (XLVII. 57). By the ninth century they appear to have undergone transformation with regard to their physical basis. According to Utpala, Sinīvālī is the Amāvāsyā when the moon is visible whereas Kuhū is a moonless Amāvāsyā (Sinīvālī dṛṣṭa-candrá amāvāsyā yasyāṁ prabhāte śaśi dṛṣṭaṁ, naśṭa-ksapā- karā amāvāsyā Kuhūḥ yasyāṁ prabhāte candramā na dṛṣṭaṁ).

VIII. Sages

The seers along with their consorts and pupils had also come to be objects of popular veneration, probably in recognition of the valuable services they rendered by preserving the sacred lore. Varāhamihira names the following: Marici, Atri, Pulaha, Pulastya, Kratu, Āṅgiras, Bhṛgu, Sanatkumāra, Sanaka, Sanandana, Sanātana, Dakṣa, Jaigisavya, Bhagandara, Ekata, Dvita, Trita, Jābali, Kaśyapa, Durvāsas, Kaṇva, Kātyāyana, Mārkaṇḍeya, Dirghatapas, Śunahśepha, Vidūratha, Īrva, Samvartaka, Cyavana, Parāśara, Dvaiṇayana and Yavakrita (XLVII. 63-67). The first six with the addition of Vasiṣṭha make up the traditional Seven Sages (saptarṣayāh, XIII.5-6) XLVII.63; who were considered identical with the Ursa Major. The tradition of their being seven in number goes back to the Rgveda (IV.42.8). In the Śatapatha Brhāmana (XIV.5.2.5, 6; II.1.2.4) they are said to be seven and made stars forming the constellation of the Great Bear. Vasiṣṭha’s wife Arundhati, who was supposed to be situated in the centre of the seven stars, is also named (XIII.6). Dvita and Trita

2. Cf. Naiṣadhiya-carita I. 100, where Kuhū is styled candra-vairii.
are named in the *Rgveda*, the latter being probably the god of lightning.\(^1\) Along with Ekata, they are mentioned in the *Satapatha* (I.2.5. 1,2) and *Taittiriya Brāhmaṇa* (I.8.10.2) and described as sons of Agni and as born from the waters. Sāyaṇa on *Rgveda* I.108 speaks of them as three brothers and *ṛsis*. The legends that Agastya, the son of Varuṇa (XII.13), drank the entire water of the ocean, and stemmed the Vindhya mountain which was bent upon obstructing the sun’s path are recorded (XII.1-5, 6). These exploits are also referred to in a couplet from the *Samāsa-saṃhitā* quoted by Utpala which further records the legend of his devouring the demon Vātāpi.\(^2\) He was regarded as identical with Canopus and was worshipped at the latter’s appearance after the rainy season (XII.11, 13, 15-8). Varāhamihira refers to the drawing and worship of the figures of *mūnis* in general (XLVII.25; XLV.10) and of Vedavyāsa in particular (XLV.12), but no information whatsoever is furnished about the mode of their representation.

**IX. Other Objects of Worship**

Animals, birds and trees were also supposed to possess some superhuman power and their favour was not infrequently solicited. The Nāga cult has been current in India from time immemorial. We have references to drawing and worshiping their figures (XLV.14; XLVII.25, 31, 62). The Nāga cult appears to have been very popular in India in a few centuries prior and posterior to the Christian era, and its remnants can still be perceived in popular beliefs. Numerous beautiful Nāga images have been found round about Mathura and are exhibited in the Mathura Museum.\(^3\) The snake is said to

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2. भानोर्विश्वासितबद्धशिखरो विन्यासः स्तम्भतो बालापितः निकुलशिल्तः मुर्दरियुश्चार्ययः वेनासुः।

पीतश्रव्याजितशतस्तोम्बुनितिविन्यासः यायः व दिम्बविता

तस्यागस्तयमुने: पवश्चुतिकृतश्रृण: समासदयम्॥

(cited on XII.13).

3. e.g., Chhargão Nāga of Huviśka’s time, Vogal, *Catalogue of Archaeological Museum at Mathura*, No. C13, p. 88, Pl. XIX.
preside over Āśleṣā (XCVII.4), navami (XCVIII.1) and the karāṇa called Nāga (XCIX.2). The pearls supposed to be derived from the serpents belonging to the family of Takṣaka and Vāsuki were believed to possess supernatural power of causing rain (LXXX.25-6). Certain kinds of rocks were believed to be haunted by Nāgas and their presence in a country was supposed to avert drought (LI.111). As will be shown in a subsequent chapter, good or bad outcomes of a journey or march were inferred from the movements of birds and animals. They were also supposed to possess the power of predicting future and were prayed to declare the same (e.g. LXXXVII.40-44). A wagtail when seen first after the rainy season was propitiated (XLIV.14). Cows were almost deified (XLVII.68). Prior to felling a tree for fashioning certain articles, it was worshipped and bāli offered to birds living in the tree-nests (e.g. XLII.16-18; LII.119; LVIII.4). Though the earth was deified and celebrated jointly with Dyaus or independently in the Vedas (Rgveda, V.84; Atharavaveda, 12.1), her personification was but slight. It is considerably advanced in the Paurānic mythology. Varāhamihira, evidently in pursuance of the legends current in his days, endows her with such human attributes as the power of speech, shyness, fatigue, fear and anger and speaks of her lips, eyes and mouth (XXXII.3-7). The earth goddess was believed to preside over the karāṇa called Gara (XCIX.1). Rivers, seas, mountains etc. were also regarded as sacred and are said to have participated in consecrating Indra (XLVII.61-2, 67). Waters (tōya) are described as warding off all evil portents (XLVII.70) and were believed to preside over Pūrvāśādhā (XCVII.5).

B. CEREMONIAL AND PRACTICES

I. Sacrifices

Vedic sacrifices continued to be performed with great zeal. We have numerous references to persons engaged in performing sacrifices. ¹ 'The drinkers of soma' (somapāḥ, V.70; somapithayah, XV.3) is a phrase most probably employed to

¹ हृताशस्त्र V.33; यज्ञभूत: XIII.11; हृताशस्त्रपर XXIV.6; यज्ञा LXVII.47; यज्ञप्रस्तत्थी: LXVIII.38.
denote the observers of the Śrauta sacrifices. The terms huta\(^1\), yajña\(^2\), kratu\(^3\), adhvara\(^4\), yāga\(^5\) and homa\(^6\) are indiscriminately used to denote sacrifices in general. Persons consecrated for performing sacrifices (kratu-dīkṣita, XVII.15) and Brāhmaṇas enjoying the merits accruing from the celebration of numerous sacrifices (V.98) are referred to. Gods were believed to partake of sacrificial offerings, while demons are represented as obstructors of sacrifices. Sacrifices were to be performed and Vedic hymns recited only during the day and not at night.\(^7\) The performance of a sacrifice at the time of an eclipse was considered to be especially meritorious (V.14).

**Sacrifices Named.** Of the five great sacrifices (paṇca-mahāyajñas) which a house-holder was required to perform every day, only two are named, viz., Vaiśvadeva (vaiśvadevi-krityādya dharma, CIII.44) and Brahmayajña (FF, VI.17). Of the Śrauta sacrifices, mention is made of Agniḥotra (IX.43; XVI.14) and Āśvamedha. The loftiest ambition of a king in those days was to perform Āśvamedha after reducing his enemies.\(^8\) The Gupta emperors Samudragupta\(^9\) and Kumāragupta\(^10\) and the Vākāṭaka ruler

1. V.14.
2. V.28; XIII.11; VIII.9; XV.6; XVI.8; XIX.13; LXVIII.38.
3. V.98; XVII.15; XIX.6.
4. XIX.13.
5. XLIV.45.
6. XLV.64, 71.
7. व्रजित्यात्र ब्रह्मचर्याये वृयमानी विधिः हवाय ययुष्मानं महासित्मम मिति भवन्।
विवर्त्तनिषो विवेकान्तस्य कृत्य्यर्द्धवराशबाजाम्॥ XIX.13.
8. यश्वेवेद्वेदेवेष्व विभवेद्व ब्राह्मेवब्राह्मेवब्रह्मेवमूहर्वमिति त्वपृष्ठ

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9. Vide his Āśvamedha type coins bearing the legend āśvamedha-parakramaḥ, one whose prowess is demonstrated by the performance of the horse-sacrifice. In the Poona, C. P. Inscr. of the Vākāṭaka queen Prabhāvatīguptā (V. V. Mirashi, CII V, No. 2, 1.3), Samudragupta is described as ‘the performer of many horse-sacrifices’ (anek-āśvamedha-yajīn). Rapson (JRAS, 4901, p. 102) and Allan (Catalogue of Gupta coins, p. xxxi) invite our attention to a seal with the figure of a horse and the legend parākrama and a stone figure of a horse in Lucknow which are in all probability reminiscent of Samudragupta’s Āśvamedha.

10. Cf. his Āśvamedha type coins in Bayana Hoard.
Pravarasena\(^1\) were among those who distinguished themselves by performing one or more horse-sacrifices. Varāhamihira seems to distinguish Īṣṭi from Śrauta sacrifices as can be seen from his use of yajña or kṛatu and Īṣṭi immediately one after the other.\(^2\) Utpala mentions Putrakāmya as an instance of Īṣṭi. Īṣṭi is that type of sacrifice which is 'performed by a sacrificer and his wife with the help of four priests', viz., adhvaryu, agnīdhra, hṛty and brahman.\(^3\) Animal sacrifices were also in vogue (XLV. 58) and we have references to the yūpa or the sacrificial post to which was tied the animal to be offered into sacrifice (LXIX.10; XCVI.11). Varāhamihira in his Bṛhadāyāra compares the killing of enemies in war to that of animals in a sacrifice and regards both as free from sin (I.2: vinighnato vighnakarān na pāpam kriyākramen-eva paśūn makhesu).

ALTAR. The sacrificial altar is referred to as citī (XIX.6; XLIII.13; XCVI.11) and vedi (XLIII.8; YY, VIII.1; BY, XVIII.1). In the Yogayāra it is stated that an altar made in accordance with the directions of the Śulba works is auspicious (VIII.1—vedi śubhā śulba-vidhāna-dṛṣṭā).\(^4\) An altar that is defective in regard to its measurement or curved in a direction was regarded inauspicious. A vedi defective in the east, south, west, north and middle was believed to be inauspicious for the town, priest, queen, army-chief and king respectively.\(^5\) The dimensions of the altar differed from one caste to another. Thus it is laid down that the sacrificial vedi in the case of a Brāhmaṇa measures seven cubits (10\(\frac{1}{4}\) ft.), of Kṣatriya 6 (9 ft.), of Vaiśya 5 (7\(\frac{1}{2}\) ft.), of Śūdra 4 (6 ft.) and of mixed castes lesser than this. In case sufficient space is not available,

\(^1\) In the inscriptions of his successors Pravarasena I is styled चन्दुरक्षमेंद्रयाजिन. See CH, V, p. Nos. 4-5, 1.2; No. 6, 1. 2, etc.

\(^2\) यज्ञिकीस्तक, 15-6; कुङ्कुररेति, 19.6.

\(^3\) HDS, II, pp. 986, 981 fn. No. 2228.

\(^4\) J. L. Shastri's edition gives the reading śuddha and mentions the variant śilpa. This verse is cited by Utpala (BS, p. 525) without indicating its source and the reading given there is śubha. The reading given in the text is the one adopted by V. R. Pandit.

\(^5\) YY, VIII.1-2; BY, XVIII.1-2. The YY verses in question are cited by Utpala in his commentary on XLIII.8, p. 525.
a *vedi* four cubits in extent is recommended for all the castes. A *vedi* with dimensions smaller or larger than the above was regarded so inauspicious as to cause sacrificer’s death. A *vedi* measuring 21, 15, 9, 7, 5 and 3 cubits is recommended for nuptial sacrifice in the case of a Brāhmaṇa, Kṣatriya, Vaiśya, Śūdra, artisans and mixed castes respectively. In case so much space could not be procured, an altar measuring 5 cubits is prescribed for all. An altar, it is stated, should be square, even and well-measured.¹

¹. सप्तःहस्ता ब्राह्मणानां बेदी यज्ञ प्रकृतिता।
पद्धकराः क्रत्रियाणां तु पञ्चहस्ता विलाः स्मूर्ता॥
चतुर्हस्ता तु बृहद्राणां विबाहोऽधेऽपि मुनिद्रिष्टतम॥
भोजेऽर्जुनेऽपि सर्वेऽयां चतुर्हस्ता प्रकृतिता॥

इतरारामातो न्यान्त् निर्देष्टा वृषेणिः सदा॥
अतो ह्यनविचिका बेदी व्रजानां स्मृत्युपदा॥
यज्ञ विवाही वहयामि वेदीमां समासतः।

विपस्तःहस्तविस्तारो ब्राह्मणाः प्रकृतिष्ठ॥
क्रत्रियाणां पञ्चवदश वेदीस्तानां स्वनमिता॥

कराः सप्त च शूद्राणां विलिस्नां पञ्च च कृतिता॥
विपस्तः ह्यतानां तु बेदीक्षेत्रमुदाहरुणम्॥

भोजोश्चलाम मय्यानां चालुवंश्यं प्रकृतिता॥
पञ्चवहस्तमिता बेदी सर्वमहागद्याविक॥

सप्तःहस्तां मध्यमपायं ब्राह्मणानन्दि निधायते॥
क्रत्रियाणां ब्रह्माणां समुखविधायम्॥

चतुर्गां मध्यमस्मां बेदी कुर्यात् मुख्यायणम्॥

These verses follow 17, VIII.1. They are not found in Kern’s and J. L. Shastri’s editions. These stanzas are included in the 17. MS. No. I.O. 2110 (E 2990—R. R. 2 E) of the India Office Library and with the exception of the first four lines in No. Acc. 70-1869-70 (New No. 1D) of the Bhandarkar Oriental Research Institute, Poona. These are quoted in a footnote of his 17 edition (unpublished) by V. R. Pandit. It is interesting to find these lines quoted by Utpala in his commentary on XLIII.8. Utpala cites a large number of verses and the first verse (not quoted by us) is expressly described by him as belonging to an *anyalāstra* or another work of the *Ādāra* (i.e. Varāhamihira). Regarding other lines which he prefixes by तथा च nothing can definitely be said. They probably belonged to the 17 as will appear from their inclusion in the aforesaid Ms. and from the statement of Utpala on BS, XLIII.8, p. 525,
FIRES. As fire consumed sacrificial offerings and carried the same to the gods it is variously called hutāśa¹, hutabhuj² and hutavahā³. Varāhamihira does not mention by name any of the three fires required in a Śrauta sacrifice, viz., gārhaṇapīya, āhavaniya and dakṣīṇāgni, which are, however, implied in the employment of the words sikhin, anala, agni and dahanā in the sense of the numeral 3 (XCVII.1). There are references to Brāhmaṇas maintaining sacred fires (āhitāgni, XV.1; BY, XVIII.3-5).

OMENS FROM FIRE (AGNINIMITTAS). It will be shown in Chapter VI that the movements, form and colour of the fire and the sound produced by it were believed to foreshadow good or bad results.

OBLATIONS. As a general rule, it is stated that articles defiled or eaten by insects, ants and flies are not conducive to good results.⁴ Sacrificial offerings are referred to as sthālīpāka (XLV.16, 58) and caru (XLV.36, 37). Certain articles were intended for offering to particular gods only and our author mentions the caru especially meant for the Moon and Mars (XLV.36, 37).⁵ Khadira, palāśa, udumbara, kāśmiri and aśvattha are recommended for sacrificial fuel sticks or samidhs (XLIII.12). Sticks of milky trees were prescribed for the sacrifice performed to avert the results of evil portents connected with fire (XLV.24).

THE PRIEST. Brāhmaṇas officiated as priests. Only two categories of priests, hoṭṛ (LIX.13) and adhvaryu (BY, XVIII.16-7), are named. We have references to Brāhmaṇas well-versed in all sacrifices.⁶ Speaking of the royal priest, our author says that he should be skilful, outspoken, free from

that the Ācārya (Varāhamihira) has already described vedī (vedī-lakṣaṇam ācāryen-oṭatam). Varāhamihira himself avers that he described the vedī in connection with grahapaga in his Ṭāṭra work (XLIII.14).

1. V.33; XXIV.6.
2. XLII.32.
3. XCVI.11.
5. For a long list of articles offered in sacrifices, vide BY, IV.24-7.
6. वर्गक्रमः, V.28;वनविविदः, XVI.8(Utpala—यज्ञसूत्रविवदः); मन्त्रसूत्रभाष्यम्, XV.1 where Utpala takes sūtra to mean yajñāśāstra.
physical defects and disciplined. An idea of a priest’s duties in those days can be had from the Vyagyaśrā (I.6) which states that if the chanting of the mantras, conducting ceremonial ablutions, mani-bandhana, expiatory rites, fire-worship, fasting, sacrifices to gods and muttering certain formulas, etc. could lead to success in reducing one’s enemies, why should a priest not become a king.

No religious rite of the Hindus is complete without gifts (daksinā) to the officiating priest and others connected with the rite and the sacrifice is no exception. Gifts to the purohita, astrologer who inferred omens from fire, and to śrotiyas (Brāhmaṇas learned in the Vedas) constituted an essential part of a sacrifice. Those entitled to sacrificial gifts were called daksinīya (XLVII.80). A mystic significance was attached to the daksinā. Making gifts at the time of an eclipse was considered especially meritorious (V.14. Cf. Mahābhārata, Vana, 200.125). A large number of inscriptions, it should be noticed, aims at recording gifts at the time of solar and lunar eclipses.

In conclusion, it must be observed that sacrificial rites had come to be inseparably linked with the Paurānic ritual and fire-worship formed an essential part of almost all religious rites. To give only a few instances, homa was to be performed at the festival of Indra’s banner, Nirājana and other śāntis and even while installing an image, an act which had no place in Vedic religion.

II. Image-worship

CONSECRATION AND INSTALLATION. The hosts of deities named above were worshipped through the medium of their idols. An image, however, could not become an object of divine honour without being duly consecrated and enshrined. The procedure of consecrating and installing images appears

1. daksinā: pramānāviṃkalo viṃñītastātāśvibhūtvastaya purāṇahitāpya

2. mantrābhivyapāraśvapramāṇavāyrikāhāpāpyāhāparातम-16
to have been dealt with in earlier works also\(^1\), but as they are lost, the oldest datable account of this subject is to be found in Ch. 59 of our work the contents of which are summarised below.

First of all, a pavilion for preliminary consecration (adhipāsana-manḍapa) was to be erected in the south or east (of a town) and decked with four toranās (ornamental archways) in four directions and covered with leaves of auspicious trees;\(^2\) it was to be further decorated on all sides with flowers and banners of certain colours.\(^3\) Inside the pavilion a raised altar was made; it was besmeared (with cow-dung), sprinkled with sand and strewn with kuśa grass; on this raised altar was placed the image to be installed with its head and feet resting on a bhadrāsana (a kind of throne) and a pillow respectively.\(^4\)

Then the image was to be bathed with a mixture of the decoction (kaśāyajala) of the twigs of plakṣa, aśvattha, udumbara,

1. LIX.19 which enumerates persons fit to instal images indicates that the various sects had already developed peculiar modes of worshipping their respective deities. Reference must be made in this connection to the concluding verse of the chapter (LIX.22) which states: that Varāhamihira has in this chapter dealt with this subject in a general and succinct manner and that the preliminary consecration and installation proper are dwelt at length in the Śāstra Śāstra; or, according to another interpretation, the consecration and installation of Sūrya are dealt with elaborately in the Śāstra of the Sauras:

सामान्यमिव समासती लोकानां हितं मया कृतम्।
अधिवासनसनिवेशने सात्रिष्णु पृथ्वीव विस्तारात्।

Cf. Utpala—

सात्रि शास्त्रेः प्रस्तेक्षय देवस्याधिवासनसनिवेशने अधिवासनं
प्रतिष्ठायनं निवेशणं च ते पृथ्वीव विस्तारात्
एव भवत: अथवा सात्रे शास्त्रानुसारिव स्ये अधिवासनसनिवेशने
पृथ्वीव विस्तारात् तत्त्वस्त्रां सौरे भवत: हि।

2. LIX.1. According to a var. reading (saumyāyām) noted by Utpala, the pavilion was to be constructed in the north.
3. LIX.2-3. The eastern, south-eastern, southern and south-western, western, north-western, northern, and north-eastern sides of the pavilion were to be decorated with flowers and banners of variegated, red, black, white, slightly yellowish, variegated, and yellow colours respectively.
4. LIX.7. For bhadrāsana see infra Ch. IV, Section 7.
śīrṣa and vaṭa trees, all herbs (sarvausadhis)\(^1\) bearing auspicious names, kuṣa grass and the like; the earth dug out by elephants and oxen and that from mountains, anthills, river-confluences, ponds with growing lotuses, the paścagauyas (cowdung, bovine urine, milk, curds and clarified butter), and perfumed water containing gold and gems. Next, to the accompaniment of the sounds of various musical instruments and the chanting of the punyāha and Vedic hymns it was placed with its head pointing to the east.\(^2\) Brāhmaṇas recited mantras associated with Indra and Agni in the east and south-east respectively and were honoured with fees.\(^3\) It was followed by fire-worship to the accompaniment of the mantras associated with the god whose image was to be installed and omens were to be interpreted from the movements of the fire and the priest.\(^4\) Now the image bathed in the above manner was wrapped in a fresh cloth, decked with ornaments and worshipped with flowers and perfumes and was made to lie down on a well-spread couch (to sleep). After the sleep the image was roused with music, dance and similar other acts. Thus ends the preliminary consecration called adhivāṣana to be followed by the actual installation (pratiṣṭhā) at the time approved by an astrologer.\(^5\)

1. Sarvausadhis, according to Utpala (on LIX.8), comprise jayā, jayanti, jivepati, punarnad, viṣṇukṛtā, obhayā, viścambhari, mahāmodā, sahadavi, pūrṇakośā, satavari, sahasravijā and lakṣmavā.

2. LIX.8-10. V. S. Sastri (his edition of BS, p. 523) begins his translation of these verses with ‘the image with its head pointing to the east should be bathed with........’; Dr. J. N. Banerjea (DHI, p. 566) renders the beginning of verse 10 (pūrvasiraskāṃ snātām) as ‘when the image is being bathed with.............it should be placed with its head towards the east.’ The former presumes that the image is placed with its head to the east prior to its bath, while the latter thinks that the two acts of bathing and placing the image with its head to the east are simultaneous. That both these renderings are incorrect is shown by the following extract from Utpala-Kṛtasnātin pūrvasiraskāṃ pūvasyāṁ disi śirah krtvā nyaset sthāpayet.

3. LIX.11.

4. LIX.12-3. Some of the deities whose iconography is given above are undoubtedly of post-Vedic origin and therefore only Paurāṇic mantras could be uttered in their case. But curiously enough Utpala tells us that Vedic mantras pertaining to the god whose image was to be installed were to be recited: \[ \text{tad} \text{daviyair} = \text{vaidikair} = \text{mantraḥ}. \] Does it indicate that even Paurāṇic mantras had come to be regarded as Vedic in Utpala’s time?

5. LIX.14-5.
After worshipping the image with flowers, unguents and the sounds of conches and musical instruments, it was carefully taken to the sanctum sanctorum keeping the temple to the right; then copious offerings (bali) were made to the deity; Brāhmaṇas and other persons assembled there were honoured; a piece of gold was thrown in the pit of the pedestal and the image fixed therein. The ceremony ended with the honour done to the consecrator, astrologer, Brāhmaṇas, the sculptor (sthapati) and other persons in the ghathering\(^1\).

LIX.19 is important in as much as it does not simply mention the persons fit to consecrate the images of different divinities, but also throws valuable light on the religious conditions of India in our author’s time. Thus we are told that Bhāgavatas are entitled to consecrate the image of Viṣṇu; Magas of the Sun, ash-besmearing Brāhmaṇas (Pāṣupatas) of Śiva; those well-versed in the peculiar mode of worship called maṇḍala-krama of the Divine Mothers; Brāhmaṇas well-versed in the Vedas of Brahmā; Śākyas (Buddhist monks) of the Buddha; and naked monks (Digambaras) of Jina.\(^2\)

Varāhamihira recommends the installation of divine images on a day other than Tuesday in the bright half of a month in the northern solstice, when the moon is posited in the varga of Jupiter and the Ascendant is a fixed sign and a fixed navāṁśa is rising, when benefics occupy 5th, 9th and the kendra houses, and malefics are in upacayas (3rd, 6th, 10th or 11th houses), and when the moon is in any of the asterisms, 3 Uttarās, Rohini, Mrgaśiras, Anurādhā, Revati, Śravaṇa, Tisya and Śvāti (LIX.20-21).

1. LIX.16-8.

2. विद्योभूमिक्षतान् मण्डलस्य सदिश: शम्भो: समस्मिताजन
   मात्रामिलि मण्डलस्य विद्यान विदुरुब्रह्मणः।
   शाक्यानु स्वविन्वितय शान्तमसो नम्नान्न जिनानां विदु-
   यें देवमुपायितः स्वविधिनां तैलस्य कार्या कियः ॥ LIX.19.

Utpala’s remarks are worth-quoting: पञ्चक्षरविधिन्विना विधेयोः।
   सौरविन्वितविधानेन सदिश: वातुलस्यन्यन्तरम्यन्यन्तरविधिना वा शम्भो:
   मात्रान श्वर्यविन्वितविधानेन ब्रह्मणो वैदविन्वितकर्मणा बुद्धस्य पार-
   भिताक्रमेण अहृता हेद्राणिविधिना किया कार्याः।
SHRINES IN INDIVIDUAL HOUSES. Besides the public temples, individual houses also appear to have usually possessed shrines of sectarian deities. According to our author, household shrines were to be built in the north-east corner of the house (LII.116). The tradition continues to this day.

ARTICLES USED IN WORSHIP. Mention is made of a number of articles (ārgha and bali) used in worshipping the images of various gods. Certain articles were considered to be especially appropriate for particular deities. Thus, flesh, rice and wine are especially recommended to be offered to the Piśācas and goblins; oil-bath, collyrium, sesamum, flesh and rice, to the manes; the hymns of the Rg-, Yajur- and Sāma-Veda, perfumes, incense and garlands, to the seers; unmixed colours and tri-madhura (honey, clarified butter and sugar), to Nāgās; incense, clarified butter, oblations, garlands, precious stones, invocations and salutations, to gods; perfumes, garlands and other fragrant articles, to the Gandharvas and divine nymphs; and offerings of all colours, to others; pratisara (saffron-coloured thread), cloths, banners, ornaments and sacred thread (yajnopavita) were to be offered to all the divinities specified above (XLVII.30-33).

MUSIC AND DANCE. It will appear from the account of the consecration of divine images given above that along with the sounding of musical instruments singing and dancing had also come to be regarded as necessary adjuncts of image-worship. Similarly, singing, dancing and other festive observances are recommended for warding off the evil results of divine portents (XLV.17). This indicates that the practice of attaching courtesans or dancing girls (now called Devadāsīs) to temples had come into existence. It finds confirmation from Kālidāsa’s Meghadūta (Pūrvamegha, 35) which clearly refers to courtesans dancing and holding fly-whisks at the

1. The following articles were most commonly used as will appear from numerous references: seasonal perfumes, flowers and fr. it.; gems, gold, clothes, delicious food preparations like pālala, uḷoṭikā, wines and curds, flesh, drinks, incense, clarified butter, honey, fried rice, bath, unguents, madhuparka (a mixture of honey, clarified butter and curds or milk), and animal offerings (vide XII.11, 15-18; XXIV.6; XLII. 60; XLIV .14; XLV.15-6, 36, 58; XLVII. 18-19, 27-8; LII.97, 123; LVIII. 4, 8-9; LIX. 14, etc.).
Mahākāla temple of Ujjayinī. In later times it became an established practice and is referred to in a number of literary works and inscriptions.¹

_DAIVATA-YĀTĀ_. A brief reference may now be made to a kind of temple-festival called daivata- or sura-yātra.² Vātsyāyana (Kāmasūtra, I.4, 26, 33) calls it _ghaṭā_ and informs us that it was held in honour of various deities. It is a kind of religious procession in which the idol of a particular god or goddess is taken in a cart or chariot in front and is still prevalent.

III. _Śāntis_

_Śānti_ denotes the expiatory rites performed by Brāhmaṇas for averting an evil or calamity. Utpala defines it as the application and chanting of Vedic _mantras_ with a view to ward off calamitous happenings resulting from portentous phenomena.³ _Śāntis_ were also observed to negative evil results of such trifles matters as procedural mistakes at the Indramaha (XLII.61) and evil signs of _pattas_ (XLVIII.8).⁴ The constellations of Uttarāśādhā, Uttara-bhadrapadā, Uttara-phalgunī and Rohini were considered suitable for _śāntis_ (XCVII.6). We get elaborate accounts of two _śāntis_, Nirājana and Pushya-snāna.

_NIRĀJANA_.⁵ Nirājana was a ceremony of politico-religious nature held by kings. The name refers to the act of touching (_ajana_) with water (_nīra_) of horses, elephants and soldiers which constitutes the most significant rite of this ceremony. Its popularity is vouched for by references in Kauṭilya and Kālidāsa.⁶ The rites of waving lights and lustration of

2. _Daivatayātā_ is the reading given in printed editions. The variant _sura-yātā_ is noticed by Upāla, XLV.9.
3. _उल्लासत्तीकारायं वेदेन्तमन्त्रपाठिविनियोगानुष्ठाता शान्तित्विविधाभिमानः_ 
4. Also cf. XCVI.17.
5. _Nirājana_ is called a _śānti_ in XLIII.2, 6, 21. The house wherein _Nirājana_ was held is called _śāntisadma_ or _śānti-grha_ (XLIII.4, 5); the recitation of _śāntika_ _mantras_ is prescribed in XLIII.20.
6. _Arthaśāstra_, BK. II, Chs. 30, 32, pp. 135, 139; _Raghuvamśa_, IV.25.
arms on the 10th of the bright half of Áśvayuja are its modern descendants. The contents of Ch. XLIII of the Brhadāraṇyaka Upanishad which describes it are summarised below.

Nirājana was to be held when Viṣṇu wakes up from his sleep, on the 8th, 12th or 15th day of the bright half of Kārttika or Áśvayuja. According to Kautilya, however, it was to be performed on the 9th day of Áśvayuja, at the beginning or end of an expedition, at the time of a distress and during cāturmāsya (i.e. four months of the rainy season) and when two seasons meet. First, to the north-east of the town, on an auspicious spot were to be erected a wooden arch, 16 cubits high and 10 in extent, and a house for the ceremony made of the branches of sarja, udumbara or kakubha tree, strewn with kuśa grass and provided with a door adorned with bamboo fishes, banners and discuses; then bhallātaka nuts, rice, costus and white mustard seeds were tied with a string dipped in saffron paste to the necks of the horses who were brought to this house; with the mantras addressed to the Sun, Varuṇa, Viṣvedevas, Prajāpati, Indra and Viṣṇu, śānti was gone through for the horses for a week; once worshipped, the horses were not to be spoken to harshly or beaten, their fear being dispelled by the sounds of punyāha, conches, musical instruments and songs; on the 8th day to the south of the arch was erected a hermitage strewn with kuśa grass and barks of trees facing north; the fire was kindled in an altar in front; jars full of sandal, cotsus, madder, orpiment, red arsenic, priyaṅgu, vacā, danti, anrītā, aṅjana, turmeric, swarna-puspā, agnimanthā, svetā, pūrṇakośā, kaṭambharā, trāyamāṇa, sahadevi, nāgapuspa,

1. That Utpala is mistaken in taking Pañcadaśi to refer to both Pūrṇimā and Amāvasyā is shown by the specification of bright fortnight in the couplet under reference (i.e. XLIII.2).

2. भजनमिन्ति जलप्रकम्भपञ्चाकर्केकने कमलनामे ।
उभील्यति नुर्धनमकरिनस्तीराजन कुपीत ॥
हाद्यामप्रयित्यं कातिकशुल्कस्प पर्वचद्धाय वा ।
आस्त्वयुजे वा कुपीद्भीराजनसमंशितां शातिम् ॥
Viṣṇu gets up on the 11th of the bright half of Kārttika. According to Utpala, it shows that Nirājana was not to be solemnised during rains.

3. Arthaśāstra, II, 30.51; II, 32.21.
ātmaguptā, satāvari and somarājī along with various dishes were to be offered; sacrificial twigs made of the timber of khadira, palāsa, udumbara, kaśmārī and asvatttha and the sacrificial ladle of gold or silver were to be used; the king, accompanied by a horse-physician and an astrologer, sat on tiger-skin facing east in front of the fire; omens were to be inferred from the altar, priest and fire.¹

Next, omens were interpreted from the movements of horses and elephants; thus a horse and an elephant, duly consecrated, bathed and adorned with fresh white cloths, perfumes, garlands and incense were to be brought slowly and with flattering words under the arch near the hermitage resounding with the sounds of musical instruments, conches and pūnyāha; if the elephant or horse, thus brought, stands with its right leg uplifted, it foretells victory to the king; if it stands frightened, contrary results are to be expected; the priest then gave the horse a rice-ball duly consecrated with mantras; its smelling or eating by horse indicated victory, otherwise defeat; so on and so forth; further, reciting expiatory and paustika mantras, he touched the horses, elephants, soldiers and the king with a twig of udumbara dipped in the water of the pitchers already kept for the purpose.²

The ceremony concluded with a mock military march; first of all, with the chanting of magic hymns of the Atharvaveda, the priest pierced with a śūla the heart of the clay figure of the enemy and gave the rein to the horse; mounting the horse; the king was to proceed towards the north-east with his forces³.

PUŠTA-SNĀNA. Pusya-snāna was a ceremonial ablution held by kings every year, preferably on the full-moon day of Pauṣa. It could be observed at any other time, but that in Pauṣa was considered to be the most meritorious (XLVII. 82). It was also celebrated at the time of royal consecration and was believed to bless the king with overlordship and the birth of a son (XLVII.85). It was regarded as the most auspicious rite capable of remedying all kinds of portentous phenomena, disturbances, occurrence of eclipse, comets and planetary

¹. XLIII.3-14.
². XLIII.15-20.
³. XLIII. 21-8.
conflicts (XLVII.3, 83-4). This ceremony was also gone through for elephants and horses to free them from diseases (XLVII.87). It is stated that this ablution was taught by Brahmā to Brhaspati for the sake of Indra and later it was obtained by Vṛddha-Garga who imparted it to Bhāguri (XLVII.2, 86).

It was to be performed at a beautiful spot in a forest, a house near it, river-banks, ponds, a cow-pen, sea-shore, hermitages of ascetics, temples, tīrthas, parks or where the earth slopes down towards the east or north and where water flows from left to right (XLVII.4-17). To begin with, an astrologer, minister, and the priest went out of the town at night and made offerings in the east, north or north-east; the priest invited gods, quarters, Nāgas, sages and others for conferring śānti on the king, worshipped them, stayed there during that night and interpreted omens from dreams; the next morning, at the venue of the ceremony representations of the earth with various localities, Nāgas, Yakṣas, gods, manes, Gandharvas, Apsarases, Munis, Siddhas, planets and constellations, Rudras, Divine Mothers, Skanda, Viṣṇu, Viśākha, Lokapālas and of divine damsels were drawn with various charming coloured and perfumed powders in a circle (maṇḍala) and worshipped with numerous objects specially prescribed for them (XLVII. 18-33).

To the west and south of the circle were to be made two altars, one for the ablution and the other for sacrifice, and fire kindled in the latter; necessary materials including long blades of kuśa grass that have passed their sprouting stage, fried rice, clarified butter, barley-grains (aṅkṣata), curds, honey, white mustard seeds, perfumes, flowers, incense, yellow orpiment, collyrium, sesame, and delicious fruits of the season were collected and earthen plates filled with the pāyasa and ghee placed in the circle; worship with the above articles was offered on the western altar; on the four corners of this altar were to be placed firm pitchers with white threads tied round their necks, and leaves and fruits of milky trees on their mouths, and filled with water mixed with medicinal herbs1 meant for Pusya-snāna and gems; next, materials necessary for Pusya-

1. Oṣadhīs are enumerated in XLVII.39-41.
**snāna**, such as medicinal herbs, all kinds of seeds, auspicious objects like curds, aksata, and flowers, juices of all tastes, gems, bilva and vikāṅkata fruits and gold were to be collected (34-42). The ceremony of ablution proper followed. Skins of two bulls (1. of a bull with auspicious marks and dead in old age to be placed with its neck turned to the east, and 2. unimpaired red skin of a fighting bull), a lion and a tiger were spread one over the other on the western altar; over these skins was placed a bhadrāsanā made of gold, silver, copper or of the wood of a milky tree; a piece of gold was placed inside it. The king wearing an unwashed linen cloth and surrounded by his ministers, priests, astrologers and others sat on the bhadrāsanā and amidst the sounds of punyāha, Vedic mantras, conches, tabors, etc. made offerings and did worship; the priest covered him with a blanket and bathed with pitchers containing clarified butter; the number of pitchers may be 8, 28 or 108, the larger the number, greater will be the religious merit; then the blanket was to be removed; the king bathed with water meant for the ablution containing fruits and flowers, and a mantra (55-70), which enumerates the gods, goddesses, etc. who are said to have consecrated Indra in former times, was recited. After the bath the king wore a pair of cotton cloths sanctified by certain mantras, worshipped his umbrella, banner, weapons, and his tutelary deity, and put on a new ornament which in consequence of being sanctified with certain hymns was supposed to bestow longevity and victory on its wearer (43-74).

Next, having gone to the sacrificial altar in the south, the king sat over the hides of a bull, cat, antelope, spotted deer, lion and tiger placed one over the other; a sacrifice was offered and omens were taken; the gods invited earlier were bidden farewell to; and the king made rich gifts to the astrologer, priest and others (75-80).

The ceremony concluded with the king granting people freedom from fear, freeing animals brought by butchers to slaughter-houses, and releasing prisoners except those that threaten the king’s person or the harem (81).

1. XLVII.52-3 is called a mantra; it describes the qualities of clarified butter,
It may be briefly noticed here that in his *Bṛhadyātrā* (IV. 19-23) and the *Yogayātrā* (VII) our author describes the ceremonial ablution called *Naksatra-vijaya-snāna* preceding a march for victory and various water-preparations for bath in different constellations. The *Yogayātrā* also names various food-preparations to be relished by the king in different constellations before undertaking military operations. The *Vijaya-snāna* described in the *Bṛhadyātrā* (XVII) is practically identical with the one described above, except for a few details. The limitations of space forbid even a brief account of all these ceremonies.

This ceremony appears to have been actually performed before an aggressive operation. Bāna, for example, tells us that before undertaking his ambitious military operations, Harṣa, seated on a *bhadrāsana* kept over the skin of a tiger, bathed at an auspicious moment with water contained in golden pitchers, offered sacrifice, bestowed costly gifts on the Brāhmaṇas, put on fresh *dukūla* garments, and some sanctified ornaments (*śāsana-valaya* and *gamana-mañgala-pratisara*), restored certain courtiers to their former positions and granted general amnesty to prisoners.¹

**KOTIHOME.** The *Koṭihoma* was performed in order to avert divine calamities (XLV.6). According to the *Matsya-purāṇa* (XCVIII.5-6), it was a variety of *Navagrahahoma*, while the *Bhavisyottara* (CXLII.11-12) describes it as a śānti rite. The *Agni-purāṇa* (CXLIX.7-10) states that if a king gets *Koṭihoma* performed by the Brāhmaṇas enemies cannot stand before him in the battle and there is no pestilential disease or calamity in his country; excessive rain, drought, mice, locusts, parrots, demons and all the foes are conjured away; one who performs *Koṭihoma* gets every desire fulfilled and goes to heaven bodily. It was an elaborate rite involving a million *āhutis* and requiring the services of 20, 100, 1000 or more Brāhmaṇas. The *Matsya* (XCVIII.119) equates it to 100 *Aśvamedhas* in merit. According to the *Harsa-carita* (V), it was performed when Prabhākaravardhana was on his death-bed.²

Besides, the king was required to hold śāntis to ward off the dire consequences resulting from abnormal physical phenomena. They will be briefly noticed in connection with portents in Ch. VI.

IV. Saṁskāras

According to the Hindu view of life every twice-born has to undergo certain religious sacraments or saṁskāras (XCVII. 15) which were believed not only to wash away physical impurities but also to sanctify this as well as the other life.1 Of these our author names only Niśeka (II, p. 68) or conception, Jāatakarma or birth ceremonies (IT, VIII.19), and Karna-vedha or boring the ears (XCIX.6).2 The Upanayana or initiation ceremony is called Mekhalā (XCVII.15) apparently because the tying of the girdle round the waist constituted one of the most essential items of the ceremony. The saṁskāras were regarded as pauṣṭika or strength-giving rites and the Jāatakarma is expressly so called. There is also a reference to offering oblations into the fire at the time of the birth and marriage ceremonies (XLII.37). The marriage ceremony will be described in the next chapter.

V. Other Practices

We have casual references to the following practices also. ŚRĀDDHA. As now, śrāddha feasts were popular then also. Varāhamihira represents a learned astrologer as sanctifying the row of Brāhmaṇas entertained at a śrāddha feast (II.13).3 Pitṛpūja, the worship of manes, is said to prosper in the Māgha year of Jupiter’s cycle (VIII.6). Thursday is recommended for rites connected with the manes (CIII.62). Of the precious stones, emerald was considered to be especially

1. Manu, II 26-7. For a discussion of the purposes of the saṁskāras see R. B. Pandey, Hindu Saṁskāras, Ch. III.
2. It is said that the ears should be pierced when the benefics are posited in the 11th house, when an auspicious sign is rising and is not associated with the malefics and Jupiter is in Lagna, and when the moon is posited in any one of the asterisms Puṣya, Mrgaśīras, Citrā, Śravaṇā and Revati.
3. But contra Mahābhārata, XIII, 19.7, 11, where sāmudrikas and astrologers are included among the apāṅkteyas.
suitable for use in worshipping manes (LXXXII.1). There is also a reference in the Yogayātā (IV.47) to the practice of offering pindas to the manes at Gayā which is still very popular.

TIRTHAYĀTĀṆA. The tirthas were regarded as sacred and are recommended as venues for certain religious rites like Puṣya-śnāna (XLVII.15). The water from tirthas was used for bathing an image (LIX.9), and the death at tirthas considered to be meritorious (LXVIII.12,19). This practice is still current and a considerable portion of the population of Vārāṇasi, Gayā and such other famous places of pilgrimage is constituted by people flocking there during their last days.

UPAYĀCITAKA. It was a sort of thanks-offering to the gods. While describing the preliminaries to a military expedition, Varāhamihira enjoins upon the king to make offerings to the hosts of various deities, request them to follow the army and promise them double offerings after the victory (BT, XV. 13; XXXIV.5; TY, VI. 27).

KĪRTANA. Kirtana denotes the muttering of certain fixed formulas believed to yield desired objects. The recitation of the Bhārata (i.e. the Mahābhārata) was believed to forestal the evil outcome of a bad dream (BT, XVI.31) and the same along with that of the Vedas, Vedāṅgas, Purāṇas, Dharmaśāstras, Arthaśāstras and the Rāmāyaṇa at the commencement of a march considered to be very auspicious (TY, XIII.4).

VRATAS. We have several references to the vrata or religious vows which involved fast accompanied by the performance of certain rites (XV.2; XVI.19, 32; XCVII.15). One such vrata called Rūpasattra was observed with the desire of attaining beautiful physical features and is briefly described in CIV.1-13, contents whereof are summarised below. The observer of this vrata had first to constitute the stellar deity (Nakṣatra-puruṣa) in the manner specified above. Then on the 8th day of the dark fortnight of Caitra when the moon passes through the asterism of Mūla, the performer worshipped Nakṣatra-puruṣa and Viṣṇu and observed fast, and when the vrata was over made costly presents to the astrologer.

Viṣṇu, under his various names, was believed to be the lord of the twelve months of a year, the months also being known by the names of the presiding deity. Thus the twelve months

beginning with Mrgāśirṣa were called Keśava, Nārāyaṇa, Mādhava, Govinda, Viṣṇu, Madhusūdana, Trivikrama, Vāmana, Śrīdhara, Hṛṣikeśa, Padmanābha and Dāmodara (CIV.14-15). It was believed that a man fasting on the 12th day of the several months and worshipping Viṣṇu under his respective names attains his position which is free from the fear of re-birth (CIV.16).¹

Great significance was attached to fast which formed one of the pre-requisites of certain rites. A good astrologer was often expected to undertake fast (II, p. 21; XXIV.6). The king had to observe fast while adorning Indra’s banner with ornaments and erecting and entering it into the town and bidding farewell to it (XLII.50, also XLV.15).

VI. Black Magic

A number of magical practices were also prevalent. Abhicāra² is the generic word denoting these practices. An astrologer was expected to be skilled in abhicāra (II, p. 20). We have references to persons well-versed and engaged in abhicāra (XV.4; XVI.18, 23; LXVIII.30). The abhicāra rites were to be performed with the chanting of the mantras from the Aitiharaveda (XLIII.21 and comm.). The act of piercing the clay figure of the enemy following the ceremony of Nīrājana, noticed above, was an abhicāra rite. We may now take stock of a few other terms used to denote some similar practices. One of these terms is kṛtyā which, according to Utpala, denotes a woman raised from the fire amidst the recitation of abhicāra mantras for ruining an enemy (abhicārakair = mantrair = agni-madhyād = yā stri utthāpyate sa kṛtyā, on LXVIII.37). According to popular beliefs, kṛtyā could destroy even entire families (LXXIII.10. Cf. Manu, III.58). Varāhamihira refers to persons observing kṛtyā rites (LXVIII.37). The term vetāla means the act of infusing life into a dead body with the help

¹ Under the name Nakṣatra-puruṣa-vrata it is described in detail in the Matsya (Ch. 54) and Vāmana (Ch. 80) Purāṇas.
² Utpala defines abhicāra as follows (p. 20):

कृत्यावेतत्लोत्त्वपनमार्णोत्तपपनविद्वेशक वशीकरणस्तम्भनचालनादिकमंभि-
चारविधा।
of the mantras (śava-saṁrasya mantraṁ punar = utthāpanam vetālaḥ, on LXVIII.37). Mention is made of those well-versed in the doings of vetāla (vetāla-karmajña, XV.4). It was believed that if a vetāliya rite was wrongly performed, it spelled the ruin of the doer himself (vinihanti tad = eva karma tān vetāliyam = iv-āyathākytam, CIII.59). The sharp constellations of Mūla, Ādrā, Jyeṣṭhā and Āśleṣā are recommended for the rites connected with vetāla (XCVII.7). People also believed in the power of mantras or magical incantations and kuhaka or magical rites. Varāhamihira refers to experts in the use of the mantras (LXVIII.30). It was believed that one could win over another's heart by the use of mantras and kuhaka (LXXIV.5). Varāhamihira, for one, however, held that mantras and kuhaka are not capable of producing happiness but only harmful effects. It was believed that an evil eye (aśubha-dṛṣṭi) can be averted by worshipping gods and Brāhmaṇas, performing expiatory rites, muttering certain formulas, observing restraints, etc. (CIII.48). Varāhamihira mentions a number of astrological beliefs which will be noticed in Ch. VI.
II
NON-BRĀHMANICAL SECTS

The information that we get about non-Brāhmanical sects like Buddhism and jainism is extremely meagre and fragmentary as compared to the rich material bearing on orthodox Brāhmanism analysed above. Varāhamihira refers to heterodoxy as pākhaṇḍa (VIII. 12; XV. 24; XLV. 75) and to its adherents as pākhaṇḍin (V. 29; IX. 33; XV. 10; XXXI. 4)\(^1\) which latter term Utpala invariably understands in the sense of people beyond the pale of Vedic religion (Vedabāhya). We have references also to nāśikas (atheists denying the authority of the Vedas, LXVIII. 35) and their followers (XLV. 75). Utpala takes the word nāstika to denote a Laukāyatika deovid of all religious rites (nāśikān ca Veda-bāhyānām laukāyatikānām, XLV. 75; nāstikāh kriyārahito Laukāyatikaprayaḥ, LXVIII. 35). Our author flourished at a time when heterodoxy was fast losing ground and consequently viewed with disfavour. We need not, therefore, be surprised if a country ruled by a king devoted to pākhaṇḍas was supposed to be heading to its ruin (XLV. 75).

I. Buddhism

Varāhamihira refers to Buddhist monks as Sākya-bhikṣu (XVI. 14; CIII. 61), Sākya (L. 21; LIX. 19; BJ XV. 1) and Śravaṇa (LXXXVI. 9, 36) and to nuns as bhikṣumikā (LXXVII. 9). The word Arhat (L. 21) may denote either a Buddhist or a Jaina mark. The commentator invariably explains Sākya as rakṣapati or rakṣapaṭa, indicating that in Utpala’s time Buddhist monks and nuns used red robes.

Our author seems to have had profound reverence for the Buddha whom he describes as ‘the father of the whole world’ (piṭ-eva jagato bhavati Buddhah, LVII. 44), ‘benevolent to all’ (sarvahitasya) and as ‘of serene mind’ (sāntamanasaḥ, LIX. 19). Further, he devotes one full verse to the description of the Buddha’s iconography while many Brāhmanical gods, e.g. Brahmā, Skanda, Varuṇa, etc., are disposed of within fewer words. We are told that the Buddha, as if he were the father of the whole

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1. Cf. VIII. 12; XLV. 75 where persons devoted (bhakta) to pākhaṇḍas are referred to.
world, should be shown with his palm and soles marked with the figure of a lotus, a placid countenance, very short hair (śuniṣṭa-keśa), and seated on a lotus-seat. These are only very general characteristics of the Buddha images and it is not necessary to describe the numerous specimens illustrating these features. This dhyanī is of the seated Buddha figure. No reference is made by our author to the standing Buddha figure. Only the Śākyas or Buddhist monks, we are told, are entitled to consecrate the image of the Buddha (LIX. 19). Utpala adds that it was to be installed in accordance with the Paramitās.

II. Jainism

As compared with the Buddhists, references to the Jainas are much less numerous. The Jaina monks are referred to as Nirgrantha (LXXXVI. 34. Bṣj, XV. 1) Nirgranthi (L. 21) or Nagna (LIX. 19) which undoubtedly stand for the Digambaras. There is no tangible reference to the Svetāmbaras. We get the following iconographic description of the Jina images: The god of the Arhats (a Tirthaṅkara) should be represented nude, youthful, beautiful and serene in appearance, his arms reaching the knees and the breast bearing the Śrīvatsa mark. These features are so general that any Jina image can illustrate them. According to Varāhamihira, only the nude Jaina monks could consecrate the Jina images (LIX. 19).

III. Ajivikas

We have a solitary reference to the followers of the Ājivika sect also (Bṣj, XV. 1). The paucity of references probably indicates that the sect did not find much favour with the people.

1. पद्माकुंड़करचन: प्रसारमूर्ति: मुनीचक्रकरब ।
   पद्मासनोपविश्व: पितिव्य जगतो भवितु बुद्धः: II LVII. 44.

   Utpala records the variant ‘suniṣṭa’ which J. N. Bunker (DHI, p. 587) takes to refer to the short curls on Buddha's head turning from left to right, daksipaścaramūrdhaja, a characteristic sign of the Buddha.

2. अज्ञातसंबंबाहु: श्रीवस्ताकुंड़: प्रशान्तमूलितिभ ।
   दियासास्त्रश्चर्यवास्त्र कार्याः श्रीस्वात्व: देव: II LVII. 45.

3. For a full discussion of this reference vide my paper in JOIB, XII, 44-50.
CHAPTER IV

SOCIAL LIFE

I

SOCIAL STRUCTURE

The Brāhmanaḥkītā presents us with a life-like picture of contemporary social life in its various aspects. The life depicted in our work is unique in more than one way; many a recondite side of human life ordinarily not represented in literary compositions is revealed with meticulous details here. We may now proceed to analyse our data.

VARNA. The institution of four castes (cāturvarṇya) was the foundation stone of Hindu social organisation. It is referred to both as Varṇa¹ and Jāti². In contradistinction to the Śūdras, the first three varṇas were collectively known as dvija or dvijā³, for their members were entitled to perform the Upanayana (initiation) ceremony which was considered to be the second birth, a privilege denied to the Śūdras. The appellation dvija or dvijā is, however, more frequently applied to the Brāhmaṇaḥs in order to distinguish them from the other three castes.⁴ The varṇas are usually mentioned in their descending order indicating the degree of the status they enjoyed in society.⁵

The caste system tended to be more and more rigid during our period. Varāhamihira carries the distinction of caste to the farthest limit. He associates white, red, yellow and black colours with the Brāhmaṇaḥs, Kṣatriyas, Vaiśyas and Śūdras respectively. A few examples will not be quite out of place here. White, red, yellow and black rays of the sun in the rainy

¹. III.19; XXXIII.14, etc.
². VIII.10; XXXII.18; BY, XXIII.7; YY, IX.2, 4, etc. The word jāti is very often suffixed to the names of low castes, e.g. Ugra-jāti (XV.29; YY, IX.6), Gandāla-jāti (XV.30; YY, IX.7), Mleccha-jāti (XVI.34).
³. YY, IV.4.
⁴. IV.23; V.20, 32, 71, 76; IX.39; XII.18; XV.1, XVIII.4; XIX.13; XXIV.7; XXXIII.14; LVIII.5; LXVIII.38; LXXIX.11; LXXXVI.3, etc.
⁵. Cf. anuvarna (III.19; LII 89), varṇa-krama (LXXI.4).
season are said to destroy the four varṇas in order (III.25). Rāhu (eclipsed disc of the sun or moon) appearing white, red, yellow and dark (also kārṣṭa or pigeon-like) was believed to afflict the Brāhmaṇas, Kṣatriyas, Vaiśyas and Śūdras respectively (V.53, 56, 57, 59). The principle of colour was also adhered to in selecting sites for residential buildings or for temples (LII.94; LV.9). The colour of certain articles of daily use also differed from varṇa to varṇa. For instance, the handles of clubs, umbrellas, goads, canes, bows, canopies, spears, banners and chowries of the members of the four varṇas in the descending order were to be yellow, yellowish red, hued like honey and dark respectively (LXXI.4). The Brāhmaṇas had a special kind of umbrella prescribed for them (LXXII.6). The Kṣatriyas were to use red or yellow diamond; the Brāhmaṇas, white; the Vaiśyas, hued like śīrṣa flower; and the Śūdras, black (LXXIX.11).

Similarly, the four varṇas in order are assigned to the north, east, south and west respectively² (pūrṇa ādyāḥ Kṣatriya-ādyāḥ = caturdiṣam, LXXXV.34). It is laid down in connection with town-planning that members of the four varṇas should have houses in their respective quarters (LII.67-8).

The sites for the houses of persons belonging to different castes differed from one another in regard to colour, taste, smell and similar other matters (LII.89-95). Dwellings with various measurements are prescribed for different varṇas (LII.12-3, 15, 18-9). Similar is the case with regard to the timber used in fashioning images (LVIII.5-6).

Beforecommencing the construction of a house, the owner had to draw lines touching his head, breast, thighs and feet according as he was a Brāhmaṇa, Kṣatriya, Vaiśya and Śūdra (LII.98). This reminds one of the Puruṣa-sūkta of the Rgveda which postulates the origin of the four varṇas from the face, arms, thighs, and feet of the Puruṣa.

The caste distinction is extended to certain astrological phenomena also. Thus, an eclipse during northern or southern

1. Also cf. III, 19; X.21; XXX.17; XXXIII.14; XXXV.8; XXXVI.1; LI.1.
2. Also see V.32; XXX.16; XXXI.3-4; XXXIII.15; XXXVI.1. XLII.65;
solstice was supposed to afflict the Brāhmaṇas and Kṣatriyas or Vaiśyas and Śuḍras (V.32). We are told that persons belonging to the four varṇas are afflicted when the sun or the moon is eclipsed in certain parts of the sky (V.28-9). They were also supposed to be presided over by different asterisms and planets (XV.28-30; XVI.34). A halo (pariveśa) appearing on the first four days of a month is said to bring ruin to the four varṇas in order (XXXIV.19). A meteor falling on its head, breast, side and tail or the one that is straight, glossy, unbroken and falling downward is said to hurt the four varṇas severally (XXXIII.14-5).

How far these distinctions were followed in practice is not possible to ascertain for want of reliable data.

The Brāhmaṇas are spoken of as aspiring to master the Vedas (XII.18), reciting Vedic mantras at sacrifices and other religious rites, officiating at sacrifices and religious ceremonials like śāntis, the festival of Indra’s banner, formal entrance into a newly constructed house, Nirājana, Pusyasāna and the installation of images. There is a reference to Brāhmaṇas solely living on water, roots and wind, eschewing other food and performing penance (XII.6). At the conclusion of every religious rite they received daksinā or gifts consisting of various objects and were entertained at feasts. The gifts bestowed upon the Brāhmaṇas in the prescribed manner were believed to secure the object for which they were given. At one place gifts to Brāhmaṇas are said to be capable of averting calamities due to celestial portents. They were considered to be capable of strengthening the nation by observing śāntis in the same way as a physician does in the case of one suffering from a disease or poison. Non-observance of duties on their part

1. XIX.13; XLII.26; XLIII.6; XLVII.49.
2. XXIV.6; XLII.30; TT, VIII.3, 3, 8, 12, etc.
3. Chs. XLII, XLIII, XLV, XLVII, LII.123, LIX.
4. XLII.38; XLV.17, 24, 32, 37, 45, 53, 57-8, 64, 71-2; LII.97; LIX. 17; XCVI.17; CIV.8; BT, XVI.31; TT, II.23; IX.16-17.
5. आयातिते स्वभवनानि पुनः कृतायाः ।
   दत्ता हि जालियः पुरा विषविषवं वयायोः ॥ TT, IV.58.
6. ...न तेषा भविति दुष्टिपाको दक्षिणाभिषेच रूढः । XLV. 17.
7. रोगाभिकृतैव विवेदीतं व यथा विमानाभिकृतं शरीरम् ।
   वेदः प्रयोगे: सुदृढ़ करोति राष्ट्र तथा शान्तिभिरप्रजनम् ॥
   TT, III.23.
was viewed seriously (IX.39). Their austere life and the services they rendered to the people in various ways elicited respect from all sections of society. The Brāhmaṇas are often mentioned along with gods, and a man dominated by the sattva quality is said to be devoted to them (LXVIII.8). The Rucaka and Maṇḍalaka types of men are also described as strongly attached to the Brāhmaṇas, teachers, gods, sacrifices and meditation (LXVIII.29, 38). Their blessings on the eve of a journey were highly valued and their sight at the commencement of a military expedition regarded as auspicious (IT, XIII.11; XIV.23). A king whose army hated the Brāhmaṇas was regarded as easily assailable (ibid., III.4). Their grace and the mantras recited by them at the commencement of a march were believed to enhance the vigour of the monarch and to lead him to victory. Wars were fought for the cause of the Brāhmaṇas, cows and the king. A victorious monarch is exhorted not to confiscate the belongings of the Brāhmaṇas.

They were distinguished from each other by the Veda to which they belonged. Thus the Brāhmaṇas of the Atharvaveda (Ātharvaṇa, BY, XVIII.13), Sāmaveda (Chandoga, ib., XVIII.10) and the Rgveda (Bāhurā, ib., XVIII.15) are mentioned. There is a reference to the Brāhmaṇas versed in the four Vedas (cāturvedya, ib., XVIII.7). Cāturvidyā Brāhmaṇas are also mentioned in some land grants of the Gupta period. The word śrotiṣṭya, which denotes, according to the Vaikhānasa Gṛhya Sūtra (I.1), a Brāhmaṇa well-versed in a single Veda, occurs in XLVII.5. Gotra was another distinguishing point: Brāh-

1. BY, XV.15; XVI.30; IT, IX.2; IT, XIII.1.
2. ब्राह्मणमण्डामिनिवृद्धिप्रतिज्ञतेजः | BY, XX.2.
3. सेविके वयस्मारद्विजप्रसादः
उपवक्ति दिवसाधिकटकाशान् | BY, XXXI, 2; IT, IX.28.
4. स्वामित्ववाचविशेषं न नन्दा
स्वामिनिवाचविशेषं लक्ष्मीस्वरूपम् | IT, XVI.4.
5. IT, XVII.9; BY, XXXIV.8; TT, IX.33.
6. CHI, III, p. 70, l. 6; p. 179, II. 65-6; p. 238, l. 25; EI, XV p. 307. The legend chāturvidyāsa is found on several seals and sealing from northern India.
7. वेदमधीत्य शारीरिकपाणिप्राप्तिः
संस्कृतः पाकयंतिरि यजनोष्ट्रियः | Quoted in HDS, II, p. 131, fn. 290.
manas of Vasiṣṭha gotra are mentioned in V.72. The derogatory word Brahmabandhu² is found in BT, XVIII.24. A Brāhmaṇa who failed to perform the Upanayana sacrament in time was degraded from his caste and styled Vrātya dvija (LXXXVI.39).² According to Manu (II.39-40), such a person was excluded from Sāvitrī and despised by the Āryas, and unless he observed expiatory rites he could have no connection with the Brāhmaṇas either through the Veda or by marriage.³

Brāhmaṇicide was regarded as one of the most heinous crimes and a large number of penances are prescribed for its atonement. Our author refers to one such atonement as Kāpāla-vrata. ‘When the cart of Rohini, says he, ‘is broken through by Venus, the earth is strewn with hair and pieces of bones, as if it were observing the Kāpāla-vrata after committing a sinful act (i.e., killing a Brāhmaṇa).⁴ This follows the Mānava-dharmaśāstra which lays down that the murderer of a Brāhmaṇa, for purifying his own self, should live for twelve years in a cottage in the forest, subsisting on alms obtained by begging and making the head of the corpse as his ensign.⁵

In VIII.30, Kṣatra is represented as the ruling class.⁶ In V.32, the word narendra stands for the Kṣatriyas. It shows that at least in theory regal power was confined to the second caste. In practice, however, there were undoubted departures from this theory. Yuan Chwang, for instance, refers to

2. Cf. Utpala: —सर्व ब्राह्मणस्वास्त्मदेव वर्षदार्म्य शोभावर्य याबुपन्यनं न हृत स ब्राह्मणो द्विजः।
3. The expiatory rites by which a Vrātya could regain his previous position consisted of three Kṛechras according to Manu (XI.192), Vrātyasćoma according to Yājñavalkya (I.38), and of Uddālakaśrava according to Vasiṣṭha Dharma Śīrā (XI.76-9). Also see HDS, II, pp. 376-79; K.V.R. Aiyangar, Aspects of the Social and Political Systems of Manusmṛti, pp. 109-10.
4. प्राणार्थे शक्ते निन्ये कुलेश्व पातकं वसुया। केशारिभक्षस्तवला कापालसिद्धं ब्रह्मराध्ये। II IX.25.
5. ब्रह्महा डालसांदानि कुटीं कुलवा वने वसेतु। भक्ष्यस्तविभुत्तुत्वयः कुलवा शारिराण्ं द्रष्टय। Manu, XI.72.
the Vaiśya kings of Thaneshwar and Paryatra, 1 Śūdra kings of Matipura and Sindh, 2 and Brāhmaṇa rulers of Ujjayini, Jijhoti and Maheśvarapura. 3

The first two varnas are often paired to form the compounds like Brāhma-Kṣatra (IV.31; IX.16; XVII.21), Dvija-Kṣatra (V.71), Dvija-Kṣatriya (XVIII.4) and Dvija-ṛṣṭi (V.32), indicating, firstly, that their unity was considered essential for the proper maintenance of social order, 3а and secondly, as compared to the next two varnas, which are also sometimes coupled (Viś-Śūdra V.32; VIII.52), they occupied a higher place in social hierarchy. Any dissension between them was viewed seriously (XVII.21). Sometimes in contrast to the two upper castes, others are styled commoners (prajā, IV.31).

The Vaiśyas and Śūdras are represented as propitiating Agastya with the desire of obtaining cattle and wealth respectively (XII.18).

The caste determined one's social status (Sāthe pradhānāṁ sāmye syāj jāti-vidyā-vayo dhikam, LXXXV.11; BY, XXIII.7). References to the heads of castes 4 indicate the existence of caste organisations.

MIXED CASTES. Varāhamihira, who brands the mixed castes (saṅkara) 5 as vicarṇa (XXXVI.2) and avarṇaja (LXXXVIII.1), seems to adhere to the dictum of the Śrauta that there are only four varnas and no fifth exists (cf. Manu, X.4). The dharmaśāstra-writers derive the mixed castes from inter-caste marriages in the anuloma 6 and pratiloma 7 orders. Unlike the four traditional castes, mixed castes are assigned to intermediate directions (XXXVI.2; BY, XXXII.4). We get references to the following sub-castes:

1. Cāṇḍāla (XV.30; YT, IX.7), one of the six primary pratiloma castes deriving its origin from the union of a Śūdra male

3а. Cf. Manu, IX.322.
4. jāti-ṛṣṭha (VIII.10), Utpala—jātinām ye sreṣṭhāḥ pradhānāḥ; Rājanya-mukhya (IV.24), Utpala—Kṣatriya-pradhānā. Cf. Pāda-tāḍita (Chaturbhūti edited by Motichandra), p.156, which refers to the Brāhmaṇa-pīthalikā for deciding matters relating to their caste.
5. IX.14; XVI.11; LXXXVIII.1; BY, XXXII.4.
6. i.e. union of a male of higher caste with a female of lower caste.
7. i.e. union of a man of lower caste and a woman of higher caste.
and a Brāhmaṇa female.\(^1\) Manu (X.16, 51-6) regards the Cāndāla as the lowest of men and speaks of him as living outside the village, having dogs and donkeys for his wealth, dressing himself with the clothes of the dead, taking food from broken dishes, having iron ornaments and wandering from place to place. They were not allowed to enter a town or a village during the night and even during the day they could go about for their work bearing special marks.\(^2\) They had to dispose of the corpses of persons having no relatives, be hangmen at royal orders\(^3\) and take for themselves the clothes, beds and ornaments of the executed.

2. Ḍombas (LXXXVI.33), the same as the present-day Ḍoms who are placed in charge of cremation grounds.

3. Niśāda (V.76), begotten by a Brāhmaṇa male on a Śūdra\(^4\) or Vaśya\(^5\) woman. The Amara (II.10.19-20), however, treats Niśāda as synonymous with Cāndāla. Utpala takes Naṅkṛtiṣkās (V.28; X.3)\(^6\) to be the same as Niśādas. Manu (X.48) assigns them fishing for their occupation.\(^7\)

4. Pāraśava (LII.15), born of the union of a Brāhmaṇa man and a Śūdra woman.\(^8\) Vide was a Pāraśava and married the Pāraśavi daughter of king Devaka (Mahābhārata, Ādi, 108. 25; 113.12). Bāṇa had two Pāraśava brothers, Candrasena and Māṭrṣena. We learn from a Tipperah CP. inscr. (A.D.

1. Manu, X.12; Tājñāvalkya, I.93; Arthaśāstra, III.7; Amara, II.10.4.
2. Cf. Fa-hian (H.A. Giles, Travels of Fa-hsien, p. 21):—"These (Cāndālas) live away from other people; and when they approach a city or market, they beat a piece of wood, in order to distinguish themselves. Then people know who they are and avoid coming into contact with them." Also cf. अवर्षितभास्मां वेणुकामादाय नरकपरि प्रतिविभोधनायं सकूलभाकुटिम-मार्गाधान् (सांडलकान्याकाव्यानम्).

Kādambari, Purvabhāga, p. 20.

For a graphic picture of Cāndāla habits, dress and hamlet, see ibid, pp. 20-24; 686 ff.

3. Cf. Mṛchakatika, Act X, where we meet two Cāndālas acting as hangmen.

4. Arthaśāstra, III.7, p. 164; Manu X.8; Tājñāvalkya, I.91.

5. Haradatta on Gautama Smṛti, IV.14 mentioned in HDS, II, p. 86.


that Lokanātha’s maternal grand-father Keśava, officer-in-charge of royal army, was a Pārasava.1

5. Śvapaca (L.5), variously called the offspring of an Ugra man and a Kṣattr woman,2 a Kṣattr man and an Ugra woman,3 a Cāndāla male and a Brāhmaṇa female, and of a Cāndāla male and a Vaiśya female.4 Varāhamihira classes Śvapacas among the antya-jātyas5 and relegates them to the corners of a city, village or building (L.II.82), indicating that they had their own settlements, probably away from villages. Manu classes them with the Cāndālas and assigns identical occupations.6

6. Ugra (XV.29; XXXI.3; 1Y, IX.6), born of a Kṣatriya male and a Śūdra female.7 Manu (X.49) requires an Ugra to pursue the occupation of killing the animals living in holes.

To add to its complexity, a number of foreign hordes, e.g., Yavanas (Greeks), Pahlavas (Parthians), Śakas, Hūṇas, Magas,8 were absorbed in Hindu society. They were branded as Mlecchas. The Yavanas are clearly so called (II.14). They are associated with the mixed castes (XVI.11), showing that in the eyes of Brāhmaṇical writers they did not enjoy an honourable position in social hierarchy.

ĀŚRAMAS. By a strange coincidence the number of the Āśramas or stages into which the life of a duīja was divided is also four: those of a Brahmacārin or student, Grhaṣṭha or householder, Vānaprastha or forest recluse, and Sannyāsin or wandering ascetic. Varāhamihira refers to Vānaprasthas as vanyāśana, ‘subsisting on forest products’ (BJ, XV.1) and tāpasa (XIII.9; LVIII.2), and to Sannyāsins as bhikṣu (BJ, XV.1), pravrajita (L.5; LXXXVI.7), parivrāṭ (LXXXVI.36), suparivrāṭ (L.20) and yati (L.5). At one place we have a reference

1. El, XV, p. 305.
4. HDS, II, p. 97.
5. Cf. BJ, II.77 (antyaḍa)
6. Amara, II.10.19-20, identifies the Cāndālas and Śvapacas.
7. Arthaśāstra, III.7, p. 164, Kṣatriyaśa Śūdrāyām=Ugraḥ; Manu, X.9;
Amara, II.10.2, Śūdrā-Kṣatriyavag=Ugraḥ.
8. For references see supra Ch. II, Sect. 3; for Magas see supra, pp. 193-40.

to hermits free from family ties, leading their life in the wilderness (II.7). According to Utpala, the word āśramin means a Śannyāsin (V.28; XV.24; LIII.16). We have references to ascetics with shaven heads (muniśa) and wearing reddish clothes (kāśāyin, TTV, XIII.14; TTV, IX.15). Mention is also made of female ascetics (bhikṣunikā, pravrajitā LXXVII.9). But as we shall see in the next section, owing probably to their dubious character, they did not command any respect in society as is evident from the advice to protect women of good families against them. Varāhamihira speaks of persons revering ascetics, seeking admission to the ascetic order without success (abhiyācita-mātra-diksitāh, BJ, XV.2) and giving up ascetic life (BJ, XV.1).

In XLVII.13, we find a conventional description of hermitages (āśramas) where “the lion is won over by a female deer, as anger by forgiveness and where the young ones of birds and the deer are granted freedom from fear.” The āśramas were considered to be sacred and trees growing there were not allowed to be cut down (LVIII.2).

1. Cf. BJ, XXIV.16, which states that women born in certain combinations of planets and stars will undoubtedly take to ascetic life (pravrajitā).
MARRIAGE AND POSITION OF WOMEN

Being the source of all family relations, marriage is the most important institution of social life. It is instrumental in propagating human race, perpetuating family line, and regulating sex-relations. Due to these and other reasons marriage was very highly thought of in many ancient nations, India being no exception (cf. Manu, III.7).

According to Hindu notions, a *dvija* is born with debt to sages, gods and manes, the last of which could be repaid by begetting children,¹ an aim properly attainable by marriage. The wife was considered to be man’s half without whom he was not admitted to the privilege of performing sacrifices.² To these Manu (IX.28) adds sexual and other pleasures as an end for which a marriage was contracted. Thus the main objects of marriage were offspring, performance of religious rites and worldly pleasures.³ Varāhamihira emphatically stresses man’s dependence on wife for *dharma, artha, kāma* and sons.⁴

As to the qualifications of a bridegroom, our author states that he should be pure on his parents’ side, handsome, young and of known character (*VP, 8*). Stressing the qualifications of the husband, he says that even though possessing all virtues, a girl, if married to a man devoid of necessary qualities, causes disrepute and loss of happiness and wealth to one (the girl’s guardian) unable to find out a suitable match.⁵ We have, however, a reference to the marriage procession of an old man puffed up with his wealth.⁶

1. *Taittirīya Sanhītā*, VI.3.10.5; *Manu-smṛti*, IX.106.
2. Cf. *Satapatha Brāhmaṇa*, V. 2.1.10; *Taittirīya Brāhmaṇa*, II.22.6; *Manu*, IX.96.
4. तदर्थं वर्णपृयः मुलाविक्षेपः पः ततो…LXXIII.4; वर्णपृयः कामाय, *VP*, 15.
5. मुंचः समस्तेरीप विकृष्णक्त यात्रा विकृष्णाय दत्ता। करोत्तीर्तिं विकृष्णिं राजानि बिवाहायात्रेव जरायंदित्वस्। *IV*, II.14.
6. शुक्रे विनंद्ये चन्द्रुपिण्यं विवाहायात्रेव जरायंदित्वस्। *IV*, V.11.
Besides possessing auspicious physical features and being free from inauspicious ones, the bride should be a virgin (kumārī, kumārikā, kanyā, kanyakā) and young (yauvanasthā, VP, 8). Varāhamihira speaks of youth, beauty, attractive dress, courtesy and knowledge of the arts of captivating a man's heart as the excellences of women (LXXVII.13). From this, we may conclude that usually women were physically and mentally mature at the time of marriage. The physical characteristics of the virgin enumerated in the Kanyā-lakṣaṇādhyāya of the Brhat-saṃhitā (Ch. LXIX) confirm our view. Sanskrit classics, it is interesting to note, have for their heroines grown up girls capable of indulging into the intricacies of love. The censure of dharmaśāstra-writers against post-puberty marriages, therefore, seems to represent their own views rather than the actual state of things.

People normally married within their own caste, but

2. LXIX.1.
3. VP, 64.
5. VP, 8, 20.
6. Mālavikā in the Mālavikāgnimitra, Śākuntalā in the Abhijñāna-Śākuntala, Mālatī in the Mālatī-Mādhava and Rājyaśri in the Harṣa-carita may be named in this connection.
Varāhamihira mentions vṛṣali-pati as the recipient of daksinā at the propitiation of Saturn (BY, XVIII.18-20). Parāśara defines vṛṣali-pati as a Brāhmaṇa marrying a woman who has attained puberty (Parāśara-smṛti, VII.8-9). Varāhamihira does not seem to have employed the word in its technical sense. It may refer to the marriage of a Brāhmaṇa with a Śūdra woman.
8. The lowering of the marriageable age of girls was accelerated, among other things, by the desire to maintain absolute physical chastity of women and to avoid even their theoretical enjoyment by the divine husbanos, Soma, Gandharva and Agni, cf. Sāmkorta, verses 64, 67; HDS, II, p. 443; Altekar, Position of Women, pp. 57-8. Varāhamihira refers to this myth in slightly different words:

सोमसामायद्विन्द्रियं गन्धर्वं: निषिद्धं निगरम्
अन्निन्धन सर्वभिः सत्त्मामिन्धक्षमां: स्त्रियं: इ

LXXIII.7.

9. Cf. On Yuan C'h'ung (I, 168) :—'The members of a caste marry within the caste, the great and the obscure keeping apart.'
terms like Pāraśava, Ugra, Caṇḍāla, Niśāda and Śvapaca, which denote the offspring of inter-caste unions,\(^1\) testify to the prevalence of inter-caste marriages during our period. There is evidence, literary and epigraphic, to show that such marriages actually took place. The Vākṣātaka Rudrasena II, a Brāhmaṇa of Viṣṇuvṛddha gotra, for example, married Prabhāvatiguptā, daughter of Candragupta II. The Kadamba ruler Kākusthavarman, fourth in descent from Mayūraśarman, the Brāhmaṇa founder of the dynasty, married his daughters to Guptas and others.\(^2\)

**Marital Rites.** Varāhamihira refers to varana or wooing, (B[J, XXIV.16], vivāha-yātrā or marriage procession (YY, V.11), madhuparka (VP, 96) and subsequent rites performed in the presence of fire (ib.). The rite of grasping the bride's hand by the bridegroom is implied in the word pāṇi-graha used to denote marriage (XCIX.7; VP, 14). According to the Vivāhapatala (96), the bridegroom observed some auspicious practices (kautuka-maṅgala) prior to the marriage proper.\(^3\) In the Harṣacarita (IV), we find Grahavarman observing local customs in the kautuka-grīha before marriage.\(^4\) This practice is still current in Panjab but changes in the Meerut region where marriage is followed by the observance of local customs.\(^5\) Similarly, the bride was required to worship Indrāṇi. A clay image of Indrāṇi was taken in procession by ladies to the bank of a river or tank where it was bathed and worshipped by the bride who brought it back to her house and worshipped thrice in the morning, afternoon and evening—daily till marriage (VP, 9-14). In connection with Indumati’s svayamvara,

1. *supra*, Ch. IV, Section 1.
2. *El*, VIII, p. 24. Haricandra, the Brāhmaṇa upstart of the Pratihāra dynasty, married a Kṣatriya lady, Bhadrā, cf. *El*, XVIII, p. 95, text, l.3. In the Mālavikāgīṁitra, Agnimitra, son of Brāhmaṇa Puṣyamitra, is seen marrying the Kṣatriya princess Mālavikā. Also see *supra* Ch. IV, section 1, under Pāraśava.
3. कृतकौतुकमयाधिक वरो मधुपकाशयनादन्तर दूर्मितिमहामामनां यदि वायुतमूर्तिद्वाराश्च ततः \(\text{VP, 96.}\)
4. परिधास्पद्युप्सेवाभिषिव्वातीति कौतुकगृहः यदृ यत् कार्ये जामाता ततै तत्तथार्थिन्द्रियाः कृत्वाणि अप्रयोगवशशास्त्राः सूक्तिनां। करेव वर्षू \(\text{निर्जेगम।}\)
5. V. S' Agrawala, Harṣacarita, A Cultural Study (Hindi), p. 83.
Kālidāsa speaks of the absence of disturbances owing to the presence of Śacī there (Raghuvaṃśa, VII.3). This custom is noticed by Bāṇa also (Harṣacarita, IV). Sudarśanācārya, the commentator of the Āpastamba-grhyasūtra, mentions Indraṇī-worship as a rite to be performed without mantras. This custom is still followed in Maharashtra. Varāhamihira further recommends the observance of local practices.

A master diviner as he was, Varāhamihira naturally stresses astrological factors in selecting an auspicious moment for connubial rites. As these considerations have an important bearing on the then practices, we may set them out here. 'Marriage', says our author, 'should be celebrated in the constellations Rohini, the three Uttarās (i.e. Uttarāṣādhā, Uttarabhadrapādi, Uttaraphalguni), Revati, Mrgāśiras, Mūla, Anurādhā, Maghā, Hasta and Svāti; when the signs Kanyā, Tūla, or Mithuna are in the rising; when the benefics are in the bhavas other than the 7th, 8th and 12th; when the moon is in the 2nd, 3rd or 11th house from the lagna; when the malefics are in the 3rd, 6th, 8th or 11th house; when Venus is not in the 6th house and Mars in the 8th; when the moon does not come into conjunction with the sun, Mars, Saturn or Venus and is not hemmed in between the malefics; on a day free from Vyatipāta, Vaidṛṣti or Viṣṭi; on a tithi other than the 4th, 9th and 14th; on a day presided over by a benefic planet; in the northern solstice; in a month other than Pauṣa and Caitra; and when the rising Navāṁśa is occupied by a biped sign. It must also be ascertained that the RāGIS of the bride and bridegroom are not 2nd and 12th, 5th and 7th, and 6th and 8th from each other and that the sun and the moon for the bridegroom and bride respectively are favourable (XCIX.7-8). The good or bad result of the constellation in which a marriage is solemnised is said to accrue in as many years as the stars constituting its number (XCVII.3).

We know from the VP, 17-23, that ancient writers differed as to which among the year, solstice, season, month, fortnight, tithi, asterisms, lagna and karaṇa is the most important for marriage. We are further told that in this matter various customs prevailed in different regions, and special mention is made of those in vogue in the south, Mālava, Māṇḍavya, Vaṅga, Tuṣāraka, and among the Khaṇs, Hūṇas, Mālakas, Bheksānas, Gopas and the easterners (VP, 80-89). Evening twilight was considered especially auspicious for connubium (VP, 90-93). That these rules were actually followed in practice is evidenced by numerous references. The Baudhāyana-grhyasūtra (I.1.20) names Rohini, Mrgāśира, Uttaraphalguni and Svāti as nakṣatras.
POLYGAMY. Though people were normally monogamous, multiplicity of wives, especially among the rich, was not unknown. Varāhamihira refers to co-wives (sāpatnī, VP, 34; sasāpatnīka, VP, 19) and to men with two (dvībhāarya, YY, IV.55; BY, XVIII.16) or more wives (bhūribhāarya, BṬ, XVIII.18).

That even poor men sometimes practised polygamy would appear from the statement that the happiness of a poor man with two wives comes to an end (YY, IV.55).

WEDDED LIFE. Complete concord between husband and wife and perfect fusion of their personalities into one are essential for a prosperous and happy wedded life. A serious view was, therefore, taken of antagonism between them (V.97). A wife acting contrary to the interests of her husband is spoken of scornfully. On the other hand, a wife agreeable to her husband’s mind is said to augment the prosperity of the family (YY, V.31). She was expected to maintain a very high moral standard.

As we have seen above, sensual pleasures and children were main objects of wedlock. Just as a twig cut off from a tree or a seed sown in the soil does not develop into a different plant, so also, it was believed, a son is nothing but the soul re-born in a woman with such minor differences as may be due to the influence of the mother who is compared to a field. Manu, it would be remembered, compares a man and a woman to the seed and soil respectively (IX.33 ff.). As the foetus a woman develops is similar to the man she remembers at the of marriage. The Āsvalāyana Gr. S. I.4.1 states that marriage should be held in northern solstice and an auspicious nakṣatra. According to the Ābavastamba Gr S. III.3, one desirous of making his daughter dear to her husband should give her in marriage in Niṣṭyā (Śvāti). The wedding of the four sons of Daśaratha is said to have taken place in Uttaraphalgunī (Rāmāyana, I.71.24; I.72.13. For a different interpretation vide Tilaka, Śiromani and Būsana commentators). The marriage of Ruru and Pramadvarā also took place in Uttaraphalgunī (Mahābhārata, Ādi, VIII.16). Also cf. HDS, II, pp. 511-515.

1. Cf. yasya pramaddḥ prabhūtāḥ, LXXV.5.
2. विपरीताः कुः भृतर्षदिनयतं प्रकल्पयेत्।
3. Cf. YY, V. 12, 34 where a woman of loose character is mentioned with scorn.
4. भंडस्वता काण्डे पादपस्पोतमुख्ये बीजं वास्याः नाम्यतमतं यथस्तु।

एवं हात्मा जायते स्पृशीय भूतः कविचत् तरिस्मण श्रेष्ठबोधकः विशेषः।

VP, 44.

LXXIV.2.
moment of coitus and as sexual pleasure in its entirety is not possible without winning over her mind and securing her un
divided love (LXXIV.1, 4), Varāhamihira elaborates an ethical code by which this goal may be realised (LXXIV.5-10). He deprecates the employment of the mantras (mystic formulas) for captivating heart, medicines, spells (kuhakas) and similar other remedies which seem to have been current in his time (LXXIV.5).\footnote{1}

Varāhamihira advises a man desirous of maintaining his family-reputation to guard women against female ascetics, Buddhist and Brāhmaṇical, female slaves, nurses, unmarried girls, washer-women, garland-makers, corrupt women, female companions, she-barbers and go-between, for they ruin families.\footnote{2} The significance of this advice can be properly grasped in the light of Vātsyāyana's Kāmasūtra which regards these women as best suited for employment as go-between in intrigues with others' wives (I.5.37-39; III.3.9, 38; V.4.42-62).\footnote{3} Women were also to be guarded against nocturnal movement, vigil, pretension of illness, living in others' house, diviners, congregational mourning and festivals, for these are the occasions when women come into contact with men.\footnote{4} An ideal wife went to the bed after her husband and got up earlier (LXXVII.15). She was expected to be well-behaved to her parents-in-law and others (VP, 30, 31, 44). The words vyayana, expending much (VP, 36), and āyaprāya, securing income (VP, 38), probably indicate that she was charged with the duty of regulating household expenditure. Manu (IX.11) asks the husband to employ his wife in receiving and spending

\begin{enumerate}
\item Utpala adds special food, drinks, etc.
\item भेष्टोभिः प्राणजिता दासी धारी कुमारिका रजिका।
मालाकारी दुष्टाल्पका सबी नापिता दूय:।
कुलजनविनाशतुद्दृश्यो यथासब्दत: प्रयलो:।
तांत्य: अन्त्योपतिः संसारसामवद्ययतः।।
LXXVII.9-10.
\item Cf. Sañkha cited by Vijñāneśvara on Yājñavalkya, I.87 and by Aparārka on Yājñavalkya I.83. HDS, II, p. 564, fn. 1311. cf. Arthaśāstra, I.10.7-8; I.20.18; V.1.19, 50; V. 2.52; Padma-prābhātaka (Caturbhāṇi edited by Motichandra), pp. 29-30, 32 ff.; Ubhayābhisārikā (ibid), pp. 129-33.
\item राज्जितामाहादारस्यमोक्षिणाच्च।
व्यस्नोत्सवाच स्त्रे हेतवस्तेषु रहस्याश्च।।
LXXVII.11.
Cf. Kāmasūtra IV.4.41; V.2.6.
\end{enumerate}
wealth. Vātsyāyana requires an ideal wife to calculate annual income and regulate expenditure in proportion to the same (IV.1.32-3).

SUTTEE. Varāhamihira alludes to the practice of the self-immolation of the wife on the funeral pyre of her husband, popularly called suttee, in the following words: ‘Man does not keep his flattering words uttered in privacy to women afterwards while women enter fire embracing their dead husbands.’ It is noticed by Vātsyāyana and Kālidāsa, but vehemently condemned by Bāṇa. The Eran posthumous inscr. of Gopa-rāja (A.D. 510-11) informs us that when he died in a battle his wife accompanied him on the funeral pyre. The widowed wife of Dharmadeva, king of Nepal, was keen upon following her dead husband, but was refrained from doing so by her son Mānadeva.

DEsertion. We read of women deserted by their husbands (Bṛ, XXIV.8, 9). Our author tells us that in order to absolve himself of the sin of transgressing his faultless wife, a man should wear for six months the hide of an ass with hair exposed and beg for subsistence saying, ‘give alms to the transgressor of his wife.’ It follows the Āpastamba-dharma-sūtra which adds that the transgressor should beg at seven houses. Varāhamihira says that according to the śāstra men

1. पुरुषस्तूलानि कामिनीनां कुर्वे यानि रहो न तानि पश्चात्।
   सुकुत्तलत्याण्वता गतासूनबगुहा प्रविष्टिः सप्तज्ञिश्च।
LXXIII.16.

2. Cf. श्रकृति IV.4.29.
4. कुमारा-संभव, IV.21-2, 33-6, 45.
5. Yad=ctad=anmaraṇam nāma tad=atiṇḍḥalam, Kādambari, Purvabhāga. In Harṣacarita (V) we see Yasomati burning herself before her husband’s death because she wanted to die as an unwidowed.
7. वरिष्ठा तु श्रमसान वेदान्त: स्वरमाण।
   दारातिक्रमण भिष्मा वेदोत्तुकः विश्रुत्वव"
LXXIII.13.

The reading in the printed editions is dārātikramama, which it is proposed to change into dārātikramaya for the sake of better meaning. It would then also accord with the Āpastamba-dharma-sūtra passage (quoted below) on which our verse is based.

8. दारातिक्रमिन वरिष्ठा वेदोत्तुकम परिवाय दारातिक्रमणे भिष्मामिनि
   सप्तागाराणि वरेत, सा बृहि: श्रमसानः
   Āpastamba-dharma-sūtra, I.28.19.
and women are equally sinful in transgressing each other, but men pay no heed to it (LXXXIII.12).

WIDOW-REMARRIAGE. There are numerous references to widows.\(^1\) At one place we hear of a lady widowed in her childhood (bālye vidhavā, BJ, XXIV.8). Widow-remarriage, though severely condemned by Brāhmaṇical writers,\(^2\) seems to have sometimes taken place. Our author refers to remarried women (punarbha,\(^3\) XXXI.3; BJ, XXIV.4, 9) and to their sons (BJ, XIV.2).

GENERAL REMARKS. The daughter was not so much coveted as the son. A woman giving birth to daughters alone was looked down upon.\(^4\) Some literary training appears to have been provided to girls in cultured families. Some of them went for higher education as well. Varāhamihira alludes to a brahmavādinī woman well-known for her proficiency in all the sciences (BJ, XXIV.15). According to religious literature, brahmavādinīs were life-long students like naiṣṭhika Brahmacārins.\(^5\) Uncharitable and unmerited remarks against womanhood were not wanting. Varāhamihira raises his solitary voice against such allegations. He openly says that women are the veritable goddesses of fortune and should always be honoured and given wealth, that all the faults which women are accused of are also committed by men but the latter in their audacity treat women with scorn though they are superior to men in virtues, that whether she be wife or mother, the origin of men depends on women, and that the lustful craving of man does not subside even when he is centenarian and he keeps away from it only due to incapacity, while women do so by courage and patience (LXXXIII.4, 6, 11, 14).

\(^1\) LXXXV.79; VP, 33, 49, 59, etc.
\(^2\) e.g., Manu, V.162; VIII.226; IX.47, 65.
\(^3\) Punarbha is variously defined in different works. Utpala takes it to mean a remarried woman whose first marriage was not consummated : aksata-yonitevdāḥ punar-ūhyate sā punarbhāḥ (on XXXI.3). Vātsyayana, who does not contemplate a second marriage for women, defines punarbha as a widow, who being of weak character and unable to control her desires, associates herself with a man seeking pleasure and desirable on account of his excellent qualities (IV.2.39).
\(^4\) LII.70; VP, 34, 69.
\(^5\) The whole of the chapter LXXIII styled Strī-praśāṁsādhyāya contains interesting remarks on womanhood.
III

FOOD AND DRINKS

BHAKŠYA AND ANNA. The employment side by side of the words bhakṣya and anna (XLVII.28) tends to show that these terms stood for different kinds of food. Utpala mentions modaka, lopikā and āṭāpa as examples of bhakṣya, and odana and pāyasa as those of anna. It appears from this that they denote solid edibles and food in general respectively.¹

FOOD GRAINS. Rice with its numerous varieties like śāli, sāṣṭika, yavaka, kalamaśali, sūkaraka, pāṇḍūka, raktaśali, gaurasāli and nispāva, barley and wheat formed the staple food of the people. Pulses formed, as now, one of the principal ingredients of diet, mention being made of beans, kidney beans, grams, Ervum Hersutum, Dolichos uniflorus and peas. Sesamum, mustard and linseed yielded various kinds of oil² which must have been used for seasoning and frying. Sesamum, as we shall presently see, was also used as an important ingredient in certain preparations.³

SPICES. Spices must have been used in preparing food. Mention is made of ordinary salt (lavana),⁴ rock-salt (saindhava),⁵ long pepper (pippali), black pepper (marica), ginger (śuṣṭhi), small cardamoms (sūkṣmailā), cumin seeds (jiraka) and nutmeg (jāti-phala).⁶ There is a reference to small cardamoms, aervr̥has (lavalī) and cloves (lavaṅga) growing in the south-west on sea-shore (XXVII.5).⁷ The fact that excessively sour, bitter, salty and pungent food is harmful to eyesight, sperm and manhood is recorded in LXXV.12.

1. Pāñini makes similar distinction, vide V.S. Agrawala, India as Known to Pāñini, p. 101.
2. XV.9; XVI.19; XL.8; XLI.5.
3. For detailed account of foodgrains see infra Ch. V, Section 1.
4. X.8; XV.9, 25; XVI.7; XXVIII.4; XL.6; L.III.122; LXXV.11, etc.
5. XVI.24; L.32.
6. L.15; LXXVI.32, 33.
7. According to Utpala, the chapter containing this verse is spurious.
MILK PRODUCTS. Milk\(^1\) and its products played a dominant part in ordinary diet. Milk was highly valued for its vigour-imparting properties (LXXV.4, 6, 7, 8). In addition to cow-milk,\(^2\) goats’ milk was also consumed (LXXV.9). Sometimes sugar was added to give it sweet flavour (LXXV.5). Among milk products, we have references to (1) \textit{dadhi} or curd,\(^3\) that prepared from cow’s milk being especially mentioned (\textit{YV}, VII.16); (2) \textit{takra} (LIII.114; LXXV.11), butter-milk mixed with one-fourth\(^4\) or half water\(^5\); (3) \textit{mathita} (XLIX.26), butter-milk without water\(^6\); (4) \textit{navanita} (LXXX.4), fresh butter extracted from curds after churning\(^7\); (5) \textit{ghṛta},\(^8\) \textit{ājya},\(^9\) \textit{havi}\(^10\) or \textit{sarpis},\(^11\) clarified butter churned from curds, used as frying material (LXXV.9) and not infrequently employed for seasoning rice (LXXV.8) and other items of food (XCIV.24; CIV.8); and (6) \textit{payahsarpis} (LXXV.4), butter derived from fresh milk\(^12\); it was used for frying and is the same as Pāṇini’s \textit{pāṇṭa}\(^13\) and the \textit{kṣirothā navanita} of \textit{Suśruta} (Śūtrasthāna, XLV.93).

1. L.31; LIV.7; CIV.8; XVII: 23; XXXIV, 4, etc.
2. Cf. XIX.5; XXXII.29. XLIV.7; XLV.6;
3. IX.45; XXX.18; XLII.60; XLIV.6; XLVII.35; LVIII.8; LXXXVIII.7. LXXX.5; LXXXVI.14; XCIII.8; LXXXV.45; XCIV.22.
8. V.60; XVI.19; XLI.5; XLIX.21; LIII.108; LIV.7; LXXXV.9; XCVI.10, etc.
9. XLVII.32; L.37; LVIII.12; LXXV.6; etc.
10. XLIX.23.
11. XLVII.50; LXXV.8. Great sanctity was attached to ghee and it was used in ceremonial bath—

\begin{quote}
आच्छ तेजः समुद्रस्थिचायम पापन्तर परम्
आच्छं सुराणपारह आच्छेऽलोकं प्रतिर्थिताः \textit{II}
भीमातिरिव दिव्यं वा यत्स कल्पनासतम् \textit{I}
सवं तदाय्यसंस्पर्षतं प्रणाशयुपाधच्छु \textit{II}
XLVII.52-3.
\end{quote}

12. Cf. \textit{श्रीरस्वच्छ निर्माण्य यद् चूर्ममुन्नाष्टं तत् पयोघुतम्}\n
\textit{Utpala} on LXXV.4.

SWEETS. Varāhamihira refers to the following sweets:—

1. Madhu\(^1\), honey. Its tawny hue (LXVII.64; LXXI.4; XXVIII.11) and odour (LXVII.15) are alluded to. We come across the words kṣaudra (XLII.60; LIII.108; LIV.7; LXXV.6) and mākṣika (XV.9), which, according to Suśruta (Sūrasthāna, XLV.133), denote two of the eight varieties of honey. Honey produced by smaller bees was known as kṣaudra while that derived from large bees was called mākṣika.\(^2\)

2. Guḍa\(^2\), molasses, an important article of food extensively used in preparing various dishes (XCIV.20; CIV.8).

3. Phāñita (XLI.5), the inspissated juice of sugarcane boiled down to thick consistency (rāb in Hindi). It was regarded as an inferior variety of molasses.\(^3\)

4. Šarkarā (LXXV.5), granulated sugar, its white colour being suggested by its other name sitā (LXXV.6; LXXVI.11). Trimadhura (XLVII.31), as suggested by the word, denotes the three sweets, clarified buttter, honey and sugar.\(^4\)

FOOD PREPARATIONS. A list of food preparations noticed by our author is appended below.

1. Odana (XLVII.30; LVIII.8; YY, VI.12, 18), boiled rice prepared from the above-mentioned varieties of rice, special mention being made of that prepared from śāli (L.30) and šaṣṭika (L.30; LXXV.8; XCIV.20; YY, VII.17; BY, XVIII.9-10). Sometimes it was prepared in combination with meat (mānsaudana, XLVII.30; BY, XVIII.23-4). Tilaudana (YY, V.14; VI.8; VII.17, 21) was a dish of milk, rice and sesamum.\(^5\) Odana was also taken in combination with other ingredients like fish (YY, V.14), curds (dadhi-bhakta, XCIV.51; dadhy—

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1. V.60; XLI.5; XLIII.11; XLV.27; L.37; LVIII.12; LXXV.3; LXXXVI.11, 27, 32.
2. Cf. Ṛg Ṛg, commentary on Suśruta, I.XLV.133.
2a. X.8; XVI.13; XL.4; XLII.38; LXXXVIII.1.
3. Cf. Utpala—ikṣu-rasa-kvāthāḥ kṣudra-guḍādīḥ; Cakrapāṇidatta—
guḍasya tantulibhācād bhavati, kṣudraguḍābhūta ikṣu-rasaḥ.
odana, VP, 13), milk (kṣīraudana, YY, VI.5), and molasses (BY, XVIII.9-10), and ghee was used for seasoning it (LXXV. 8). As at present, odana was commonly eaten with soups of various pulses, e.g. black gram (LXXV.8).

2. Modaka (LVIII.8; LXXXVIII.1). Utpala renders it by the word laḍḍuka from which its modern name laḍḍū is derived. In northern India, laḍḍū and modaka are even now used as synonyms, denoting a ball-shaped preparation made from the flour of rice, wheat, barley or grams fried in clarified butter, mixed with molasses or sugar, and finally done into round balls. According to Dalhaṇa (on Suśruta, Śīrasthāna, XLIV.12-3), wheat-flour mixed with ghee was steamed in a pot, then thrown into a decoction of sugar, and finally shaped like modakas. In Maharashtra, however, laḍḍū and modaka preparations are distinguished from each other. The latter is a stuffed preparation shaped like a fig. Small chapātīs of rice flour are stuffed with a mixture of molasses or sugar and coconut nut dessications and then fried in ghee. On some occasions like Nāga-Paṃcamī or Poḷā, the preparation is invariably steamed and eaten.

3. Palala (LVIII.8; XCIV.22; YY, VI.19). It is a sweetmeat prepared from pounded sesameum and gur or sugar, now called tilkuṭ. Utpala takes it to mean semi-pounded sesameum. At present, it is especially eaten on the Makara Sāṅkrāntī day.

4. Pāyasa, Paramānna. Its modern equivalent is khīra, which is prepared by boiling rice in milk with sugar. Sometimes ghee was added to it (XLV.32; XLVII.36). This practice is even now current in western U.P. It was one of the most favourite dishes as would appear from frequent references made to it. Utpala gives kṣīraṇī as another name for pāyasa (on XLV.32).

5. Pūpa (XLII.38). It is a sweet cake or bread made of wheat-flour, sugar or gur, and fried in clarified butter, popu-

1. Also cf. YY, VI.18.
2. Palalamardha=nispūḍitaḥ=tilāḥ, Utpala on LVIII.8.
3. XLII.38; XLIII.11; XLV.32; XLVII.36; YY, VI.19; BY, XV.2.
4. XII.16; XLV.64; LVIII.8; XCIV.23.
larly known as puā. In Utpala’s time, it was prepared from
green gram or rice.\footnote{1}

6. Yavāgū (L.31), gruel of any kind, especially of
barley. Its modern equivalents are lapsi and rābri. Yavāgū of
sesamum and beans is referred to in Caraka (Cikitsāsthāna,
XXXVI.155).

7. Yāvaka (XLIII.11; \textit{YT}, VI.19; \textit{BT}, IV.23-7). Utpala\footnote{2}
takes it to be identical with yavāgū. Kern understands it as a
kind of barley cake. It does not seem to be correct in view of
Patañjali’s statement that yāvaka was prepared by pounding
barley with pestle and mortar for removing the chaff, and
then boiling it in milk or water with sugar.\footnote{3} According to
Kauṭilya (II.15), yāvaka weighs two times the quantity of
barley. Caraka regards it as a svinnabhāksya, i.e. steamed food
(Sūtrasthāna, XXVII.261).

8. Śaktu (XLV.63), groats made by grinding fried
barley grains. It corresponds to sattū which is taken after
doughing with water and seasoning with sugar, molasses, or
salt. Caraka (Sūtrasthāna, XXVII. 264) refers to saktu made
of śāli and regards it as sweet, light, cooling and curative in
certain diseases. Saktu doughed with water was called
apsaktu.\footnote{4} We have also references to the combination of beans
with saktu.\footnote{5}

9. Śaśkulikā (LXXV.9). Cakrapāṇidatta, the com-
mentator of Caraka, tells us that saśkulis were made of the flour
of śāli mixed with sesamum seeds, and fried in oil.\footnote{6} It is
prepared exactly like this today in Karnataka. Dalhana gives
śakuli as its popular name.\footnote{7} A medicinal saśkulikā described by
our author will be mentioned in the next section.

10. Ullopikā (LVIII.8).\footnote{8} It is described as a bhāksya or
solid eatable. It may be the same as lopikā mentioned by
Utpala (on XLVII.28).

\footnotesize{\begin{itemize}
\item[1.] Puṇo muda-kuṭrī maśrito vā tānāulena saka, Utpala on XLII.38.
\item[2.] On L.31.
\item[3.] Agrawala, \textit{India as Known to Pāṇini}, p. 106.
\item[4.] BT, IV.24-7. Cf. YT, VII.18.
\item[5.] YT, VII.19; BT, IV.24-7.
\item[6.] Caraka, Vcl. VI, p. 342.
\item[7.] Ibid.
\item[8.] Kern (\textit{JRAS}, 1873, p. 328, fn. 2) vaguely takes it to be ‘a sort of
sweet-meat’.
\end{itemize}}
11. Sūpa (LXXV.8), soup of various pulses, that of beans being referred to. It was eaten with odana and other items of staple diet in order to improve their taste.

FRUITS AND VEGETABLES. Our work abounds in references to fruit-bearing trees and creepers like āmalaka, lodhra, śrīgālaka, bilva, āmrātaka, mango (āmra, sahakāra), kadali, kapithha, bijapūra, dāḍima, drākṣa, jambū, kṣīrikā, nālikera, pilu, panasa, kharjūra and tīntīḍi, fruits whereof must have been extensively eaten.¹ From their inclusion in the list of tradeable commodities (XLI.9), bulbs and roots (kanda,² mūla³) appear to have been in great demand. As to vegetables, our author says that consuming leafy vegetables or saline pot-herbs in excess (kṣāra-sāka-bahulāṇi, LXXV.12) causes loss of eye-sight and manhood.⁴

MEAT-DIET. Meat-eating was quite common in those days.⁵ A large number of slaughterers (saunika), fishermen (matsyabandha, kaivarta, dhīvara), fowlers (śākunika, śākuni) and hunters (vyādaḥ), to be referred to in the next chapter, supplied various kinds of meat. Among the animals whose flesh was consumed, mention is made of elephants, buffaloes, sheep, boars, cows or bulls, hares, deer, lizards and fish (L.34-5).⁶ Birds’ flesh was also eaten (L.33). Varāhamihira especially recommends to a monarch the ceremonial eating of the fish, the flesh of buffalo, bull, he-cat, goat, deer, five animals beginning with aśvin, and of birds like saṅkara and others (TT, V.14; VII.16-8, 19, 21). An allusion is made to the aquatic animals whose flesh was allowed to be taken (BT, VIII.1). However, persons initiated into a sacrifice were to refrain from taking meat (TT, IX. 15, 16).

WINE.⁷ Like meat-eating, wine-drinking was also pre-

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1. For references see infra Ch. V, Section I.
2. XV.7; XL.4; XLI.12.
3. XL.7; XL.6; XLI.12; V.77; VIII.19; IX.35; XIII.11; XV.17; XLVII.28.
4. For the meaning of kṣāra-sāka see Utpala on LXXV.12.
5. Cf. XV.2; LXXXVI.10; XCIV.22.
6. Cf. XVI.34, where eat rs of the flesh of a jackal (gomāyu-bhakṣa) are mentioned. A preparation of blood called rudhira-vilāpana-pāyasa is mentioned in TT, VII.17.
7. Rasa X.8. madya XVI.13; XLVII.30; LVIII.8; LXXV.11; TT, II.4; madhu XIX.19; LXXV.2; mādhavika L.5; āsava XLVIII.28; XCIV.22; BT, XV.2; VP,13. madirā TT, V.12. According to Kauṭilya (Arthaśāstra,
valent. Numerous references to vendors of wine\(^1\) indicate the popularity of spirituous liquors. Wine is comprised in the list of articles inspiring lust (LXXV.2). Not only men, women also did not show any compunction in taking intoxicating drinks. There is a reference to men taking wine in company of their lady-loves in the spring season (XIX.18). Inebriety was considered to impart an unusual charm to ladies, and Varāhamihira speaks of a man playing a bee on the lotus-like countenance of his intoxicated sweetheart.\(^2\)

Wine was sometimes flavoured with lotus buds (sōtpalamadhu, LXXV.2).\(^3\)

Varāhamihira describes vicious effects of drunkenness thus: To wine are due a number of vices; it tends to weaken men of scanty means, intelligence, strength and welfare; losing all common sense and depending on the urge of sense organs, a drunkard is unable to discriminate between what should be eaten and what not and the like; he takes mother for wife and vice versa, a house for a clod of clay, and a well for a house; he regards a little of water as an ocean and the latter as flat earth, and poses as befriending a king; what else there is that a drunkard would not contemplate to do’ (IT, II.4-5). But all this was not enough to desist people from taking liquor, and, therefore, our author strikes a piece of practical advice, viz. one may drink in secret while receiving a guest, on festive occasions, or at the instance of a physician, but only so much as does not make one's common sense disappear (ibid., II.7). Drinking wine was forbidden for a man performing a sacrifice or other rituals (ibid., IX.15, 16).

\(^1\) II.25, p. 120) 100 palas of kapittha (Feronia Elephantum), 500 palas of phāṇita, and one prastha of honey constitute āsava. Madhu, according to the same authority, is the juice of grapes (ibid).

\(^2\) For references see infra Ch. V, Section 3.

\(^3\) Shavyādhanāsātāsatvam cha, āsato samadhyāsatiṁmukṣasaṁjñat mamuraṁ, ChIII.32.

Cf. IT, V.12, where excessive drinking by women is censured—

\[ \text{मदिरामुदिता मदनाकुलिता प्रमदेव कुलं परेवममता} \]

3. For references to this practice see Dhūrtavīṭa-sahāvāda (Śrīgārhāṭa edited by Motichandra and V.S. Agrawala), pp. 71-72, 88, Pādatādītaka, verse 106; Nāgānanda, III.2; Gāthāsaṅgaha, 535. Vide also my paper in JIOB, XIV, pp. 123-124.
We may conclude this section with a general observation on food made by Varāhamihira (II, VII.22; BT, IV.29). We are told that the food which is tasteless, defiled by hair and flies, emits bad smell, is burnt, insufficient or apt to weaken should be avoided; on the other hand, one should take the food that is well-cooked, clean, attractive, agreeable to one's mind, and tasteful.
IV

HEALTH, DISEASE AND MEDICINE

Our work reveals a highly developed state of medical science in India. Varāhamihira evinces acquaintance with diseases, doctors, treatment and certain principles of medical science. He refers to physicians (vaidya, āyusyajñā, bhīṣaj), horse-physicians (turaga-bhīṣaj), surgeons (sālayhṛt), chemists (rasāyana-kuśala), and depoisoners (viṣā-ghātaka). The word śālākya denoting a kind of surgery appears in XV.12. We have references to the three humours of the body, viz. (i) wind (vāta, vāyu, marut, anila, pavana), (ii) bile (pitta), (iii) phlegm (ślesma, kapha), their derangement, diseases proceeding therefrom, and persons suffering from them. The fact that bile is greatly vitiated and becomes powerful by basking in the sun is also recorded. Mention is made of the dhātu (primary fluids of body), their deterioration and derangement and the diseases caused by them. The part played by climatic and

1. V.41; X.3; XV.26; XXXIII.11; CIII.61; IT, III.23.
2. XVI.17. Utpala takes it to mean experts in chemicals and erict remedies—āyus hitam = āyusyam rasāyana-sājikaren-dī.
3. V.80; VII.6; IX.32, 43; X.9, 16, 17, XV.7, 17; CIII.61, 62.
4. XLIII.13.
5. V.80.
6. XVI.19.
7. LXXXV.32.
8. Utpala takes it to mean an eye-specialist (akṣi-rogārācikitsaka).
9. (i) wind—IX.40 (marud-gada); LXXXVI.11 (vāṭa-rogī); LXXXVI.37 (vāyu-grasta); BY, V.1 (anilaja-rogā); XI.25 (anila-jvara); BJ, XXIII.13 (saniṣṭaḥ pavanena). For allusion to foodgrains causing wind, cf. XV.13; XVI.33.
10. (ii) bile—IX.43 (pitta-kāmala); XIX.9 (pittotttha-ruj); BY, V.2 (pitta-ruj); VIII.13 (pitta—piḍā). Also cf. CIII.11, 18. (iii) phlegm—VIII.28 (śleṣma-kṛta-rogā); CIII.61 (ālaśika dravya); BY, V.1 (kaphaja roga).
11. VII.5 (dhātu-sānkṣaya); CIII.16 (dhātu-klama); BJ, XXV.1 (dhātu-kopa). Cf. Ib., XXV.3, 8; BY, V.2 for death and disease due to vitiated blood.
seasonal disorders in causing disease was recognized. Thus there are allusions to outbreaks of epidemics due to untimely rains, the irregularity of cold and heat, abnormality of seasons (XLV.38, 39), and unnatural features of the sun and the moon (III.26; IV.29). People also believed in the evil influence of planets, stars and other astrological phenomena as a cause of disease.¹ According to Suśruta, divine calamities and irregularities of cold, heat, wind and rain divest medicines and water of their respective properties and their use generates epidemic diseases.² In treatment, stress was laid on regulating diet (CIII.55).

DISEASES. Diseases are called roga,³ ruj,⁴ āmaya,⁵ vyādhi,⁶ gada⁷ and akalyatā⁸ and health is referred to as kalya⁹ and āroga.¹⁰ Ausadha¹¹ and bhesaja¹² are the words used for medicine. Vārāhamihira mentions insanity (unmāda), XXXII.11; BJ, XXIII.13, rigor mortices (moha, BJ, XXV.12), death due to worms in a wound (BJ, XXV.7), indigestion (mandāgnitā, LXXV.10. Cf. LXXVIII.28), bleeding (raktasrāva, LXXXVI.35; ksatajasya visrutī, LXXXVII.30; asrangaƯdhava, CIII.13; ksarat-kṣataja, CIII.16), abortion (garbhā-pāta, LXXXVIII.5. Cf. V.79, 85; L.35, 38) and the diseases of the womb (kukṣyāmaya, V.51), abdomen (udara-roga, LXXVIII.29; CIII.10, 16;

¹. All the references to diseases in this section are from astrological contexts.

2. तेषां पुनः पितृस्वरूपं विपरीतानि अोषधीयात्मकत्वपरं तासाम्परस्मादीचिन्तामण्डुमास्वे मरको वा स्वाभविकता तत्राभ्यापणानामोपयोजनानां चोपभोगः।

Suśruta, Sūstrāsthāna, VI. 16-8.

3. V.72; VI.2; VII.2; IX.18, 23, 43; VIII.32, 34; XI.31; 36, 48; XII.19; XXXIX.7; XXXXII.18; XLII.27; XLIV.8; XLV.27, 38, 39; XLVI.5; LXI.5; LXXVIII.1, 36; LXXXVI.6; XCI.1; XCIV.5; C.4; CII.5.

4. V.82; XIX.9; XXXVII.13 (var.); LII.60; LXXVIII.6; CIII.7.

5. IV.29; VII.7; VIII.42; V.51.

6. V.56; VIII.4, 17; IX.33, 44; XXIX.12; XXXIV.15; XXXV.5; XXXVII.2; XLV.25; L.14; LXXVIII.5, 24; CII.7.

7. VIII.51; IX.40, 42; XII.17; XVI.40; XLV.60; XCIV.40.

8. LVII.50.

9. CII.5.

10. VIII.15; XXIX.11; XLIX.22; LXXVIII.21; LXXIV.5; LXXXVIII.10; CII.13.

11. XCIX.5; LXXV.5.

12. XV.17; XVI.5; XIX.1.
jaṭhara-gada, CIII.6, 13), heart (ḥṛd-roga\(^1\), CIII.44; koṣṭha-roga\(^2\), CIII.5), mouth (mukha-ruj, V.82; mukha-roga, V.83; VI.4; vadana-roga, XXXII.18, vaktra-roga, Bṛ, XX.1), teeth (rada-vaiṣṛtya, Bṛ, XXIII.11. Cf. ibid, XXIII.15), eyes (aksi-gada, IX.40; aksiruj, L.11; CIII.16; ḍṛg-ruj, CIII.6; ḍṛg-roga, Bṛ, XIX.1. Cf. CIII.18; Bṛ, XXIII.10, 12, 13), head (sīro-ruj, L.109), throat (gale gadāḥ, IX.42), private parts (guhya-ruj, V.86; Bṛ, XXIII.7; guhyodbhava roga, ibid., XXV.9), i.e. piles or fistula, and of ears (śravaṇa-vyādhi, IX.33. Cf. Bṛ, XXIII.11, śravaṇa opaghāta).

SPECIFIC DISEASES. A list of diseases specifically named by our author is given below.

1. Gala-graha (XXXII.18), throat-spasm. According to Caraka (Sūtrakṛtana, XVIII.22), gala-graha arises from the hardening of phlegm in throat.

2. Śayathu (XXXII.10), swelling of the skin, edema. It may be of three or two varieties according as it is caused by the three humours of the body or by endogenous and exogenous factors (Caraka, Sūtrakṛtana, XVIII.3).

3. Prameha (LXVII.7), diabetes, morbid secretion of urine. The possibility of a man with very tender sex organ falling a victim of diabetes leading to his death is indicated.

4. Chardi (XXXII.18), vomitting. It is of five kinds according as it results from contact with repulsive objects, excess of wind, bile or phlegm, and tridiscordance (Caraka, Sūtrakṛtana, XIX).

5. Kāsa (IX.44; XXXII.10), cough. Cough accompanied by the shaking of jaws is alluded to (hanukaṃpayutat = ca kāsah, VIII.48).

6. Śvāsa (VIII.48; IX.44; XXXII.10; Bṛ, XXIII.8), dyspnoea.

7. Ḫṣaya (VIII.49; Bṛ, XXIII.8.17), consumption.

8. Śoṣa (Bṛ, XXIII.8), ptosis. Death resulting from śoṣa is referred to in Bṛ, XXV.3.

9. Pāndu-roga (XXXII.14), anemia or jaundice.

10. Kāmalā (IX.43). It is a kind of jaundice marked by

\(^1\) It is mentioned in the Rgveda. In the medical Samhitās, it probably denotes angina pectoris, cf. Vedic Index, II, p. 507. It may be the same as ḍṛg-yota of the Atharvaveda.

\(^2\) It may also denote abdominal affections.
intensive yellow colour of the skin, eyes, nails, urine and faeces and particularly of the face, with exhaustion, weakness, thirst, heat, indigestion, dispise of food and dullness of senses.\textsuperscript{11}

11. \textit{Kuṣṭha} (\textit{Bṛj}, XXIII.9), leprosy.
12. \textit{Sūtra} (\textit{Bṛj}, XXIII.7), white leprosy.
13. \textit{Viccēkā} (XXXII.14), itching, dark, severely wet spots or boils.\textsuperscript{2} Utpala takes it to be a skin-disease of the foot (\textit{viccēkā roga-visēṣaḥ pādajas=tvag=vikāraḥ}).
14. \textit{Dadrā} (XXXII.14). Itching, red, elevated spots.\textsuperscript{3}
15. \textit{Visarpikā} (XXXIV.14). St. Anthony’s fire, erysipelas, carbuncles and other abscesses.\textsuperscript{4} Utpala explains it as a deformation of limbs (\textit{ānga-vikāra}).

16. \textit{Vidradhi} (\textit{Bṛj}, XXIII.8), abscesses and inflammations. It is of two kinds, internal and external, the latter appearing in the skin, muscle and flesh (\textit{Caraka}, Sūtrasthāna, XVII.90). It is so called because of its briskly suppurating characteristics (\textit{ibid.}, verse 95). The internal \textit{vidradhi} occurs in the heart, the pharynx, liver, spleen, stomach, kidneys, umbilical region, groins and bladder (\textit{ibid.}, para 101.)

17. \textit{Gulma} (\textit{Bṛj}, XXIII.8), ‘a round growthlike swelling hardness in the intestines between the intestine and the navel.’\textsuperscript{5}
18. \textit{Khalati} (\textit{Bṛj}, XXIII.15), baldness.
19. \textit{Apaśmāra} (LI.76; \textit{Bṛj}, XXIII.17), epilepsy.
20. \textit{Visācīkā} (LXXXVI.44), ‘cholera in its sporadic form.’ Utpala understands it as pricking pain in stomach (\textit{udara-sūla}).

21. \textit{Aṭīsāra} (XXXII.18), dysentry.
22. \textit{Jalodara} (\textit{Bṛj}, XXV.3), dropsy originating from untimely drinking of water.

23. \textit{Jvara} (XXXII.10, 14; XCIV.35; CIII.13), fever. There is reference to a serious kind of fever causing death (\textit{Bṛj}, XXV.1). The fever caused by provoked bile is mentioned in \textit{Bṛj}, XI.25 (cf. \textit{Caraka}, Nidānasthāna, I.17-21).
24. \textit{Pīthaka} (\textit{Bṛj}, XXIII.8), splenic disorders.
25. \textit{Niśāndhatā} (\textit{Bṛj}, XX.1), night-blindedness, one suffering from which is referred to as \textit{niśāndha}.

\textsuperscript{1} \textit{Jolly, Indian Medicine}, p. 128.
\textsuperscript{2} \textit{Ibid.}, p. 143.
\textsuperscript{3} \textit{Ibid.}
\textsuperscript{4} \textit{Ibid.}, pp. 147-8.
\textsuperscript{5} \textit{Ibid.}, p. 117.
We have numerous references to outbreaks of pestilential diseases (maraka\(^1\), māra\(^2\), mārti\(^3\)).

**EROTIC REMEDIES (KĀNDARPİKA).** Chapter 75 of the Brhatsamhitā entitled Kāndarpikam dilates upon erotic remedies.\(^4\) It is noteworthy that practically all medical Samhitās contain special chapters dealing with this topic.\(^5\) The need of such remedies arises chiefly from Indians’ impatient anxiety for male progeny and partly from the practice of polygamy (LXXV.1, 5). Varāhamihira specifies the object of this chapter himself. ‘If at the time of coitus woman’s blood is in excess of male sperm, a female is born, if vice versa, the result is a male child; when both the blood and sperm are equal, an hermaphrodite is born. Hence a man should take recipes enhancing his sperm (LXXV.1).\(^6\) We get the following ten prescriptions.

1. Tablets made of a mixture in equal proportions of the mineral compound known as māksika-dhātu, mercury (pārada), iron-dust, yellow myrobalan (haritaka) and bitumen (śilājatu), and then doughed with clarified butter and honey and finally done into globules (gulikā), to be taken for twenty-one days (LXXV.3).


3. Taking six morsels of beans cooked in clarified butter churned from milk (payahsarpis), followed by a drink of milk (LXXV.4).

4. The powder of vidārikā boiled in its own sap and then dried up in the sun seven times, to be taken with boiled milk sweetened with sugar. This prescription is meant for a man with many wives (LXXV.5). Suśruta also recommends the use of the powder of vidārikā boiled in its own sap with clarified butter and honey for a polygamist (IV.26.23).

5. Taking the powder of myrobalan, boiled in its own juice, and mixed with honey, sugar and clarified butter, followed

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1. V.27; XI.12, 29, 30, 31; XII.21; XXXV.4; XLV.79; LXXVIII.24.
2. III.31.
3. LXXXVI.33.
4. These remedies were also known as vṛṣya (CIII.63) and vājikaraṇa.
5. e.g. Suśruta, IV.26; Caraka, Gīktṣā, Ch. ii. Cf. Kāmasūtra, VII.1.
by milk according to one’s digestion (LXXV.6). It follows Suśruta, IV.26.24.

6. Eating sesamum grains boiled seven times in milk with goat’s testicles, and then dried up, followed by drinking milk (LXXV.7 and comm. Cf. Suśruta, IV.26.18, 20). The Kāma-
sūtra (VII.1.37) also recommends milk boiled with goat’s or sheep’s testicles and seasoned with sugar for regaining potency and vigour.

7. An evening meal consisting of boiled saśṭika rice taken with clarified butter and black gram soup, and drinking milk thereafter (LXXV.8).

8. Cakes (śaśkulikā) made of a compound of sesame seeds, roots of aśvagandhā and kapijacchu, vidārikā, and the flour of saśṭika rice, ground in goat’s milk, and fried in clarified butter (LXXV.9 and comm.).


POWDER FOR INDIGESTION. A powder prepared from ajamoda, salt, yellow myrobalan, ginger and long pepper (all in equal quantities), taken with wine, butter-milk, tarala (?) or hot water, is said to promote digestion (LXXV.11).

MENSTRUATION AND CONCEPTION. Last eight verses of the Puruṣ-strī-samprayogdāhyāya (LXXVII.19-26) of the Brhatsamhitā embody some of the then ideas regarding menstruation and pregnancy.

A woman is advised to eschew bath, wearing garlands, and anointing the body on the first three days of menses after which on the fourth day she should bathe with water purified and perfumed with various herbs (LXXVII.21-2).¹

The menstrual blood that resembles hare’s blood or lacdye, and fades away at washing is pure; the same, when free from noise and pain and ceasing to flow after three days, undoubtedly develops into a foetus if united with a man (LXXVII.19-20).²

Varāhamihira refers to a sixteen-day-period suitable for

¹. Kuśi according to some.
². For a list of these herbs see XLVII.39-42. Cf. Caraka, IV.8.5. Suśruta, III.2.25.
³. Cf. Suśruta, III.2.3-17.
conception (*rtu*) out of which the first three nights were to be avoided for sexual union (LXXVII.26). According to some medical writers, on the other hand, this period consists of twelve nights from the commencement of menses, the first three nights being unfit for coitus.¹ As the sixteen-day-period is known to the early *Smṛtis* like *Manu* (III.46) and *Yājñavalkya* (I.79) also, Jolly rightly holds it to be original.²

It was believed that a male or female child would be born according as the impregnation takes place on even or odd nights.³ Moreover, a conception taking place on distant even nights was believed to result in the birth of a long-living, handsome and happy son (LXXVII.23).⁴

The situation of the foetus in a particular place in the womb was taken to be indicative of the sex of the child to be born. Thus the child would be a male, female or eunuch according as the foetus stands in the right, left or middle of the womb. Twins would be born if it is situated on both sides (LXXVII.24).⁵ The birth of two, three, four or more children at a time, and a delivery long before or after the usual period were regarded as abnormal and taken to forebode evil (XLV.51, 53). Varāhamihira further says that during the period fit for conception, a man should refrain from marking his wife’s body with his nails or teeth (LXXVII.26).

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1. *Sūrūta*, III.2.28-30; *Aṣṭāṅga-hṛdaya*, II.1.27 f.
4. For astrological factors favouring the birth of a son, see LXXVII.25; *Bṛhajjya*, IX.11.
V

DRESS AND ORNAMENTS

I. Dress

TEXTILES. Next to food, clothing is the most urgent necessity of life. Garments made of various kinds of fabrics were in use, the following of which are mentioned:

(i) Kārpāṣika (XLVII.72; XCVI.15), cotton cloth.
(ii) Aurnika (XVI.29; LXXXVI.12; CIII.12, 61; BY, XVIII.9-10), cloth made from wool. Āvika (XL.2, 6; L.19) is the wool derived from sheep’s hair. Kutupa was a cloth made from goat’s wool (XL.2). Among woollen articles, blankets (kambala) are frequently referred to (XLI.8; XLVII.50, 54).
(iii) Kṣauna (XXVI.6; XLVII.50; LI.108; CIII.61), linen cloth made from the yarn of flax (kṣunā). In the days of Kauṭilya, Kāśī and Puṇḍra were famous for kṣauna. From its inclusion in the long list of articles presented to Harṣavardhana by Bhāskaravarman, the king of Kāmarūpa, kṣauna appears to have been manufactured in Assam also.
(iv) Dukula (LXXII.1; BY, XVI.1), cloth made from the fibres of the dukula plant. According to Kauṭilya, Vaṅga, Puṇḍra and Suvarṇakuḍya were renowned for different classes of dukula: Vaṅga produced white soft dukula; Puṇḍra was known for its blue smooth variety, while Suvarṇakuḍya yielded reddish sort.

2. Also cf. BY, XVII.8.
3. Arthaśāstra, II.11, p. 80.
5. According to the Nāṣitha Cūrṇi, however, dukula cloths were made from the cotton produced in Gauḍa. Cf. J.C. Jain, Life in Ancient India as Depicted in the Jaina Canons, p. 128, fn. 71. As for the etymology of the word dukula, V.S. Agrawala (NPP, LVII, No. 4, p. 313) suggests that the word kūla in primitive language probably signified cloth and as it came to the market in two folds it was called dukula.
6. Arthaśāstra, II. 11, p. 80. Amarakośa II. 6. 113, however, takes kṣauna and dukula to be synonymous.
(v) Kauśeya (XVI.29; CIII.61 v.l.), a kind of silken cloth produced from the cocoon of silk-worms.\(^1\) Utpala\(^2\) takes it to be identical with netra-patta\(^3\) which is probably another variety. Mention is also made of paṭṭa (pāl in Hindi), another kind of silk (XVI.29; LXXXVI.19). It was also used for writing (LXXXV.76). Amśuka (L.14, 17; LV.6) is usually considered to be muslin, but in reality, it is a sort of silk as will appear from its inclusion among the five varieties of kiṭaja cloth mentioned in the Anuyoga-dvāra-sūtra (37).\(^4\)

(vi) Patrorṇa (XVI.29), a costly washed silken cloth according to the Amaraśkōṣa (II.6.113). Kauṭilya mentions patrorṇa manufactured in Magadha, Puṇḍra and Suvarṇakūṭa and regards the naga, lakua, vakula and banyan trees as its sources.\(^5\) According to Kṣiravāmin, the commentator of the Amaraśkōṣa, patrorṇa is made from the yarn of worms' saliva in the leaves of lakua, banyan, etc.\(^6\)

Apart from the cloths mentioned above, barks of trees (valkala, L.14; cīra, LXXXVIII.1) were also worn.

**Dress.** Men's dress comprised a pair of clothes (vastra-yuga, XLVII.72), viz. uttarīya or upper garment and antariya or lower garment, the former of which is mentioned (LXX.10). Uttariya was a kind of upper scarf thrown round shoulders. It was incumbent upon a man to wear it especially while observing a religious rite (BY, XV.3), as is even now the case. The sleeping gown consisted of one piece only. It is laid down that the king should be clad in a single garment (ekavastra) while going to bed in order to ascertain good or bad omens from dreams (BY, XVI.7). The lower garment corresponding to dhoti was held in position by a mekhalā or girdle tied

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1. According to the commentary on the *Arthaśāstra*, kauśeya was the cloth made from the silk produced in the Kośakāra country. And as according to McCrindle, raw silk was manufactured at Kos, Dr. Motichandra suggests that Kauśeya refers to the town of Kos and not to the cocoons. See Motichandra, *Prācīna Bhāṣāliya Vēsa-bhūṣaṇa*, p. 56; *BV*, I, No. 1, p. 46 f.
2. On XVI.29.
3. According to the commentator of the Anuyoga-dvāra-sūtra, paṭṭa cloth was produced 'from the insects that gathered round the flesh stored for the purpose in the jungle'. Cf. J.C. Jain, *op. cit.*, p. 129, fn. 72.
4. Ibid.
6. लक्ष्मीस्त्रादिप्रभु कृमिलालोणि दिक्षीतं पत्रोपम।
over it round the waist (LV.6) Mention is also made of usṇīṣa or turban. It was especially worn on ceremonial occasions. Thus we have references to the wearing of usṇīṣa by priests while performing a homa (XLII.30) and by a monarch while proceeding on an expedition (XLIII.27). The king is exhorted to enjoy usṇīṣa every morning (YT, II.25). The sight of usṇīṣa at the commencement of a journey was considered to be auspicious (YT, XIII.10; YT, IX.11). Varāhamihira refers to kaṇeṣuka in connection with the apparel of Śūrya (LVII.48). It formed part of the Northerners’ Dress (udicya-veṣa). It is a long corset covering the whole of the body from the neck to the feet to be seen in the numismatic and sculptural representations of the Kuśāṇa kings as also in the early figures of Śūrya. Reference is made to foot-wears also (pādūkā, LXX.9; upānah, LXXXVIII.1, 12; XCIV.14). There are only vague allusions to female apparel (LV.6; LXXVII.3).

DYED CLOTHES. People were very fond of dyed clothes. We read of garments of various colours and their wearers (LXXXVI.15, 40; C.8). Mention is made of clothes coloured in yellow (XXIV.18; LVII.32; LXXXVI.25), blue (LXXXV.79) and red (LXXXVI.19). The fact that the white cloth is best suited for dyeing in red, black and other colours is recorded in YT, II.1. The bride and the women attending marriage festivities dressed themselves in clothes coloured in kusumbha (Carthalus tinctorius) flowers (VP, 10, 12). Ascetics wore saffron-red garments and were consequently styled kāśāyin (YT, XIII.14; YT, IX.15). The fondness for coloured clothes led to the growth of dyeing profession (rāga-yukti, XVI.17).

It must, however, be noted that some sort of sanctity was attached to white unwashed garments. Thus unwashed (ahata) cloth was to be used for wrapping the wood meant for Indra’s flag-staff (XLII.24). Horses and elephants at the Nirājana ceremony were also covered with unwashed white cloth (XLIII.15). The priests while officiating at a homa were attired in white garments (XLII.30). While launching on a military expedition a monarch was to be draped...
in white clothes and turban and white umbrella and chowrie were held over him (XLIII.24, 27; BT, XX.1.2). New clothes were to be worn while performing religious rites (LXXXVII.40; BT, XV.3). The glance at a white cloth at the commencement of a journey was regarded as auspicious (TT, XIII.11). The king is enjoined upon to enjoy white clothes in the morning (TT, II.25).

GENERAL REMARKS. Elegance and simplicity in dressing were highly appreciated (XLII.23, 25; BT, I.4). Varāhamihira recommends the wearing of new clothes on the occasion of marriage, reception of a king, on the recommendation of Brāhmaṇas, and in case the clothes are presented by the king or are marriage-gifts (LXX.8, 14).¹

II. Ornaments

Indians from very ancient times were excessively fond of embellishing their person with various kinds of ornaments (alāṅkāra², ābhāraṇa³, bhūṣaṇa⁴, vibhūṣaṇa⁵) worn on different parts of the body. Although both the sexes vied with each other in the use of ornaments, women⁶ undoubtedly excelled men. We read of soldiers appeasing their sweethearts by presenting them with ornaments seized from the women of the enemy (TT, IV.19). The art of dressing (vesa), which included proper use of ornaments, was regarded as an excellence of women (LXXXVII.13). Vātsyāyana also includes the art of wearing ornaments (bhūṣaṇa-veṇjana) in the list of sixty-four aṅgavidyās (I.3.16) and asks a wife not to go to her husband in privacy without some ornaments on her person (IV.1.13). Putting on ornaments on festive occasions like marriage was considered to be auspicious (VP, 10). This exceedingly great

¹. Verse 14 is not found in S. Dvivedi's edition. For astrological beliefs regarding the wearing of new cloths, see infra Ch. VI
². XLVII.74; LVII.29; LIX.14; LXXXVI.8, etc.
³. XIX.16; L.19; TT, II.26; IV.19; VI.24; BT, XV.12.
⁴. XLII.41, 43; XLVII.33; LI.3, 5; LVII.29; LXVII.112; LXXVI.1; XCVII.10, etc.
⁵. XVI.29; XLII.49; LXXVII.3.
⁶. Cf. XIX.16; LXXIII.1. Also cf. LXXXIII.2 which says that damsels impart beauty to jewels and are not adorned by the grace of the latter and that ladies captivate men's hearts even without jewels but the latter cannot do so unless they come into contact with the limbs of women.
love of ornaments gave rise to the profession of skilled ornament-makers \( (bhu\text{-}sanaj\text{-}na, \ XV.12) \). Ornaments differed from country to country \( (LVII.29) \) and were worn on almost all parts of the body.

**HEAD-ORNAMENTS.** 1. *Śiromaṇi* or head-jewel was usually worn by kings. Varāhamihira speaks of a king shining like the autumnal sun on account of the mass of glittering rays issuing from his head-jewel, and of the earth in front of the suzerain being variegated by the rays radiating from the *śiromaṇi* of the prostrate feudatories \( \text{ (XLIII.23; XLII.36; X, VIII.18) } \). It is evidently the same as the *cūḍāmaṇi* of Kālidāsa and Bāṇa.\(^1\) In art we find it represented variously.

2. *Uttāṇsaka*, a chaplet worn on the crown of the head or a floral ear-ornament.\(^2\) Lions in the Vindhya forest are described as wearing the *uttāṇsakas of bāṇa* flowers on their heads \( (XII.6) \). Elsewhere, blooming trees on the banks of rivers are compared to the *uttāṇsakas* worn by a lady \( (LV.7) \).

3. *Mukūta*, or crown studded with gems of various shades and diamonds was worn by kings \( \text{ (XLIII.25) } \) and displayed in the images of gods \( (LVII.47) \).\(^3\) The *Mānasāra* describes several varieties of crowns like *jaṭā-mukūta*, *kiriṭa-mukūta*, *karaṇḍa-mukūta* and *śiṅstraṇa*, the first consisting of the matted locks of hair tied together in the form of a crown in the centre of the head and the remaining ones actually denoting different types of crown. ‘The *Kiriṭa-mukūta*’, says T. A. Gopinatha Rao, ‘is a conical cap sometimes ending in an ornamental top carrying a central knob. It is covered with jewelled discs in front or on all sides, and has jewelled bands round the top as well as the bottom’.\(^4\) According to him, it is especially appropriate for Viṣṇu Nārāyaṇa among the gods and *cakravarti* rulers among human beings.\(^5\) But Varāhamihira employs

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2. Cf. Amarakośa, II.3.227 and Utpala’s comm. on XII.6 and LV.6 where *uttāṇsaka* is explained as *sīra-mālā* and *karaṇa-puspāṇi māṇḍa-mālā* cā respectively.
3. Cf. XII.1 which represents gods as wearing mukūta.
mukūta and kiritā in the same sense and extends its use to Śūrya (mukuṭadhāri, LVII.47), Kubera (vāmakiritī, LVII.57) and the Bhūta-gaṇas (BY, XV.12) also. In the extant sculptural representations there is very little difference between the crowns worn by Viṣṇu and Śūrya.

4. Paṭṭa. It is an ornamental golden band arranged on the turban. Its use was confined to the king and certain dignitaries of the state and indicated their place in its body politic. The Paṭṭalakṣaṇādhyāya (Ch. XLVIII) of the Brhatsamhitā gives measurements for five kinds of paṭṭa meant for the king, queen, crown-prince, army-chief, and for one upon whom the king is pleased to confer this privilege (prasāda-paṭṭa). The first four were adorned with five, three, three and one crests respectively while the prasāda-paṭṭa had no such crest attached to it. The five paṭṭas were required to be 8 (6"), 7 (5 4/5"), 6 (4 3/4"), 4 (3") and 2 (1 3/4") digits broad in the middle, the length being double the above breadth and the breadth on the sides being half that in the middle. All these paṭṭas were to be made of pure gold. Great care was taken in preparing them. It was believed that the gold sheet for the paṭṭa expanding easily in the course of its preparation augured prosperity and victory to the king and happiness to his subjects. On the contrary, a dint or a crack in the middle was taken to bode calamity. The king was required to observe śāntīs in order to forestall calamities resulting from ill-omens in the course of making a
paṭṭa. Kālidāsa, it is interesting to note, represents king Sudarśana as wearing jāmbūnada-paṭṭa (Raghuvansha, XVIII.44). Bāna mentions mahādevi-paṭṭa worn by Yaśomati, wife of king Prabhākaravardhana.

PEARL-NECKLACES. Apart from its technical sense, the word hāra was used to designate necklaces in general. The various kinds of pearl-necklaces catalogued by Varāhamihira are not typical of his own time exclusively. Their history goes back to a much earlier date as is clear from the fact that some of them are defined in almost identical manner in Kauṭilya's Arthaśāstra (II.11). A list of necklaces described by our author is given below.

1. Inducchanda. It comprises 1008 strands of pearls, and is four cubits (6') long. Its use was confined to the gods. (Surabhūṣaṇam latānāṁ sahasram=aśṭ-ottaram caturhastam Inducchando nāmā—LXXX.31). Inducchanda seems to be an error for Indracchanda which is met with in the Arthaśāstra. This is also suggested by Varāhamihira's statement that it was meant for the gods. In the scene of Buddha's birth in Cave II at Ajanta Indra is shown wearing a necklace consisting of innumerable strands. It may be intended for the Indracchanda.

2. Vijayacchanda is half the above, i.e. consists of 504 strings, two cubits (1¾ feet) long (vijayacchandā=tad=ardhana —LXXX.31).

3. Devacchanda. It is made up of a series of 81 strings, two cubits (1½) in length (devacchando hy=ṣītir=ekayatā, LXXX.32). The Amarakośa (II.6.105) regards it as a 100-stranded necklace.

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2. Hartacarita, V, p. 231. The feudatories assembled in Harsha's camp wore karoṭpalas whose stems were held by upṣiṣa-paṭṭas. Cf. Ibid., VII, pp. 279-80.
4. Hāra is composed of 108 strings, two cubits long (śata=maṣṭayutam hāra, LXXX.32).

5. Ardhahāra is formed by sixty-four chains, two cubits in length (aśṭ-āśtako=rḍahāra, LXXX.32).\(^1\) The Amarakoṣa (II.6.106) mentions it as one of the numerous varieties of necklaces differing from one another on account the number of chains.

6. Raśnikalāpa contains fifty-four strings (raśnikalāpaḥ=ca nava-saṭkāḥ, LXXX.32).\(^2\)

7. Guccha, a necklace of 32 strands (dvātrimśatā tu gucho, LXXX.33),\(^3\) probably the same as the gutsa of the Amarakoṣa (II.6.105).

8. Ardhaguccha comprises twenty strands according to Varāhamihira (viṃśatī kirtito=rḍhagucchākhyah, LXXX.33), and twenty-four according to Kauṭilya (caturviṃśatir=ardha-gucchāḥ), and is the same as the gutsārdha mentioned in the Amarakoṣa (II.6.105).\(^4\)

9. Māṇavaka is made up of sixteen strings according to our text (soḍaśabhir=māṇavakaḥ, LXXX.33) but twenty strings according to the Arthaśāstra (viṃśatir=māṇavakaḥ).\(^5\)

10. Ardhamāṇavaka. According to Varāhamihira, it comprises twelve strings of pearls (dvādadāśabhis=c-ārdhamāṇa-vakah, LXXX.33), but Kauṭilya considers it to be half of his māṇavaka, i.e. 10 strands.\(^6\)

11. Mandara consists of eight strings of pearls (mandara-saṃjño=saṭbhīḥ, LXXX.34).

12. Hāraphalaka is composed of five pearl-strands (paṅcalatā hāraphalakam=īty=yuktam, LXXX.34).\(^7\) It is depicted in a number of Ajanta paintings and sculptures\(^8\) (Fig. 11).

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5. It is also referred to in Amara II.6.106, and a verse cited by Bhānuji gives the number of strings as twenty-Viṃśatī-yaṣṭikō hāro māṇavakā pariśkritaḥ.
6. According to Kauṭilya, the māṇavaka necklace with a gem at the centre bore the name of that gem with the word māṇavaka suffixed to it—tato=rḍham=ārdhamāṇavakah, etc eva maṃpadhyāḥ=tan=māṇavakā bhavanti, Arthaśāstra, II.11, p. 76.
7. It is different from Kauṭilya’s phalakahāra which has three or five plaques (phalakas). Cf. MASI, No. 73, p. 57.
8. Yazdani, Ajanta, Part I, PIs. XXXIII, XXXVII; Part II, Pl. X(a).
13. Nakṣatramālā. Kauṭilya takes it as comprising twenty-seven strings of pearls. In the Gupta age, however, it denoted a single strand of twenty-seven pearls, 1 cubit in length (1½') as is evident from its almost identical definition in our text as well as in the Amarakoṣa. Its popularity in subsequent period is vouched for by Bāna who frequently refers to it as an ornament tied round the neck of elephants. The Paśu-carīya (II.39) also mentions nakṣatramālā as a necklace of an elephant.

14. Maṇisopānakam, a single-stringed pearl-necklace with precious stones or gold beads inserted at regular intervals (antarā-maṇisapānakam swarṇa-gulikair vā, LXXX.35). Kauṭilya understands it in a somewhat different sense: strings of pearls with a golden wire between two strands is sopānakam and the same with a central gem is known as maṇisopānakam (swarṇa-sūtrāntaram sopānakam, maṇi-madhyam vā maṇisopānakam, Arthaśāstra, II.11).

15. Cāṭukāra, the same as the maṇisopānakam with a taralaka gem in the centre (taralaka-maṇi-madhyam ād = vijñeyam cāṭukāram = iti, LXXX.35).

16-17. Ekāvalī and Yaśti. Ekāvalī is a single strand of pearls, 1 cubit long, without any precious stone whatsoever (Ekāvalī nāma yatheṣṭa-saṅkhya āntara-pramāṇā maṇi-viprayuktā, LXXX.36). The Arthaśāstra and the Amarakoṣa also understand it in the same sense. In view of this, the opinion so popularly held by scholars that the 1-stringed pearl-necklace with a bigger gem in the centre displayed round the neck in so

1. Saptāviṃśati-muktā-hasta nakṣatramālā—eti, LXXX.34; S = aiva nakṣatramālā syāt saptāviṃśati-muktikaḥ, Amara, II.6.106. In a jewellery deposit at Taxila dating from Parthian times is included a gold necklace of 27 pieces. At either end is a terminal inlaid with lapiz lazuli and white paste, of which fragments still adhere. Other pieces are inlaid alternately with rock crystal cut en cabochon and white and blue paste—blue in centre and at base and white in the four 'comma' leaves. Cf. ASI, AR, 1924-25, p. 49, P. XI.2. Though not composed of pearls, it may be identified with our nakṣatramālā. (Fig. 12.)


3. In XIII.1, the northern quarter with the Saptarṣis (Great Bear) is compared with a lady decked with ekāvalī and a garland of lotus flowers.

many sculptures and paintings of the Kuśāṇa and Gupta periods represents eka-valī1 is far from being correct. On the other hand, it should be identified with yaśti, which, according to both Varāhamihira and Kauṭilya, denotes a single string of pearls with a central gem (sanyojitā yā maṅinā tu madhye yaṣṭi-iti sā bhūṣana-vidbhīr = ukta, LXXX.36; S=aiva maṇi-madhyā yaṣṭīh, Arthaśāstra, II.11). A pearl-necklace with blue saffires is actually styled yaśti and muktāgūṇa by Kālidāsa.2 Eka-valī (Fig. 11) and yaśti were very popular in the Gupta and subsequent periods. Bāna compares Rājyaśrī, the only daughter of Prabhākaravardhana and Yaśomati, over their two sons, Rājyavardhana and Harṣa, with an eka-valī hanging over the breasts.3 Yaśti is to be seen in a number of paintings at Ajanta4 (Fig. 13). The evidence of sculpture, terracotta and painting leaves no room for doubt about the universal popularity of these two necklets.

OTHER ORNAMENTS. We have references to some other ornaments also, viz. (i) flat torques worn in the neck (graivyaka, XLII.46),5 (ii) ear-rings (kuṇḍala, XLIII.25: XLIX.2: LVII.32, 36, 47), (iii) armlets (keyūra XLII.44, 45;6 aṅgada, XLIII.25),7 (iv) bracelets (valaya, XII.10), (v) anklets (nūḥura, XLVII.14: LXXVII.1-3) (vi) golden mid-bands called haimakākṣya8 (XXIV.17), and (vii) zones worn by women.

1. C. Sivaramamurti, MASI, No. 73, pp. 57-8; V.S. Agrawala, Harṣa-carita, p. 198.

2. Raghuvanaśī, XIII.54; Meghadūta, I. 46. Also cf. Raghuvanaśī, XVI. 19. In Raghuvanaśī, XIV.48, Kālidāsa describes the river Mandākini flowing at the foot of a hill as a muktāvalī (the same as eka-vali) round the earth's neck.


4. Yazdani, Ajanta, part I, Pls. XXIV-XXV; Part II, Pl. X1a, etc.


6. Of variegated colours and made of peacock-feathers.

7. Decked with multi-coloured gems and diamonds.

8. It was worn in the upavīta fashion and fastened to the neck in such a manner that it fell on the breasts (Amara, II.6.96). Cf. Pādatāṭītaka, verse 45. A Yakṣī from Amaravati (Śātavahana period), now in Madras Govt. Museum, is shown wearing a haimakākṣya (MASI, 73, p. 51, fig. 7). It is very common at Ajanta.
(raśāṇā, XLII.32, 42; YY, IV.14: VIII.13; raśāṇā-kalāpa, LXIX.4; kāṇcī-kalāpa, XLVII. 14; LV.6). At one place the girdle (mekhalā) meant to hold the loin cloth in position is distinguished from the ornamental one (kāṇcī-kalāpa, LV.6). There is a reference to elaborate zones impeding the gait of the wearer (XLVII.14). The zone presented by Śiva to Indra’s flagstaff is said to have been variegated in colour, presumably because of the alternative arrangement of precious stones of various colours (XLIII.42). Several varieties of zones are to be found in contemporary sculpture.

Mention is also made of some unspecified ornaments in connection with the festival of Indra’s banner: ornaments of the hue of the red asoka flower and quadrangular in shape (raktāśoka-nikāśam caturarasm, XLII.42); bluish red and octagonal (aśṭāśri nila-raktam, XLII.43); black and shaped like masūra grain (asitaṁ masūrakam, XLII.43); hued like madder, hexagonal and resembling waves of water (maṇjiṣṭhābham, sadaśri, jalomi-nibham, XLII.44); circular and bearing the lustre of the flames of fire (anaḷa-jvālā-saṅkāśam, vṛttam, XLII.45); lustrous and appearing like the wheels of a chariot (rathacakrābham, prabhā-yuktam, XLII.46). Two ornaments known as udvamśa and niveśa bearing the lustre of lotus (udvanśam, sarvaṇa-saṅkāśam) and of blue lily (niveśam, nilotpalābhāsam) are named in XLII.47. The head-ornament placed on the top of Indra’s flagstaff by Jupiter and Venus is described as bent at the two ends, broad at the upper end and shining like molten red lac (kiṅcid adha-ūrdhva-nirmitam upari viśālām trayodasam ketoh, Śirasī Bṛhaspati-Sukrau lākṣa-rasa-sannibham dadatuḥ, XLII.48).

It was considered auspicious to put on jewels while performing religious rites (LXXXII.1; BY, XVI.1). The king is asked to enjoy jewels every morning (YY, II.25). Precious stones were usually made worth-wearing by boring and stringing them with

1. According to a verse cited by Bhānuji on Amara, II.6.108-09, a girdle with 1 string was called kāṇcī; with 8 strings, mekhāla; with 16 strands, raśāṇā and that with 25 cords, kalāpa—
threads. Thus, 'old gems, whose perforation is clearly visible, become wearable, when combined with new strings'.

III. Some Other Articles of Personal Decoration

There is no doubt that a high standard of living was attained in the Gupta period. Varāhamihira informs us that clubs, umbrellas, goads, sticks, canopies, spears, banners and fly-whisks were used by all sections of society and that the colour of their handles differed from caste to caste (LXXI.4). Of these, fly-whisk (cāmara) and umbrella (chatra) occupy one chapter each (LXXI-LXXII).

CĀMARA. Chowries were made from the hair on the tail of the camarīs found in large number in the Himalayan region. The hair may be slightly yellow, black or white; but glossy, soft, bright and white variety was preferred. The handle of the cāmara measured $1\frac{1}{2}$ cubits ($2\frac{1}{4}'$), 1 cubit ($1\frac{1}{2}'$), or a smaller cubit with closed fist (aratni). It was made of an auspicious wood. The handle of the royal chowrie was covered in gold or silver and decked with various kinds of jewels (LXXI.1-3). According to a later tradition preserved in Bhoja's Yuktikalpataru, a royal cāmara should be white, ornamented with gold and diamonds, and measure 2 cubits. It was regarded as an emblem of royalty. An even number of joints in the handle was considered to be calamitous to the owner, while an odd number was taken to be favourable (LXII.5-6). That fly-whisks were in great demand is evident from their inclusion in the list of tradeable commodities (XLI.7).

CHATRA. The parasol was regarded as the insignia par excellence of regal power and indicated the position of an

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1. प्राणेन सूत्रेन विनाक्तानि प्रकाशर्त्वाणि चिरर्नानि।
रत्नानि शास्त्राणि च योजितानि नवरुणैंभूडःधित्येन चमाणि। II

CIII.1.

For some other details see infra Ch. V, Section 5.

2. हल्दिभोज्नतः शुद्धः सुव्रणवल्लभृःपितः।
हीरेशार्लेक्तो राज्ञ भवयमानसुखःप्रदः। II

Quoted in Śabdakalpdruma, p. 342.

3. Cf. III.18; XVI.23; XLIII.24; LXIX.10.

4. Cf. III.18; XVI.23; XLII.63; XLIII.27; LXVII.45; LXIX.10.
individual in the body politic of the state. The royal umbrella was made of the feathers of swans, cocks, peacocks or cranes, covered on all sides with a fresh white dükūla cloth, adorned with pearls and their long strings suspended all round from its ends, and had a crystal pommel. It was 3 cubits in diameter, well-knit all over and studded with jewels. Its stick, measuring 6 cubits (9 feet), was made of the wood of a single tree, and covered with pure gold. The stick with 9 or 7 joints was taken to be favourable. In Ajanta paintings we have several representations of umbrellas richly decorated with pearl-festoons across the top and a cluster of pearl strings hanging therefrom (Fig. 14). 1 The rods of the umbrellas of the crown prince, queen, army-chief (senāpati) and commander (donḍa-nāyaka) measured 4½ cubits, the diameter of the umbrella proper being 2½ cubits (LXXII.4). The reason of this extra-ordinary length of the rod lies in the fact that these high dignitaries of the state did not carry umbrellas by themselves; they were held over their head by attendants who are represented in art as dwarfish or short-statured. 2 The parasols of the state officials other than the crown prince were intended only for protection from heat and were made with peacock feathers, and decked with the prasāda-patṭa at the top and with wreaths of jewels hanging on all sides (LXXII.5). In the case of ordinary people an umbrella did not indicate the status of its owner, but was meant to protect from cold and heat. It was to be square. It is interesting to note in this connection that in some paintings at Ajanta monks and common people are represented as carrying umbrellas with squarish top (Fig. 15). The rod of a Brāhmaṇa’s umbrella was to be circular and cylindrical (LXXII.6). Umbrellas were also used in religious ceremonial. 3

1. Cf. Yazdani, Ajanta part IV, Pls. XLVI, LV, LVII-LVIII, LXIV, etc.
2. Cf. infra, Ch. VI; for description of Vāmanaka, Kubja and Sācin types of royal attendants, LXXVIII.31-40.
3. Cf. XLII.7, 57 (at Indramaha, an umbrella was held over Indra’s banner); XLV.31 (over a tree at a śānti to expiate any unnatural occurrence in it); XLVII.73 (worshipped after Puṭyasāna); XLI.2 & LXXVIII.21 (its mark on a sword and elephant’s tusk regarded auspicious).
VI
PERFUMERY AND TOILET

I. Perfumery

GANDHAYUKTI. The Gandhayukti section of the Brhat Samhitā (Ch. LXXVI) offers rich material for a chapter on the history of ancient Indian cosmetics. The word gandhayukti, which stands for the art and science of cosmetics and perfumery (XV.12; XVI.17), literally means 'a combination of perfumes'.¹ Vatsyāyana (I.3.16) refers to it as one of the sixty-four subsidiary arts connected with erotics. Of the chemical processes employed in the manufacture of perfumes, mention is made of (i) decoction (pakva, LXXVI.2), (ii) heating (taptā, LXXVI.6), (iii) mixing (sanyuta, LXXVI.12, 16), (iv) fumigation (pradhūpa, 6; dhūpya, 8, 26, 30; dhūpayitavya, 16), (v) sprinkling (sikta, 27) and (vi) combination of one powder with another (bodha 11, 16; prabodha 12; ubdodha 26; bodhita 27).² Utpala adds two more, viz., (vii) purification of the ingredients (dravya-saṃskāra) and (viii) blending a liquid with another (vedha).³ Elsewhere, bhāvana or saturation of a

1. Cf. Gandhayuktijñā bababhīr = dravpyair = niśritair = viśiṣṭataram sugandha-drayam ye utpadyantī, Utpala on XV.12. Śūdraka (Mrčhakatikā, VIII.13) employs gandhayukti to denote a cosmetic preparation made by combining certain fragrant substances and meant to sweeten the speech.

2. This definition of bodha is based on the following distich cited by Utpala (on LXXVI.11) from Iśvara’s Prakrit work Gandhayukti—

ओल्लों मोल्लों जो दिन्नें बेह इति सो भणिणो ।

बोहो उण जो चुणो चुणाविण अच्छगन्धो सो ॥

Its Sanskrit rendering given by Sudhakara Dvivedi is as follows:—

आदेः आदेः यो दीयते चेष इति स भणिण: ।

बोध: पुनर्विश्वस्वृविण्टे अच्छगन्ध: स: ॥

For a discussion on bodha and vedha and the identification of Iśvara with Lokeswara mentioned in Padmaśrī’s Nāgarasaraśva IV.2 see my paper in ABORI, XL, pp. 380-82.

3. पाकवेण्यापूपनानि होको लेयानि । आचायण नोकानि ।

on LXXVI.4;
powder with a liquid is also incidentally referred to (LXXV. 5, 6).\(^1\)

The wide-spread use of perfumes gave rise to a specialised class of artisans who took to the manufacture of and trade in cosmetics for their occupation (gandhayuktijña, XV.12; gandhayuktivid, XVI.17; kacchika, (LXX XVI.41). The various kinds of perfumes described by Varāhamihira are given below.

HAIR-BATH. A kind of scented water for bathing the head was prepared from equal proportions of cassia bark (tvac), costus (kustha), reçu, nalikā, spṛkkā, resin (rasa), Bignonia chelonoides (tagara), vālaka, kesara and patra (LXXVI.5).

HAIR-OIL. An hair-oil emitting the scent of the campaka (Michelia champaka) flower was produced from equal quantities of the powders of madder (mañjiṣṭhā), vyāghranakha, sukti, cassia bark, costus, resin, thrown into sesamum oil, and then heated in the sun (LXXVI.6).\(^2\)

According to a somewhat different method of preparing scented oils given in the Agni-purāṇa, sesamum grains were first perfumed with flowers and then crushed to yield oil. Such an oil would have the scent of the flowers by which sesamum grains are scented.\(^3\)

\(^1\) Cf. Agni-purāṇa, CCXXXIV.20-21 which gives the following eight processes—

\(^2\) LXXVI.3-6 are borrowed ad verbatim by Gaṅgādhara in his Gandhasāra, but without naming the source. Cf. P.K. Gode in BV, 1945, p. 159, note.

\(^3\) Agni-purāṇa, CCXXXIV.33.
PERFUMES. We get formulae for the preparation of a number of compound perfumes. The perfume obtained by mingling together equal quantities of patra, turşka, vāla and Bignonia chelonoides was known as smaroddiśpana, ‘kindler of passion.’ The same with vyāmaka and fumigated with katakā and asafoetida was called vakula; that with costus gave the fragrance of lotus (utpala-gandhika) and with sandal powder, that of campaka; and the addition of jāṭīphala (nutmeg), cassia bark and kustumburu (spice coriander) yielded a perfume smelling like atimuktaka or jasmine flower (LXXVI.7).

Another formula for obtaining eighty-four perfumes of the fragrance of vakula flower is set forth in LXXVI.29-30. We are directed to draw a diagram of nine squares in which are to be entered nine aromatic ingredients, viz., rodhra, uṣira, Bignonia chelonoides, aguru, mustā, pattra, priyaṅgu, vana and pathyā in order. Any three substances taken in order should be mixed with one part each of sandal and turška, a half of śukti and a quarter of satapuspā and fumigated with katakā, asafoetida and jaggery. In this way by different combinations and permutations we get eighty-four scents.1 The diagram given in the footnote below will elucidate the process.2

Next we are introduced to the manner of preparing some

1. रोध्रोषिरवस्तक्षप्रियस्ववपद्यः
   नवकोषाघच्छपुष्टत्र्यव्यविरिंसमुद्धृत्य
   चान्दनवस्तक्षमाभुशक्तयंपादिकातुशतपुष्पा
   कुटुम्भवस्तक्षपुष्पा: केसरगन्धाचुतुरेषीति
   LXXVI.29-30.

2. Borrowed from Utpala’s gloss.

<table>
<thead>
<tr>
<th>rodhra</th>
<th>uṣira</th>
<th>nata</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>aguru</td>
<td>mustā</td>
<td>pattra</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>priyaṅgu</td>
<td>vana</td>
<td>pathyā</td>
</tr>
</tbody>
</table>

Borrowed from BS, II, p. 957, note 1.
all-purpose perfumes called Sarvatobhadra. First, we have to make a diagram comprising 16 compartments by drawing 5 lines vertically and 5 across these horizontally and then to place horizontally 2, 3, 5 and 8 proportions of aguru, pattra, turuśka and saileya; 5, 8, 2 and 3 proportions of priyaṅgu, mustā, rasa and keśa; 4, 1, 7, and 6 parts of spykka, cassia bark, Bignonia chelonoides and māṃsi; and 7, 6, 4 and 1 proportions of sandal, nakha, śrika and kunduruka respectively in individual compartments as shown in the footnote below. Consequently, in whichever way, viz., horizontally, vertically or diagonally, we blend four substances, we get eighteen proportions for each perfume. Each of these compounds should be combined with nakha, Bignonia chelonoides, turuśka, nutmeg, camphor and musk, and fumigated with jaggery and nakha.

1. क्रियान्तरवर्गास्यभागारिणृत: पन्तु सुहुकश्चालाय।
विधेयार्थपक्षादनस्य: प्रियंमुवस्तारसास्य: केश: ||
स्पुष्क्कात्वकंतमण्यां मांसाच्च कृत्यकालपंशमागः: ||
सप्तपद्विवेदचन्द्रमहयनलश्रीकुक्कुलुस्कक: ||
पोषाके कच्चुपुदे यथा तथा मिश्रिते चतु्रब्र्ये: ||
वेदांताधरश भागास्तेस्मिन् गन्धाद्यो योगा: ||
नकत्यरुपक्कुलुस्कुला जातीपूर्व मुगड़कोशबोधा: ||
गुंडलचूथया गन्धा: कत्या: सर्वतोभद्र: ||

LXXVI.23-26.

Cf. Utpala (on LXXVI.26-7)—तस्माद्यतस्ततो गृहामाणा अष्टादश भाग भवित अत: सर्वतोभद्रंस्या:.

2.  

<table>
<thead>
<tr>
<th>aguru 2</th>
<th>pattra 3</th>
<th>turuśka 5</th>
<th>saileya 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>priyaṅgu 5</td>
<td>mustā 8</td>
<td>rasa 2</td>
<td>keśa 3</td>
</tr>
<tr>
<td>spykka 4</td>
<td>tvak 1</td>
<td>tagara 7</td>
<td>māṃsi 6</td>
</tr>
<tr>
<td>malaya 7</td>
<td>nakha 6</td>
<td>śrika 4</td>
<td>kunduruka 1</td>
</tr>
</tbody>
</table>

Borrowed from Utpala’s gloss on LXXVI.23-4.
MOUTH-PERFUMES. The aforementioned tetrads taken at will and enriched with nut-meg, musk and camphor and sprinkled with the juice of mango fruits and honey yield several mouth-perfumes with the scent of pārijāta flower (LXXVI.27). These appear to have been done into small tablets for chewing. According to the Agni-purāṇa (CCXXIV.34), numerous mouth-perfumes (mukha-vāsaka) were formed by combining small cardamoms, cloves, kaṅkola, nutmeg, niśākara and jāti-pattra. Next the same work details the mode of making perfume-tablets (guṭikās) for chewing. It is interesting to note that nutmeg, musk, camphor and mango-juice continued till late as regular components of mouth-perfumes as is clear from their mention in this connection in the Agni-purāṇa (CCXXIV.34-8), Śāṅgadharapaddhati (verse 3250) and Nāgara-sarvasva (IV.7-9).

BATH POWDERS. All the aforesaid perfumes which need śrīvāsaka and sarja in their preparation make fine bath-powders when these are replaced by vālaka and cassia bark (LXXVI.28). In the Nāgara-sarvasva (IV.12) we read of a bath-powder made from cassia bark, aguru, mustaka, Bignonia chelonoides, caura, sāthi, granthi, purnaka, nakha and musk. The Agni-purāṇa (CCXXIV.27b-29) regards cassia bark, nāḍī, phala, oil, saffron, granthi-parvaka, saileya, Bignonia chelonoides, kiṁntā, caula, ezmphor, mānsi, surā and costus as articles for bath (snāna-drayāṇi), and taking any three of these and mixing the same with musk, we get many bath-perfumes.

INCENSE. Various kinds of incense (dāhpa) were also in use, especially in religious worship (XLVII.32). The mixture of 1/16th of satapuspa and kunduruka, 1/8 of nakha and turulka, and 1/4th of sandal and priyaṅgu yielded an incense which was fumigated with jaggery and nakha. Utpala tells us that the practice among the perfumers was to fumigate first all these ingredients with haritaki before doing so with jaggery and nakha.1 Another type of incense was obtained by blending

1. शतपुष्पाकुण्डुको तादेः शंकुकुण्डुको च।
मल्यप्रभुगुणभागो गोचरो धूप्यो गुः हनलन।।

LXXVII.8.

Gft. Utpala—Yatra yatra gandho dāhpyate tatr-ādāv eva haritavya dāhpyaḥ
paścād ukta-drayeṇa ety āgama-viḍaḥ prāhuḥ.
equal quantities of guggulu, vālaka, lac (läksā), mustā, nakha and sugar. The Piṇḍa-dhūpa (perfume lump) was constituted by mānsi, vālaka, turuṣka, nakha and sandal mixed in equal proportion. The Cālukya king Someśvara in his Mānasollāśa gives a different list of ingredients for the formation of the Piṇḍa-dhūpa. According to him, equal portions of the powder of lac, guggula, camphor, rāla, kunṭuru, silhaka (the same as turuṣka), śrikhaṇḍa, sarala wood, laghu-koṣṭha, vālaka, mānsi, saffron, pathyā, musk, pūti-bijaka, sāṅka-nābhi, nakha, sugar, honey, clarified butter, and jaggery, except the liquids, when mixed with two parts of laghu-karpaṇa, yielded Cūrṇa-dhūpa (incense powder), while the same including the liquids (silhaka, honey, clarified butter) when made into lump with the help of jaggery formed Piṇḍa-dhūpa.¹ The highly prized incense called Kopa-cchada was made from four parts each of sugar, śaileyaka and mustā, two parts each of śrīvāsaka and sarja, and one part each of nakha and guggulu mixed with the powder of camphor and done into lumps with honey (LXXVI.11). Many varieties of incense were obtained by combining nine aromatic ingredients, viz., haritaki, saṅkha, ghana, drava (rasa or resin), vālaka, jaggery, upala (costus), sāilaka, mustā, in proportions indicated by multiple of 1/9th (LXXVI.10). Thus each of these substances mixed in different proportions yields eight dhūpas, the total number being seventy-two.²

An interesting method of obtaining a surprisingly large number of incenses is found in LXXVI.13-22. All imaginable combinations and permutations of every four of the following sixteen aromatic ingredients in 1, 2, 3 and 4 parts are said to

2. Cf. Utpala—Ecoam pratyekasya dravyasya bhāga-parikalpanay—āśtau dhūpāḥ bhavanti. Combination of these constituents in all possible orders gives the total number 362880, as worked out by V.S. Sastry in his edition of BS, p. 605.
give 1820\(^1\), 43680 or 174720 different kinds of frankincense.\(^2\) The sixteen ingredients are: ghana, vālaka, śaileyaka, camphor, uṣira, nāga-puspa, vyāghra-nakha, śṛśkkā, aguru, madanaka, nakha, Bignonia chelonoides, coriander, camphor, cola and sandal.\(^3\) In no preparation more than one part of coriander need be added, and camphor should be added in still less proportion, for their smell is too strong, and if used in larger proportions they would diminish the fragrance of other substances (LXXVI.15).\(^4\) All these substances were first severally fumigated with śrīvāsaka, sarja, jaggery and nakha and then mixed with musk and camphor (LXXVI.16).

**TALCUM POWDER (PUṬAVĀSA).** Varahamihira gives us the method of preparing a talc powder. Cassia bark, uṣira, and pattra, taken in equal proportion, and small cardamom in half quantity, when powdered and enriched with musk

\(^1\) Cf.

| 16 | 120 |
| 15 | 105 |
| 14 | 91  |
| 13 | 78  |
| 12 | 66  |
| 11 | 55  |
| 10 | 45  |
|  9 | 36  |
|  8 | 28  |
|  7 | 21  |
|  6 | 15  |
|  5 | 10  |
|  4 | 6   |
|  3 | 3   |
|  2 | 1   | 1

Borrowed from comm. on LXXVI.22.

\(^2\) Cf. Utpala’s gloss on LXXVI.21.

\(^3\) Cf.

<table>
<thead>
<tr>
<th>ghana</th>
<th>vālaka</th>
<th>śaileyaka</th>
<th>karpūra</th>
</tr>
</thead>
<tbody>
<tr>
<td>uṣira</td>
<td>nāga-puspa</td>
<td>vyāghra-nakha</td>
<td>śṛśkkā</td>
</tr>
<tr>
<td>aguru</td>
<td>madanaka</td>
<td>nakha</td>
<td>tagara</td>
</tr>
<tr>
<td>dhānya</td>
<td>karpūra</td>
<td>cola</td>
<td>malaya</td>
</tr>
</tbody>
</table>

Borrowed from Utpala.

\(^4\) Cf. Utpala—Etau deau dvi-tryādhibhir=ḥāgaiḥ praptāu=api na deau.....yata=tad=utkṣaćavād=anya-dravyāṇām gandha-hānir=ḥavatī.
and camphor yielded a powder named Puṭavāsa which was applied to the whole body\(^1\) (LXXVI.12). In case the variant reading paṭavāsa noticed by the commentator is accepted, this powder would appear to have been used for perfuming cloths.

II. Toilet

Even regarding toilet, Varāhamihira furnishes some interesting information.

**HAIR-DYE (MURDHAṬA-RĀGA).** As garlands, perfumes, incense, cloths, ornaments and other articles of decoration fail to embellish the person of a grey-haired man, his anxiety for darkening the hair is quite natural (LXXVI.1).\(^2\) A hair-colouring device is, therefore, given in LXXVI.2-4. Boiled with an acid-gruel (śukla)\(^3\) in an iron vessel, kodrava (Paspalam Scrobiculatum) grains along with iron powder (loha-cūrṇa) should be ground to a fine paste. A grey-haired man should apply it to his head, already washed with an acid gruel and keep the head covered with green leaves for six hours; then having removed it, he should apply myrobalan paste and screen the head with green leaves for another six hours whereafter the head should be washed and the hair would be found turned black. Next, he should remove the repelling odour of iron and acid by the aforesaid hair-bath and scented oils. Utpala informs us that most of these ingredients were washed with vinegar (kāṇjika), some with clean water, others with bovine urine and then cooked in an iron vessel with nakha and gingelly oil.\(^4\) An older work, the Navanītaka\(^5\) (cir. 2nd century A.D.) describes as many as eleven hair-dyes-recipes and refers to forty-six ingredients employed in their preparation, some being colour-producing agents. Of these only three, myro-

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1. It is clear from Utpala’s rendering of Puṭa-vāsa by aṅgoddhūlana.
2. A woman with prematurely grey hair is disapproved for sex relations (LXXVII.17).
3. Kāṇjika according to Utpala.
balan, iron powder and iron vessel, are common to the \textit{Nava-nitaka} and \textit{Byhatsamhitā} lists; but the latter adds \textit{kodrava-taṇḍula} and \textit{ārdra-pattā} (green leaves), which are unknown to the former.

**HAIR-DESSING AND SHAVING.** A short-haired woman was detested.\(^1\) Women perfumed their hair (LXXXVII. 15)\(^2\) and fastened them in long tresses (\textit{veni}, L. 40; LXXXVII. 1).\(^3\) The great care paid to the hair is obvious from the fact that a glance at a man with besmeared but loose hair and suffering from hair-diseases at the commencement of a journey was considered to be inauspicious (\textit{Iti}, XIII.14).

Let us now turn our attention to practices appertaining shave (\textit{kṣaura}). The constellations of Hasta, Citrā, Svāti, Mrágāsiras, Śravaṇā, Dhanisțhā, Satabhiṣaj, Revatī, Aśvini, Jyeṣṭhā, Puṣya and Punarvasu, the moment of their rise or of the \textit{muhūrtas} presiding over them, and when the moon and stars are favourable, are recommended for tonsorial operations (XCVII.12). On the contrary, a shave at the morning and evening junctures (\textit{sandhyās}), at night, on Saturday, Tuesday and Sunday, on the 4th, 9th and 14th \textit{tīthi}s, on the 9th day counted from the previous shave, and in Viṣṭi \textit{karaṇa} was disapproved. The rules of decorum required that one should not shave after bath, immediately before proceeding on a journey, after wearing ornaments, anointing the body with oil and taking food, at the time of battle and without a seat (XCVII. 13;\(^4\) \textit{Iti}, II.35). But shaving was allowed irrespective of all

\(^{1}\) Varāhamihira disapproves such a woman for sexual intercoarse, LXXXVII.17.
\(^{2}\) Cf. \textit{Kumāra-sambhava}, VII.14; \textit{Meghadūta}, I.32; \textit{Ṛtu-saṁhāra}, I.4; II.22.
\(^{3}\) A woman's loosening her locks of hair (\textit{keta-vimokṣaṇa}) in the presence of a man was construed as a mark of love for him, LXXXVII.3.
\(^{4}\) While commenting on this verse, Utpala quotes dissenting views of some older commentators. According to some, a shave in certain circumstances could be allowed on the 4th and 14th \textit{tīthi}s, but in no case on the 9th.

According to two verses cited in Vyāsa's name, shaving on the 4th, 6th, 8th, 14th and 15th \textit{tīthi}s was not permitted—
astrological considerations at royal command, at the instance of Brāhmaṇas, on the occasion of a marriage, while mourning a death, at release from prison, and when initiated for performing a sacrifice (XCVII.14). The beard was generally cropped up every fifth day (IY, II.35). Vātsyāyana (I.4.17), however, recommends the cleansing of the face every fourth day, while the hair of private parts were to be removed every fifth or tenth day.

*TOOTH-STICKS (DANTA-KĀṢṬHA).* Tooth-sticks were extensively used for cleaning teeth, and some beliefs about them are recorded in the Danta-kāṣṭha-lakṣaṇādhyāya of the Brāhmasmiṭā (Ch. LXXXIV). Twigs of thousands of creepers, spreading plants, shrubs and trees were used as tooth-sticks, those of *vikarikatsu*, *bilva*, *kāśmari*, *kṣema-taru*, *banyan*, *arka*, *madhūka*, *sīrīṣa*, *karaṇja*, *plakṣa*, *jāti*, *ficus religiosa*, *jujube*, *brhati*, *teak*, *śri-phala*, *jasmine*, *kadambari*, *nipa*, *arjuna*, *karavira*, *bhūndira*, *śami*, *śyāmā*, *śala*, *asvakarna*, *devadāru*, *cāturūṣaka*, *priyangu*, *āpa-mārga*, rose apple, and pomegranate being especially recommended and believed to bestow good luck (LXXXIV.1, 3-7). Some of these twigs are also recommended by Suṣruta (I.24. 5-7) and Caraka (I.5.48-9). The tooth-sticks that are not tried before, have leaves and an even number of joints, are split, withered at the top, and without skin, it is said, ought not to be used (LXXXIV.2; IY, II.20). Normally a tooth-stick should be a *vitasti* (9") in length (IY, II.21).

A recipe for perfuming tooth-sticks is given in LXXVI. 31-4. Kept in bovine urine mixed with the powder of *harītaki*

> चतुर्गाऊँ चैव प्रस्तः च अप्रत्यमी च चतुर्दशीम् ।
> तथा पुनःद्वारा चैव ब्रह्मचारी भवेत् सदा ॥
> श्मश्नकं शिरोस्मंगस्मं दन्तचालनम् ।
> परवस्याताना य: क्रूर्तिलक्षमीत्त्वम् न लिद्धिति ॥

A prose passage quoted from Parāśara prohibits shaving on the first and 6th tithis.

3. According to a popular belief, one desirous to know the success or failure of his cherished object for the forthcoming year chewed a tooth-stick and then washed and threw it at a clean spot and watched its position. That falling in front in a tranquil direction, occupying an elevated spot or the one falling down after standing erect was taken to bode success, while any other position was regarded as inauspicious (LXXXIV.8-9; IY, II.21-2).
for a week, they were immersed for some time (half a night according to Utpala) in the scented water prepared from small cardamoms, cassia bark, aṅjaṇa, honey, pepper, nāga-kesara and costus mixed in equal proportions. Next they (probably their upper part) were powdered with 4, 2, 1 and 3 parts of nutmeg, cassia bark, small cardamoms and camphor respectively and dried in the sun. Such tooth-sticks, it is said, give freshness of complexion, facial lustre, cleanliness and fragrance of the mouth and sweet speech. A similar device of perfuming tooth-cleaners is found in the Agni-puṇa (CCXXIV.40). But there we are asked to immerse them in bovine urine for only three days instead of a week.

TĀMBŪЛА. The practice of chewing betel has been current in India from very early times, as is obvious from its mention in the oldest extant medical treatises Caraka (I.5.76-7) and Suśruta (Sūtra-sthāna, XLVI.279-80; Cikitsā-sthāna, XXIV.21). It formed a sine qua non of ancient Indian toilet. Varāhamihira refers to lime (cūṇa), areca nut (pūga-phala) and betel leaf (pattra) as essential ingredients of a tāmbūla. Spices like kakkola, clove and nutmeg were also used (LXXVI.36-7). It is interesting to note that catechu (khadira) which is now invariably used with betel and is referred to in all later medical Samhitās is conspicuously absent in our text. It is stated that a tāmbūla with a moderate quantity of lime imparts good colour, that with an excess of areca nut mars the colour, with an over-dose of lime produces bad odour in the mouth, while the one with an excessive proportion of betel leaf makes it fragrant (LXXVI.36). An over-dose of leaf was taken in the night and that of areca nut in the day. The chewing of betel contrary to it was disapproved (LXXVI.37). The tāmbūla, we are told, stimulates love, adds to physical charm, perfumes the mouth, gives strength, dispels phlegmatic diseases (LXXVI.35) and causes amorous intoxication. It is mentioned as an important item of women's toilet in inscriptions.

2. It is referred to in Vāgbhaṭa's Aṣṭāṅga-hṛdaya (Sūtra-sthāna, III.38), assigned to cir. 625 A.D.
3. It is not mentioned in Caraka and Suśruta also.
4. Mandasaur inscr. of Kumāragupta and Bandhuvarman, II.11-2 (CH, III, No. 18)—
FLOWERS AND GARLANDS. Flowers of various descriptions and flower garlands (ṣraja, mālā, mālya, dāma) were profusely used by both men (mālya-dhara, C. 8) and women (mālini, XIII.1; CIII.24; srag-dhara, CIII.5). Garlands are described as a component of Cupid's snare (LXXV.2). The wearing of garlands by women during menses was prohibited (LXXVII.21). Garlands were, as now, invariably employed for worship (XLII.57; XLVII.27, 32). White garlands were especially esteemed (XIII.1; XI.32; BY; XX.1).

Incidental references to some other items of toilet also occur. Belles used to decorate their cheeks with various patterns (tilaka, CIII.28). Collyrium, noted for darkness, was employed in worshipping manes (XLVII.30) and other religious rites (XLIII.9). Bhāṅgāṅjana, a special toilet collyrium, occurs in LI.107. It is probably the same as bhinnāṅjana mentioned in XXXII.21. Uptala (on XLIII.9) names two more varieties, srotāṅjana and saubhāṅjana. Various kinds of unguents (anulepana, XVI.27; vilepana, XLIII.27) were also in use, white ones being regarded as auspicious. Women used to make a mark on their forehead (XXVII.7), presumably with saffron or hiṅguluka. Abhyaṅjana, the oil for anointing

ताहथ्य-कान्त्यपुण्छितोपि मुवर्ण-हार-ताम्बूल-पुष्पविभिन्ना समस्रूक्तोपि

नारीजन: प्रियमुखिति न तावदक्ष्यात्याबन पवत्तमवस्त्रयुगानि गति ॥

Nagar inscr of Dhanika, dated A.D. 685, verse 11:
ब्यालोलोठोपम-लर्ल्ल्याति-लाल्लाल्लिनि लम्बालकानि लल्लित-स्मीत-वजितानि

ताम्बूल-राम-रहिताल्लराभारि यस्य कोपस्तकार वदनाविर्युद्दरीणाम्

1. XLIII.27; LXVIII.22, 24; LXXV.2; LXXVI.1; CIII.5.
2. XIII.1; XLII.57; LXVIII.22; LXIX.10.
3. XLVII.27, 32; LXXVII.21; C. 8; BY; XX.1.
4. LXVIII.24.
5. Also cf. LXXVI.1; CIII.33; XLIII.24, 27; BY; XX.1.
6. It refers to a garland of lotus flowers.
8. XIX.4; XXIV.4; XXVIII.6, 15; XXXII.21; LI.107, 110.
9. Cf. Rāja tarangini, VII.922 for use of the word ḍhāṇḍi in the sense of fashion. Also see JRAI, 1873, p. 310, fn. 1
10. The chapter containing this stanza is spurious.
11. III.23; X.11; XXIV.14; XLI.10; LI.26.
12. LI.110.
the body, was used in worshipping manes (XLVII.30). *Phenaka* (LXXXVI.12), a lather-giving article, corresponding to soap, was an important item of a gentleman’s toilet in those days. Vātsyāyana (I.4.17) requires his nāgaraka to cleanse his person with *phenaka* every third day. It was considered auspicious to look into a mirror (*darpāṇa, ādāra*) or clarified butter in the morning (Tṛ, II.23). Mirror, normally circular in shape (Fig.16), formed one of the articles decorating Indra’s banner (XLII.57), and Ekānamśā, a Vaiśṇava goddess, was shown holding a looking glass in one of her hands (LVII.39). A glance at it on the eve of a journey was taken to augur good luck (Tṛ, IX.11; Tṛ, XIII.10). That mirrors were often highly polished and glossy will appear from the allusion to a mirror removing the darkness of a room by means of solar rays reflected in it (IV.2). Elsewhere, he refers to a mirror with a spot caused by hot vapoury breath blown on it (V.50).

1. LV.2; V.50; XI.13; LVII.39; Tṛ, II.23.
2. XLII.57; Tṛ, XIII.10; Tṛ, IX.11.
4. Mirrors were probably made from polished metals; but the possibility of their being fabricated from glass (*kāra, XL.I.8, 10; LXXXVI.23*) cannot be ruled out. In Ceylon, ‘which borrowed all the arts of civilized life from the Hindus’, glass mirror was already known in the third century B.C. We know from Pliny (*Lib. XXXVI*, C.66) that Indian glass was fabricated from pounded crystal and was therefore, superior to all others. The *Periplus of the Erythraean Sea* (p. 45) informs us that Indian ports imported crude glass in the first century A.D. Cf. R.L. Mitra, *Indo-Aryans*, I, p. 241.
VII

FURNITURE AND MISCELLANEOUS MATERIALS

I. Furniture

Forming one of the commonest requisites of a household, furniture was technically known as śayanāsana\(^1\) or śayyāsana,\(^2\) corresponding to Pāli senāsana, literally meaning bedstead and seat. The Śayyāsana-lakṣanādhyaśa (Ch. LXXVIII) of the Brhatāsamsāhīṭā affords some interesting information regarding furniture. Being the chief concern of wood-workers’ art, the first question to be discussed in any account of furniture should be the selection of trees, the wood whereof can be employed in fabricating it. Our author throws welcome light on this question. Unfit for use in furniture was the timber of trees growing on a cremation ground, river-confluences, near a temple, by the road-side; caitya-vṛkṣas, those that are withered at the top, entwined by creepers, and thorny; those that contain birds’ nests or bee-hives; those that are felled by thunder-bolt, rain, wind or elephants; and that have fallen down in a westerly or southerly direction (LXXVIII.4-5).\(^3\) In case the timber had been cut formerly, it was to be re-examined at the commencement of the work (LXXVIII.6). The trees most esteemed for fashioning bedsteads and seats were asana (Pentap-teria tomentosa), spandana or syandana (Dalbergia ongeinensis), candana (Pterocarpus santalinus), haridra (Mesua ferrea ?), suradāru (Pinus Deodaru), tinduki (Diosperos gluitinoso), śāla (Shorea robusta), kāśmāri (gambhar, Gmelina arborea), ańjana (Micheelia champaka), padmaka (a Nepalese timber tree yielding a red wood), śāka (teak, Techtona grandis), and śimśapā (Dalbergea sisu).\(^4\) The use of 1, 2, 3 or 4 kinds of timber in one and the same article was allowed, while that of 5, 6, 7 or 8 was believed to forebode calamities (LXXVIII.38-9).\(^5\) Some rules were observed with

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1. II, p. 73; LXXVIII.1, 5, 18.
2. Title of Ch. LXXVIII; LXXXVIII.1.
regard to the combination of the wood of certain trees. Thus
the timber of tinduki and sinîsapâ was not joined with any other
wood; that of devadâru and asana was not combined with śrî-
parṇa; śâla and śâka were used jointly as well as separately; so
were haridra and kadamba; spandana and amba were not used
alone; asana combined with another wood was supposed to
cause many troubles. Legs of spandana were preferred in couches
and seats fashioned from amba, spandana and candana. The
timber of all fruit-bearing trees was considered very auspicious
(LXXVIII.15-8). Timber with profusion of holes and knots
was taken to be unfit for all purposes.1

Ivory was used for decoration work in association with all
the trees enumerated above (LXXVIII.19, 20-6).2

ITEMS OF FURNITURE. As suggested by the word
śayanāsana, furniture was of two kinds, viz., śayana, meant for
lying and āsana, meant for sitting. We have references to
śayana3 or sāvyā,4 bed and bedstead as a whole; khaṭpā (LXVIII.
29), cot; paryaṅka (LXVIII. 22), couch or high seat; āsana,5
a seat; bhadrāsana6 or bhadrapīṭha,7 throne; pīṭha (BY, XXXII.
13), a seat or stool; upadhāna,8 pillow; śayanācchādana (CIII.8)
or śayanāstaraṇa (CIII.23), bed-sheet.

ŚATTĀ. We get measurements of couches meant for the
king, prince, minister, army-chief and royal priest. The king’s
couch, we are told, should be 100 digits9 long; that of prince,
90; of minister, 84; of army-chief, 78; and of the priest, 72; half of the length lessened by 1/8th gives their width. The height of the supports (pāda) inclusive of the middle (kukṣya) and top (śiras) portions is said to be 1/3rd of the length.² The frame consisting of four wooden beams, one each on head-side and foot-side and two on two sides, was known as ṭā. Two holes were made at the ends of each of the two shorter beams and the side beams were then fixed into them. In doing so a definite order was followed. In the tip (agra) of the head beam was thrown the foot (mūla) of the right side beam; the latter’s tip was fixed into the foot of the foot-side beam; the latter’s tip was fitted in the foot of the left side beam; the latter’s tip was joined with the foot of the head-side plank. It was known as pradakṣiṇāgra order. Following a sequence contrary to it (apasaṇāgra) or laying the tips of head and foot-side planks in the same direction (ekadigagra) was forbidden and supposed to cause fear from ghosts.² Proper care was taken to see that barley grains placed breadth-wise touching each other. It is styled karmāṅ-gula, a practical digit:—

कर्माङ्गुलं वयाध्यक्तं दरासकं तुष्ण: परित्यक्तम्।

LXXVIII.8.

1. अश्लुक्षपतं नूपराणं महती श्रया जयाय कृतं॥


नवरति: सच्च पडूः ग्रामः प्रियक्षपति: च ।

नूपुरमहन्तिव्यवहारायणं सयुत्रवाहिक्ष्यम्॥

अर्थमतोख्ताकों विष्कभो विद्वकर्छणा प्रक्ष:।

आयामभूसम: पादीक्ष्याय: सकुक्ष्यशिर:॥

LXXVIII.8-10.


2. ईयाणों दाह वद्यक्षणां वद्यसामाचार्यः॥

अपसवंकिवयम् भवति भयं भूतसंज्ञनितम्॥

Cf. Utpala—

ईयाणों चत्वारि काष्ठानि घटितानायुक्तेण ।

शिर: पादभायोव्रात: वादक्षिणमायायोव्रातिः।

तेषां परस्परं यथं संयोगं:

शिर: पादकाष्ठ्यायां चिरं कृतवा वादकिष्णायायातिः सेषां भिषेत।

तत्रायं क्रम: ।... पूर्वौक्तिकविवेकावेत शिर: काष्ठ्ययं तत्र वद्यकिष्णाकाष्ठ्यमुङ्क्षितः।

तस्याय: पादान्त्बायास्य काष्ठ्यमुङ्क्षितः।

LXXVIII.27.
supports were not laid topsy-turvy (avāksiras, LXXVIII.28) The legs were divided into five parts from top to bottom technically known as ātiras (head), kumbha (pitcher), jaṅghā (shank), ādhāra (base) and khura (hoof). The kumbha was so called evidently because of its being fashioned like a pitcher. It is referred to as āmalaka in Buddhist literature and is depicted in some sculptures from Amaravati and Nagarjunakonda (Fig. 17). All the five parts are distinctly represented in the Kuṣāṇa art (Fig. 18). A big hollow or discoloured knot in these parts as also the one occurring at a third of the length of the side-beams and cross-beams was considered inauspicious (LXXVIII. 29-31).

**PARTAṆKA (LXXVIII.11-4).** From the manner of its mention, paryanka seems to denote a seat. *Paryankas* were usually made from the timber of a single tree. The costly paryanka meant for royal use was fabricated entirely from sandal wood, covered with gold and decked with variegated jewels.¹ According to the Mānasāra, paryanka admits of nine varieties on account of its width ranging from 21 to 37 aṅgulas, with successive increase of 2 aṅgulas each.² Its numerous varieties are illustrated in sculptures from Amaravati and nagarjunakonda. We have square, rectangular and circular seats with or without arm-rests and back.³

**BHADRĀSANA.** It was a royal seat fashioned from gold, silver, copper or a milky tree. It was to be 1, 1½ and 1⅓ cubits in height according as it was meant for a feudatory chief.


2. केवलचन्दनाचिंतं कांचनगृऽं विचित्रत्वप्रदाहम्
अध्यासां पयः इति बिध्वीरपम पूव्यते नृपति: II LXXVIII.14.


(mañḍalika), conqueror of adjoining principalities (anantarajit), and for one aspiring to be a universal monarch (samastaraśyārthin).² It was also called bhadrāpiṭha (ṬṬ, XIII.11). In ceremonious ablutions, i.e., Pusyaśnāna, Vijayaśnāna, Nakṣatraśavijaya snāna),² the king sat on a bhadrāsana placed over the skins of certain animals. It appears from the Rāmāyana (II. 26.17) that it was a sign of royalty and carried by an attendant in front of the king.³

II. Utensils

We come across household vessels (bhājana,⁴ bhāṇḍa,⁵ pātra⁶) made of gold (ṬṬ, XVII.10), silver (lb. LXXX.26), crystal (LXVII.89; ṬṬ, V.36), earthenware (II.92; ṬṬ, XVII.10), iron (XI.11; LXXXVI.2) and horns (ṬṬ, IV.22; ṬṬ, VII.12). They were decorated with multi-coloured patterns (citron-bhāṇḍa, X.10). Varāhamihira refers to (1) kalāṣa,⁷ a small pitcher, that with unburnt bottom (akāla-mūla) being regarded as especially sacred (XXIV.7; ṬṬ, XVII.4); (2)

1. भद्रासनमेकमन कारितं कनकरजततास्राणाम्
   क्षीरस्तिनिमितं वा किन्यसं चरममापुरिर्
   निश्चितस्त्वयोज्यायो हस्तम् पादाधिकोश्ययूक्तस्तच्
   माण्डलकान्तरजस्मांस्तराज्यार्थिनां शुभद्

XLVII.46-7.

According to T.A. Gopinatha Rao (Elements of Hindu Iconography, Vol. I, Pt. 1, p. 20, Pt. VI.6), the height of Bhadrāsana is divided into sixteen parts of which one forms the thickness of the upāna or the basal layer, four of the jagati or the next higher layer, three of the kumuda, one of the paṭṭikā, three of the kaṇṭha, one of the second paṭṭikā, two of the broader mahāpaṭṭikā and one of the gṛha-vāri, the topmost layer. Bhadrāpiṭha may be either circular or rectangular.


3. Kālidāsa represents Kuṣa’s son Atithi as sitting on a bhadrāpiṭha at the time of his coronation. Vide Rāghuvarṇa, XVII.10.

4. LXXX.26.
5. XXVIII.5; XII. 8; X.10; LXXXVIII.1.
6. II.92; LXXXVI.2; XCI.8; I.18.
7. XXIV.7; XLIII.20; XLVII.37; LV.26; LXVII.46.
kumbha, a large pitcher, fashioned from clay or costly metals like gold and silver (BT; XVII.10); (3) ghāṭa, a big jar hollow in the middle and narrow at the mouth (Ghaṭavat susirāṃ madhye saikṣaṭam—āṣye ca, LXXVIII.33), that made from crystal being mentioned in LXVII.89 and YY, V.36; (4) kamaṇḍalu (LVII.39, 41), a gourd or water-vessel made of wood or clay; (5) kusūla (XCVI.6; BY, XXXII.13), a large earthenware pot for storing grain; (6) darvī (XLV.62), a ladle; (7) srūk (XLIII.12), a sacrificial ladle fashioned from gold or silver; (8) pīṭhara (LXVII.18), a water-pot of fragile material so that it could be easily heated in the sun (sūrya-tapta-pīṭhara-dāmbu-pāyinaḥ, XXIV.30); (9) śarāva (XLVII.36), a shallow dish or platter of clay; (10) bhrīṅgāra, a golden water-pot which was regarded as very auspicious (11) dṛṭi (YY, I.4), a large leather bag for storage of water; (12) viśāna-koṣa (YY VII.12; BT, IV.22), a vessel made from the tusk of an elephant.

1. IV.1; XXIV.26-27; XLII.35; LII.109; LXIX.17; LXX.13.
2. III.31; IV.4; LXVII.18, 80.
3. The phrase ‘svastikair=ghaṭaith’ occurring in LV.15 is taken by the commentator to mean ‘pitchers shaped like Sevistika’.
4. A pot filled with corn is referred to in L.18.
5. Amara II.9.31 regards it as synonymous with sthāli, a cooking pot.
6. An unbaked earthen lamp is mentioned in L.II.92. LXXXVIII.i (kudlādi-bhrīṅgāṇya=abhuktaṇya=abhinnāni) seems to suggest that earthen pots were broken after use.
7. In Upadha’s language it was called ‘dāṇḍāni damani’ (on LXXXVII.6). According to the Rāja-taraṅgini I.128, it was a golden cup closed at the mouth with a lid. The Māṅkaṇḍeya-purāṇa, VIII.207 seems to suggest that like parasol bhrīṅgāra was also regarded as an emblem of royalty. According to Bhoja’s Yuktikalpadaruu, it was to be used in consecrating the king and made of gold, silver, clay, copper, crystal, sandalwood, iron and horn—

राणोभिषेकपात्र यदृ भूंगार इति तन्मतम् ।

तत्तथा तत्व मानमात्रितिथ्वापि चाप्तः ॥

सौभाग्यां राजस्त भोमां ताम्र स्फाइकमेव च ।

चाल्तां लोहं शार्मेंद्रतद्विग्रह स्मृतम् ॥

Quoted in the Sabda-kalpadruma under ‘bhrīṅgāra’. Some spouted vessels with a narrow neck and with or without a side-handle depicted in Amaravati sculptures are taken by C. Sivaramamurti to illustrate Pāli bhīṅkāra or Sanskrit bhrīṅgāra. Cf. Amaravati Sculptures, p. 42, Pl. V, Figs. 18, 19, 22, 27, 30.

8. We are told that even a single hole suffices to drain off its water. Cf. Manu, II.99.
or the horn of a bull meant for keeping ghee and honey for ceremonial ablutions.¹

Of other household articles (upaskara, XI.42; XLV.62),² Varāhamihira refers to the fan (vyajana, LXIX.10; ṭy, VIII.4), the winnowing basket (śūrpa, XLV.62; LXVII.3) and lamp (dīpa) with its wick (varitti) and oil (LXXXIII.1-2), nails (kīlaka, LII.58), the wooden mortar (ulūkhala, LXVII.47), the razor for shave (ksura, XCVII.12, 13, 14), the axe (paraśu, XLII.19) for cutting wood, the rope (rajju, XLII.66; L.14; XCIV.40), the leathern thong (varatrā) and the iron chain (śṛṅkhalā LXXXVIII.1).

The water-clock (ambu-yantra³, jala-yantra⁴) and the sundial (chāyā-yantra⁵) were used for measuring time.

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1. Probably the same as the koṣa-kalāda mentioned in the Harṣa-carita, VII. V.S. Agrawala explains it by ‘kalāda filled with koṣa’ (Harṣa-carita, A Cultural Study, p. 178), which gives no sense.
2. It mentions ladle and winnowing basket as upaskara.
3. II.3; By, VI.4; Ty, III.4.
5. II. 3.
FAMILY. Family was the smallest unit of social organisation. Joint family system was the prevailing order of the day. Families were often very large (mahākula, XVII.4; YV, IV.58; XV.1). The son continued to live with his parents and brothers even after marriage (LXIX.20). Family relationships included father (pitr, LXVII.13; YV, IV.47; janaka, LXVII.15), mother (mātṛ, L. 26; jainitri LXXIII.11; YV, IV.17; janani, YV, V.38), sons (putra, L. 25; LII.75; CII.12; tanayā, CII.2; ātmaja, CII.5; suta, LII.73-5), daughters (kanyā, LXVII.13), grand-sons (pautra, CII.12), grand-father (pitāmaha, II.2,) husband (pati, LXIX.20; bhartṛ, YV, V.31), wife (jāyā, LXXIII.11; YV, V.31; bhāryā, L. 25; dārā, LXXXIV.3; C. 2; kalatra, C. 11; patni, L. 26; VP, 19, 34), brothers (bhṛtṛ, L. 26), sisters (bhagini, L. 25), husband’s brother (devara, LXIX.20), brother’s wife (L. 26) and maternal uncle (mātula, CIII.61). People were very eager to have their houses filled with children and grandchildren. Family-members were tied together by bonds of mutual love and affection; their relations were normally cordial; but there were some who cut asunder ties with their kith and kin, killed their own relatives and wandered in foreign lands (CIII.39). Being most worried about the well-being of her children, the mother was held in high esteem (LXVII.91; YV, V.38). There is a reference to large families breaking up because of dissensions amongst their members (YV, IV.58). Birth in a good or bad family determined the social status of an individual (VIII.10; XV.16, 27; BY, XV.1). An individual was supposed to represent his family whose character could be judged by his own conduct (YV, V.35).

EDUCATION. The four traditional vidyās, viz., vārtā or economics, trayī or the three Vedas, daṇḍa-niti or polity, and ānvikṣiki or philosophy, as also metaphysics (adhyaksara), are mentioned in XIX.11. Varāhamihira mentions grammarians (vyākaranābhiyukta, YV, V.6), mīmāṃsakas (YV, IV.24), poets

1. Cf. LXXV.1; LXXVII.25; BJ, IV.11.
(kavi, V.39; X.3, 17; XVI.18; XIX.12; XXXII.11; kāvyajñā, \( \text{TY} \), V.6) and the gatherings of poets (kāvyajñā-gos̄thi, \( \text{TY} \), V.6) and scholars (vidyāsamāvaya, \( \text{TY} \), V.7). It is remarked that one well-versed in grammar alone is laughed at in a poets’ gathering. A student frequently changing teachers is alluded to with pointed scorn (\( \text{TY} \), IV.3), whereas one revering his teacher is complimented (\( \text{TY} \), IV.40).\(^1\) \( \text{TY} \), IV.26 states that the learning of a poor man comes to an end owing to family worries. A tree (i.e. bark or leaf), palm-leaf, cloth, lotus-leaf, reeds, leather and silk (patta) are named as writing materials (\text{LXXXV.76}).

**MORALITY.** The standard of sex morality, particularly of women, was considerably high; but there are found some uncomplimentary remarks which may be recorded here. There are several references to men and women indulging in illegitimate love. Varāhamihira alludes to men having sexual intercourse with other species (nṛṇāṁ cā jāti-maitunāḥ, \text{LXXXV.66}) and Utpala tells us that men actually had sexual union with mares, etc.\(^5\) While composing his chapter on the transit of planets (\text{BS}, \text{CHI}) in varied metres, Varāhamihira doubts whether or not his work would receive due admiration from the scholarly world in the presence of Māṇḍavya’s metrical treatise. ‘I am afraid’, says he, ‘my composition may not be appreciated by those who have heard that of Māṇḍavya; but not so, for men do not like their chaste wives so much as courtesans.’\(^6\) We also hear of women gratifying their lust with the help of ladies posing as men.\(^7\)

1. Varāhamihira directs that \( \text{TY} \) should not be taught to a pupil who has stayed only for a short time with his teacher.
2. It is said that a student knows śāstras by revering his teacher—Chātras sutirthān guru-pāñjaya-eta.
3. \text{LXXXIII.12}; C. 2; \text{CHI}.3, 45, etc.
4. \( \text{TY} \), V.12, 33, 34, etc.
5. यतो नरा... अजातो वद्वादिपं याति. Cf. \text{Manu}, XI.174 which prescribes atonement for sexual intercourse with other species.
6. माण्डव्यिगर शुल्का न मद्रीया रोपाते अवा नैवम्। साव्यवी तथा न पुंसां प्रिया यथा स्याज्ञवचनवपला। \text{CHI}.3.
7. स्त्रीभिः स्त्री मदनवतानव्यमीपत्
संबालिन्त नयिति नराक्षतिस्वेताभि:। \text{Bj}, XXIV.7.
PASTIMES. People amused themselves in various ways. Varāhamihira refers to skilled dancers (V.73; X.3), wrestlers (XV.19), jugglers and magicians (XVI.18, īndrajālajña; kuhaka-jīvaka), jesters (hāsyajña, XIX.12), gamblers (dvītañjīvin, IX.34; kitana, X.6) and actors (raṅgapājīvya, IX.43). Bull-fighting (XLVII.44; LXXXVI.22) and cock-fighting (LXII.2) were also in vogue. Then there were festivals when roads were swept, decorated with variegated flags, arches, and garlands and flanked by beautifully attired courtesans, shops were decorated and squares filled with actors, dancers and musicians (XLII.25-6). They provided opportunities to young men and women to come closer (LXXVII.11). Children played with toys (bāla-kriḍanaka, TT, IV.19) and clapped to express joy (XLII.28). In the rainy season, they took delight in erecting miniature clay constructions on roads (XXVIII.5).

ETIQUETTE AND EXPRESSIONS. People were required to observe restraint in speech before elders. Thus a man approaching his grandfather and describing his mother as possessing harlot-like qualities is reproached (II.2). It was against the then etiquettes to sleep above grains, cows, elders, fire and gods and on a bed stretched diagonally, with the head turned to the north or west, with wet feet and naked (LIII.122). Guests, friends and relatives were respected and food was shared with them (XIX.18).

That facial expression varies according to mental frame is stated in CIII.56. That a man afraid of his enemies moves fast is recorded in CIII.20. CIII.15 says that the wealthy pay no heed to others' facial expressions. There are references to the whistling sound produced from the mouth (kṣveḍā) and to that produced by keeping an arm on the breast and then

1. It refers to a fighting bull.
2. Uśrā-kriḍaka, 'bull-fighter'. Utpala splits it into 'uśrā' and 'kriḍaka' and treats them as unconnected, but without any justification.
5. मनोवृत्तिसमायोगाद विकार इव वचनस्य।
6. नृपतिःकृष्णम्यक्षिकितिः ढंगं ब्रजति।
7. त्वेडा मुच्चाद् नीतिर्मर्याति प्रसिद्ध।
beating it with the other hand (āśphoṣita⁴, XXXIII.23; LXXXV. 39). The king sat in the Hall of Justice (dharma-sabhā) with his right hand raised above (ṛṛ, II.27).²

1. आस्फोटितं करश्चुः, वशस्थस्य बाह्रोऽवित्यहस्तेन ताबनम्।
CHAPTER V

ECONOMIC LIFE

I

AGRICULTURE, ARBORI-HORTICULTURE AND FLORA

The Gupta period is one of the most prosperous ages that India ever witnessed. The unification of a large part of the country under the Guptas and consequent peace hastened the pace of all round economic progress. Extensive agricultural operations, brisk inland and overseas trade and exploitation of mineral resources, all contributed their share to this general opulence. Brought up at Ujjayini, one of the prominent centres of Gupta culture, our astronomer gives us many particulars about the economic condition of the age.

A. Agriculture

In spite of the enormous industrial growth which marked the period, Indian economy was mainly agricultural, as it is even now. Agriculture was the mainstay of the masses and was regarded as one of the chief connotations of vārtā, a general name for the science of economics (XIX. II). Agricultural operations were quite elaborate. Fields were marked off from one another by means of artificial boundary lines (XIX. 8), probably raised earthen platforms or thorny fences. The plough\(^1\) drawn by oxen (XLV. 62) was employed for tilling the soil. Then seeds were sown (LII. 96). A good cultivator was advised to undertake cultivating operations like sowing at an auspicious moment.\(^2\) When the crop was ready,\(^3\) it was

\(^1\) XV. 9, 10; XXXIII. 9; XLV. 62; LVII. 36; LXVIII. 17; LXIX. 2; LXXXV. 46.

\(^2\) Seeds should be sown when the moon passes through any of the four fixed (dhruva) asterisms. i.e. Uttarāsādhā, Uttarabhadrapadā, Uttaraphalgunī, Rohini (XCVII. 6), and in the katriya called Gara (XCIX. 4). It was believed that seeds sown at the time of the moon’s passage through the south of Jyeṣṭhā, Mūla, Pūrva, and Uttarāsādhā would perish (IV. 5) which implies that sowing was undertaken during the moon’s passage through the north of these asterisms.

\(^3\) VIII. 12-13.
harvested and piled\(^1\) on the threshing floor (XXXIII.21) where it was threshed and pounded. Having been husked by a winnowing basket (\(śūrpa\), XLV.62; LXVII.3), the grain was stored in a granary. Paddy appears to have been stored without being husked as at present and was consequently known as husk-corn (\(tuṣa-dhāṇya\)).\(^2\)

We have numerous references to rivers, canals, tanks, and wells which must have been utilised for artificial irrigation. The cultivation of the soil, however, depended on rains to a great extent.\(^3\) Varāhamihira, therefore, makes elaborate meteorological observations which have been discussed elsewhere.\(^4\)

**CROPS.** Two crops were usually raised within a year and the rotation of crops was known. Thus, according to the priority or posteriority of the time of sowing, there were two main crops, \(pūrvasasya\) and \(aparasasya\), sown early in rain and autumn respectively.\(^5\) They correspond to the present Kharif and Rabi. Crops derived names from their ripening and harvesting seasons also. Broadly speaking, the \(pūrvasasya\) chiefly consisting of paddy would be ripened in autumn and consequently known as autumnal crop.\(^6\) The \(aparasasya\) mainly comprising wheat and barley would be ready in summer and termed as summer crop.\(^7\) That only these two were the main

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1. XXXIX.14 (\(saṅgṛaha-kāla\)).
2. XV.4, 7, 11, 27; XVI.4; XL.4.
3. \(Prāorykālasya e-āṇam\) = \(āyāttam\), XXI.1. Also cf. XIX.2.
5. VIII.13. Elsewhere \(aparasasya\) and \(pūrvasasya\) are referred to as \(pūrvaśāśa\) and \(pāśaśāśa\) respectively, for \(pūrvasasya\) is sown after \(aparasasya\) is harvested (XXXIX.9). These also correspond with the \(pūrvaśāśa\) and \(pāśaśāśa\) of the Arthaśāstra which also knows an intermediary crop called \(madhyavāpa\). \(Pūrvaśāśa\), according to Kauṭilya, includes all the crops that are sown at the commencement of the rainy season, e.g., paddy, \(koḍrava\), sesamum, \(priyaṅgula\), \(dāraka\) and \(varaka\); \(madhyavāpa\) comprises green gram, black gram and \(śāla\) which are cultivated in the middle of the same season; \(kuśa\), \(maśa\), \(kuṇā\), barley, \(pea\), \(linseed\) and mustard which are sown in autumn came under the category of \(pāśaśāśa\), cf. Arthaśāstra, II.24, p. 116.
6. V.21, 27, 78, 90; X.18; XXV.2; XXVII.2 (spurious); XXXIX.1, 12, 14; XL.3; IX.42; XV.15; XCV.4; CIII.63.
7. CIII.47; IX.43; XXV.2; XXXIX.1, 13; XL.2; XLI.3. The word \(grīṣma\) is somewhat loosely employed, for barley, wheat, etc. are actually harvested in spring and not in summer.
crops grown in our period is evident from the fact that while dealing with predictions regarding the growth of crops, Varāhāmihihira takes only summer and autumnal crops into account.  

**BOTANICAL CLASSIFICATION.** Varāhāmihihira also refers to a botanical classification according to which all the awned or bearded grains were styled as ṣūkadhāṇya (L. 30), while those growing in pods or legumes were termed kośa-dhāṇya (VIII.8) or ṣāmi-jāṭi (VIII.10). They correspond to the modern botanical classes of mono-cotyledons and di-cotyledons respectively. The category of ṣūkadhāṇya, according to Caraka, included numerous varieties of rice, millet, barley, wheat and similar other cereals. Ṣāmi-jāṭi, on the other hand, comprised different varieties of pulses as green gram, black gram, black eye pea, horse gram, moth gram, chick pea, lentils, vetch-ling, peas, sesamum legumes, pigeon pea, babchi seeds, senna seeds, lablab, sword bean, linseed and cowage. Some of the pulses growing on creepers formed a separate group of their own called valliṭa (XIII.13; XVI.24).

All land was not fit for proper growth of corn. It was, thus, recognised that a sub-soil water-vein running under a field makes the crops that have grown perish (LIII.61). Similarly, it is stated that water only four cubits below the surface of the soil prevents the seeds from sprouting and makes the grown up crops wither away (LIII.895).

**AGRICULTURAL PRODUCE. I. Śūkadhāṇya.** Many crops were cultivated during our period. Varāhāmihihira vaguely

1. Ch. XXXIX. A vernal crop (cāsanta sasya) is also mentioned, (XXVII.2); but the chapter in which it occurs is spurious. S. K. Maity is certainly wrong in inferring from VIII.12 and VIII.8-9 that certain crops were duly ripened in Śrāvana and Caitra or Vaiśākha (Economic Life of Northern India in the Gupta Age, p. 79, fn. 8 & 10), for the verses in question do not refer to months, but to the years of Jovian cycle denoted by those names. Similarly, he takes the term śārada in V.78, 90 to mean the grain sown in autumn (ibid, p. 79, fn. 9), which is not correct. The word is invariably used by Varāhāmihihira in the sense of corn ripening in autumn and the commentator so understands it everywhere.


3. The legume (nāla) of sesamum is referred to in LIII.115. Cf. Utpala—tilānām nālān yasminnabhyaṁtre tilā bhavanti.
refers to rice-producing areas but without specifying them. We get references to the following varieties of rice.

1. Śāli, corresponding to the replanted variety now called jañahan. According to Utpala, it is the most nourishing corn (śāra-dhānya) mentioned by Varāhamihira (XV.24).

2. Kalamaśāli (XXIX.2), a variety of rice sown in May or June and ripened in December or January. It was considered to be one of the best varieties (uttama-dhānya, XV.5; śobhana-dhānya, XV.10; dhānya-vara, XIX.6).

3. Yavaka (XXIX.3; L. 30).

4. Sūkaraka (XXIX.2), hog’s rice. It is not mentioned in any other older or contemporary work known to me.

5. Saṣṭika (L. 30; LXXV.8), so-called because it takes sixty days for ripening. Suśruta (I.46.8) and Caraka (I.27.13) refer to several kinds of saṣṭika. Utpala thinks it is “the kings’ corn” (rāja-dhānya) mentioned in XV.12 (rāj-opayogi yad dhānyaḥ saṣṭik-ādi). Yuan Chwang refers to a kind of rice grown in Pāriyātra (Bairat) that was ready for cutting in sixty days’ time. It is now known as saṇṭhā.

6. Raktaśāli (XXIX.2), red rice, probably oryza sativa. It occupies the first place in the Caraka and Suśruta list of śūka-dhānyas and is regarded as the best variety of rice.

7. Pāṇḍuka (XXIX.2), yellowish rice.

8. Gaurāśāli (YY, VII.4), white rice.

9. Nispāva (XVI.33; XL.5; LXXXVIII.33). In two of the three references, Utpala takes it to mean śāli (XVI.33; LXXXVIII.33). In the remaining case, however, he informs

1. V. 39; VIII.30; XIX.16.
2. V. 39; VIII.30; XV.6; XVI.7; XIX.6, 16; XL.3; L.30; BT, IV. 23-27.
4. Utpala invariably renders these phrases by kalama-sālya-ādi. Also cf. Caraka, I.27.8, II; Suśruta, I.46.4.
5. Also mentioned by Pāṇini and Caraka (I.27.12).
8. Caraka, Sūtra, XXVII.8, 11. In Suśruta, it is named lohitaśāli and lohitaṭaka (I.XLVI.4, 6).
11. Utpala on XL.5:—Śālāya iti kecit, śimbidhānyam=iti kecit, an-ātpannāni yāṇi punar=jaṉante te nispāvāḥ.
us that some regarded it as synonymous with śāli while according to others it denotes a leguminous yield.  

Rice and wheat together with barley formed the staple food of the people. Kodrava (Paspalum Scrobiculatum) and kaṅgu or priyaṅgu (panic seeds) were also cultivated and eaten by the poor as is the case even now.

II. Śamidhānya. The cultivation of a large variety of pulses was also practised the following of which are named: mudga (Phaseolus Mungo, V.75; XV.14; XXV.2; XXIX.5; XL.5), māsa (Phaseolus Radiatus), masūra (Ervum Hirsutum), kulattha (Dolichos Uniflorus), kalāya (leguminous seed), oañka (chick pea).

III. Oil Seeds. Of the oil-seeds, tila (sesamum), sarṣapa (mustard seeds), and siddhārtha or sita-sarsapa (white mustard seeds) are referred to. Minced sesame seeds are also noticed (LXIV.6). Sesamum seeds yielding only half the quantity of oil or no oil at all were taken to forebode great impending calamity (XLV.35).

IV. Fibrous Plants. Among the fibrous plants mention

1. Monier Williams (Dictionary, p. 563) regards it as Dolichos Sinensis, or a species of pulse, perhaps Dolichos Lablab.

2. XV.6; XVI.7; XIX.6; XXIX.4; XL.2, 3, 5; XLV.33.

3. VIII.30; XV.6; XVI.7; XIX.6; XL.2, 3; XXIX.4; LXIX.2; LXXIX.10; LXXXVI.2; LXIII.11; LXV.33; LXII.2; BY, XVIII.6.

4. XXIX.6; XL.4; LXXVI.2. Kodrava is called kodau in Hindi.

5. VIII.10; XXIX.4.

6. BY, IV.24.


8. XV.14; XVI.36; XXV.2; XXIX.4; XL.5; LXXV.8; LXXVIII.3; XCIV.21. L.34; LXXXVI.22; BY, IV.23.

9. XL.2.

10. XXIX.5; LIII.36; 114; LXXXVI.22; XCIV.21; XL.5; BY. IV.23-27.

11. XL.5.

12. XXIX.5; XV.14; XVI.3; BY, XVIII.5.

13. V.75; XV.14; XVI.36; XXV.2; XXIX.4; XL.6; L.31; XLVII.30, 35; 77; LIV.2, 7, 17; LXIV.6; LXXV.7.

14. XXIX.5; XL.5; LXXXVI.4; XLV.24.

15. XLIII.5; XLVII.35.

16. LXXIX.12.
is made of cotton, hemp, and linseed. Cotton and linen cloths are also referred to.

V. Sugar-cane. Numerous references testify to the raising of sugar-cane crop on a large scale. There is a reference to sugar-cane forests (iksū-vana, XV.6) and fields specially suited to the cultivation of sugar-cane crops (iksū-vāta, XIX.6). References to the earth over-grown with both sāli paddy and sugar-cane plants suggest the possibility that sugarcane was produced in the same tracts as rice.

FAMINE AND CROP-FAILURE. In spite of so many references to the prosperity of crops and the absence of any recorded instance of famine and a general scarcity of food, we have numerous notices of these calamities in our work. Excessive rainfall is referred to as one of the causes of famine (VII.40; XLV.38). We learn from the Junagadh inscr. of Skandagupta of the great havoc and distress caused by the bursting of the Sudarśana lake owing to too much rainfall.

For an agricultural community depending on rain-water for irrigating its fields there could be no greater disaster than

1. V.75; XV.9, 14; XXIX.5; XL.3; XCVI.15.
2. XXIX.6.
3. XXIX.6; XL.5; LXXX.7. Atasi flower with its dark shade is mentioned in LVII.32 and fruit in LVI.3.
4. XXIX.13; XL.6, 7; XLII.57; CIII.61, 63.
6. Cf. Raghuvamśa, IV.20 which refers to women sitting under sugar-cane plants and watching rice-fields.
7. III.5; IV.9, 11, 16, 18, 19, 20; 4 V.20, 21, 22, 30, 53, 55, 57, 69, 70, 75, 78, 79, 80, 83, 85, 87, 89, 96; VI.3-4; VII.4, 14; VIII.5, 6, 9, 11, 13, 14, 15, 30, 34, 36, 44, 50, 52; IX.8, 10, 12, 16, 20; XI.8, 14, 29, 37, 38, 43, 44, 45, 46, 47-48, 49, 50; XII.20; XVIII.25; XXIX.12; XXXII.26; XXXIII.10; XXXIV.4; XXXVII.1; XLVI.4; LVII.49; LXXXVIII.16; XCVI.2, 4, 6; XXI.14, 15, 16; XXIV.29, 23, 24, 33, 36; XXV.3, 5; XXVII.1-2, 6-7.
8. The following are the references to famine or defective crops: III.6, 13, 16-17, 19, 31; IV.5, 14, 16, 18-21, 23, 27, 29; V.21, 23-4, 27, 38-9, 52, 54, 56, 61, 71, 73, 76, 82, 88, 90, 92, 95; VI.9; VII.3, 7, 18; VIII.4, 10, 16, 19, 28, 40, 44; IX.14, 18, 23, 26, 41; X.2, 11, 20; XI.3, 39, 31, 32, 36; XII.18, 21; XVII.4, 15, 17, 18; XIX.1, 8, 19; XXI.1, 2; XXIV.3, 30; XXVII.5; XXIX.11; XXX.13, 30; XXXI.1; XXXII.10, 25; XXXIII.12; XXXIV.12, 14-15, 16; XXXV.4, 5; XXXVIII.4; XXXIX.10, XL.27-28, 38, 42, 44; XLVI.4, 13, 16; LVII.50; LXXVIII.24; LXXXV.65; XCVI.2, 7, 8, 11.
drought or insufficient rainfall. It resulted in crop-failure and consequent dearth of food. It had become proverbial to speak of the greatest natural calamity in terms of twelve years' drought (III.28). Yāśka, for instance, speaks of a twelve-year drought that occurred in the reign of Śāntaṇu. The Jain tradition knows of a dreadful famine lasting for twelve years during the reign of Candragupta Maurya.

Acute shortage of food amounting to famine might also be due to the agencies of destruction like war. We have references to the destruction and stealing of crops by enemies and robbers (XIX.8, 19).

Crops were sometimes destroyed by wild beasts and the swarms of mice, insects, locusts and birds (III.28; VIII.4). Too much rain, the absence of rain, the mice, locusts, parrots and foreign invaders were regarded as pests to crops and termed iti to which we have many allusions. The practice of employing fowlers and huntsmen for protecting crops from swarms of pests prevalent in earlier period as vouchsafed by Megasthenes, it may be assumed, may have been followed in our period also. People believed that all these distresses causing famine were due to some superhuman agency and astrological phenomena.

SUPERSTITIONS. In the present context, it will not be quite out of place to refer to some superstitious beliefs relating to agriculture mentioned in our work. A number of curious methods were practised in predicting good or bad prospects for the growth of crops. One such practice was to determine the prospects of the summer and autumnal crops from the sun’s entry into Vṛścika and Vṛṣa respectively. It is elaborately described in Ch. 39. Varāhamihira also refers to the practice

1. III.16; XIX.20-21; XLV.38 (Durbhikṣam anādēṣṭau).
2. Yāśka, Nirukta, I.2, 3, 10; Rgveda, VIII.5, 12.
3. Cambridge History of India, Vol. I, p. 147. For other references to 12-year famine see VI.7, III (i), pp. 93-98.
4. The following stanza cited by Utpala on V.52 defines iti:

अतिवृष्टिनांवृष्टित्वमपका: शालभा: शुक्का: ।
अत्यास्त्राशच राजान: पढेता इतय: स्मृता: ॥

5. V.52, 54; VIII.28, 40, 44; XX IV.33; XLV.42.
6. J. Mc Crindle, Megasthenes and Arrian, p. 84.
7. For references, vide ins. 7 and 8 on the last page.
8. The summer crop would thrive if (i) at the time of the sun's entry into Vṛścika the Kendras (4th, 7th and 10th houses) from him are occupied
of predicting the prosperity of crops by observing the profusion of flowers and fruits on certain trees (Ch. 29).

Another method of ascertaining future prospects of crops was to keep the sanctified seeds of all types in equal quantities for the whole night of the full moon of Āṣāḍha; such of the seeds as show an increase in weight would thrive, while those that diminish would not flourish and such as neither increase nor decrease would thrive moderately.¹

B. Arbori-Horticulture

Closely connected with agriculture is plant-culture which is elaborately dealt with in the Vṛkṣāyurveda-dhyāya (Ch. (LIV). The Kāmasūtra (I.3.16) regards it as one of the sixty-four subsidiary arts. Kauṭilya expects his sitādhyakṣa (Superintendent of Agriculture) to possess the knowledge of vṛkṣāyurveda or seek assistance of persons well-versed in this science.² The highly developed state of arbori-horticulture reflected in our work must have been preceded by experiments covering a long period of time. It is interesting to find that some of the practices recorded by our author are more or less followed by Indian peasants even to this day.

by benefics (Mercury, Venus and Jupiter), or the sun is aspected by or is in conjunction with strong benefics; (ii) the sun is posited in Vṛścika, and Jupiter and the moon in Kumbha or Sinha, or vice versa; (iii) Venus or Mercury or both are posited in the 2nd house from the sun situated in Vṛścika; or when the sun in Vṛścika is aspected by Jupiter; (iv) the sun is posited in Vṛścika and the 2nd and 12th houses from the sun are occupied by Mercury and Venus and the 7th by Jupiter and the moon; (v) the 11th, 10th, 4th and 2nd houses from the sun in Vṛścika are occupied by Venus, Jupiter, moon and Mercury respectively; (vi) Jupiter, the moon and the sun are posited in Kumbha, Vṛṣa and Vṛścika and Mars and Saturn in Makara; (vii) the malefics (Mars and Saturn) occupy the 6th and 7th houses respectively from the sun in Vṛścika. The summer crop would perish if the sun is in Vṛścika and (1) the malefics (Saturn and Mars) occupy the 10th and 12th houses or either of them is in possession of the 7th house from Vṛścika; (2) a malefic (Saturn or Mars) in the 2nd house from Vṛścika is unsuspected by benefics (3) Mars and Saturn are posited in the 7th and another Kendra house (4th or 10th) from the sun in Vṛścika. Similarly, forecasts were made about good or bad prospects of the autumnal crops from the sun’s entry into Vṛṣa (XXXIX.1-44).

¹. XXVI.1, 10.
². Arthādhyāstra, II.24, p. 115.
Maintenance of public parks\(^1\) constituted one of the charitable acts called \(\text{pūrta}\).\(^2\) The preservation of plant life was considered to be one of the duties of the state. The \(\text{Śukraniśśāra}\) (IV.4.44), for instance, enjoins upon a king to have domestic plants planted in villages and wild trees in forest. Epigraphic records furnish instances of gardens maintained by kings and high dignitaries of the state\(^3\) and the \(\text{Viṣṇapūrī} (XVI.16)\(^4\) contains one such reference.

Cities and towns in our period abounded with gardens and parks (LV.8; \(\text{TT}, \text{XVII.14}\)). They contained both flower plants and fruit trees. We have references to artificial (\(\text{kṛta}\)) and natural (\(\text{akṛta}\)) gardens (LV.3). Parks were often attached to houses (LIV.3).\(^5\) A park was often provided with an artificial or natural stream in the middle. ‘One should’, says our author, ‘lay out gardens on the banks of water reservoirs, for they do not look lovely without shade on their margins’\(^6\) (LIV.1). Hindus had their temples in the proximity of water and orchards (LV.1-8). Parks also served as venues of religious ceremonies (XLVII.15).

**PREPARATION OF THE SOIL AND MANURING.** ‘A soft soil’, it is stated, ‘is suited to the growth of all sorts of trees. One should sow thereon sesamum which must be crushed when in bloom. This is the first act in the preparation of the soil’ (LIV.2). Besides this form of green manuring even now current in some parts of India, a number of substances and preparations possessing manuring properties are mentioned. Thus cows’ (\(\text{vv}, 5, 7, 19\)), buffaloes’ (30), goats’ and sheeps’ dung (17), clarified butter (7, 15, 19, 24), \(\text{uṣṭra}\) (7), sesame (7, 16, 17, 21, 25), honey (7, 24), \(\text{vīḍāṅga}\) (7, 15), milk and milk-water (7, 15, 16, 19, 20, 23), mud (5, 15, 25), horse-gram (16), black gram (16, 21, 25), green gram (16),

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1. \(\text{Udyāna}\), XVI.28; XLIV.4; XLVII.15; LV.3; LVIII.2; \(\text{ārāma}\), LIV.1, 3; LV.2; \(\text{Bt}, \text{XVII.4}\) (\(\text{udyāna-sakta}\)).
2. \(\text{HDS}, \text{II}, \text{pp. 157, fn. 379, 844, fn. 1992}\).
3. \(\text{ASWI}, \text{IV. Nask inscr. No. 5, line 2, of Uşavadāta, p. 99}\).
4. V. R. Pandit’s ed.
5. Cf. \(\text{Kāmasūtra}, \text{I.V.4}\).
6. Cf. \(\text{LIII.119}\), which recommends plantation of certain trees on the banks of a tank. For references to trees on the banks of water-reservoirs, see LV.1, 43; on those of rivers, LV.6-7; LVIII.2; also cf. \(\text{Rāmāyaṇa}, \text{III.} 15; \text{EI, IX, p. 247}; \text{Upavāsa-vinoda, verse 1}\).
barley (16, 25), groats (17, 21), rice (21), roots of certain plants (22), ashes (24), paste or oil of alangium (27, 29) and cordia (27), fruits, stale meat (21), beef (17) and marrow of hog (20) in various combinations were used as manure. The flesh of hog and deer (19) and turmeric powder (21) were employed for fumigation. The use of fish-water for irrigating certain trees was also in vogue (25, 26). The Agni-purāṇa recommends fish-washing for mangoes. It is still practised by mango-growers in certain parts of Bengal. The ground soaked with hail-water was considered to be especially favourable for the growth of plants.**

**REPRODUCTION OF PLANT-LIFE.** I. Sowing. Sowing is the simplest method of the propagation of plants. Varāhamihira elaborates the general process of sowing seeds, according to which the seeds were to be taken up in the palm greased with clarified butter and thrown into milk. On the next day, the seeds were taken out of milk with greased fingers and the mass was separated into individual seeds. This process was repeated for ten successive days. Then the seeds were rubbed with cow-dung several times and fumigated with the flesh of hog and deer; mixed with flesh and hog's marrow, they were to be sown in the prepared soil, and sprinkled with a mixture of milk and water (LIV.19-21).

According to another method, the seeds were steeped hundred times in the paste or oil of either alangium or cordia fruit and planted in the earth soaked with hail-water (LIV. 27-28). Special methods were followed for making certain seeds with very hard shells sprout. We get the process of sowing the tamarind, wood-apple and cordia seeds.

(a) *Tamarind* (LIV.21). The tamarind seeds sprout and give out luxuriant stems and foliage when they are soaked in a compound of powdered rice, black gram, sesame, groats and stale flesh and then fumigated with turmeric.

1. Agni-purāṇa Ch. 194; G. P. Majumdar, Vanaspati, p. 45; also Khana’s maxim ‘Gourds flourish under the influence of fish-washings’.
2. LIV.28 (karakonmiśramdi), 30 (karakājalamṛtyuge).
3. Cf. Utpala on LIV.19 — आज्ञाः प्रतिबाय बुधेनाम्बेद्यात् हस्तेन करेन योजितं कार्यमये विशिष्टम् पुनर्गृहीता भृतामस्वकोटे करेनकीमृत्त्वं पृथ्विकार्यम्। एवं प्रत्यः कर्म कार्यम्। यावदू दश दिनाः।
(b) Wood-apple (LIV.22-26). The following method is recommended for making the wood-apple seeds sprout: Boil the roots of āśphota, āmalaka, dhava, vāsikā, vetasa, sūryavalli, syāmā and atimuktaka in milk, cool it, and soak the wood-apple seeds in this compound for a period of time needed for hundred rhythmic claps with the palms. Then take out the seed, dry it in the sun. This process should be continued for one month. Next, dig a circular pit 1' 6" in diameter and twice as deep (3 ft.); fill it up with a mixture of milk and water, dry and burn it with fire, and smear it with honey, ghee and ashes mixed together. Then fill it with mud to the height of 3" and then with the powder of black gram, sesame and barley and then over it put mud to the same height, and then once again fill it with the aforesaid powder, add to it an infusion of fish-water and then beat all this until it becomes a thick mass. Sow the seed at a depth of 3" and irrigate it with fish-water and flesh-water. It is stated that if this method is followed, soon a bough with charming foliage covers the canopy in an astonishing manner.

(c) Cordia (LIV.29-30). Having been separated from their shell and steeped in water mixed with the paste of alangium fruits and dried up in the shade seven times, the cordia seeds were repeatedly rubbed with buffalo's dung wherein they were kept for some time and thereafter sown in the mud soaked with hail-water.

II. Cuttings. The method of propagation by cuttings was also known and appears to have been widely practised. The following trees were propagated by means of cuttings (kāṇḍā-rośya) greased with cowdung: jack tree, aśoka, plantain, rose-apple, lemon, pomegranate, grape vine, pālīvata, bijāpūra and jasmine (LIV.4-5).

III. Grafting. The question whether the art of grafting was known to ancient Indians has formed a subject of controversy among scholars. G. P. Majumdar¹ and R. Gangopadhyaya² hold that the method of propagation by grafting was known to India from time immemorial. P. K. Gode, on the other hand, opines that it was unknown in India before

². R. Gangopadhyaya, Agriculture and Agriculturists in Ancient India, p. 69.
the advent of the Portuguese on Indian soil in cir. 1498. According to him, it was used for the first time on Indian mango trees by Jesuits of Goa about A. D. 1550. The evidence of our work which forms the sole basis of all these discussions is, however, very clear on this point. Varāhamihira regards the method of propagation by grafting as superior to that by cuttings. Two methods of grafting are recorded: (1) inserting the cutting of a plant into the root of another cut off from its trunk, or (2) inserting the cutting of a tree into the stem of another, the junction of the two in both the cases being covered with a coating of mud, (mūl-occhede=thavā skandhe ropanīyāḥ param tataḥ, LIV.5). It is, thus, evident that grafting was known to Indian cultivators in the time of Varāhamihira. From the absence of references in later literature, Gode doubts Indians’ knowledge of grafting prior to its application by Jesuits in the middle of the 16th century A. D. However, the gloss of Utpala, who flourished in the first half of the 9th century, clearly shows that grafting was practised in his time also.

IV. Transplantation (saṅkrāmaṇa-viropaṇa). The plants meant for transplantation at a distant place were smeared from root up to the stem with a mixture of ghee, andropogon, sesame, honey, viḍāṅga, cow’s milk and cow-dung (LIV.7). The history of the art of transplantation in India goes back to a very hoary antiquity. Aśoka had medicinal herbs, roots and fruits imported and transplanted wherever they were not found. Varāhamihira advises cultivators to plant the trees with undeveloped branches in the dewy season (Jan.-March); those with branches, in winter (Nov.-January); and those with well-developed stems in the beginning of the rainy season. According to another reading, trees having branches were to be planted at the commencement of the monsoon, while those with well-grown stems in the middle of the rainy season. Proper care was

2. Cf. Utpala on LIV.4-5: ततोजन्तरः परं प्रकृतं मूलोच्छदं अथवा स्कन्धे रोपणीयाः। अन्याय्कृष्टं मूलोच्छदं कुलं तस्य छिन्नमूलस्योपरिवि विजातियो वृक्षो रोपणीयः। अथवा स्कन्धाद्विद् अन्याय्युक्तं छिन्नं तस्य स्कन्धमूलक्षयं विजातियो वृक्षो रोपणीयः। तत्र मूलिकारणं दायपेदिति।
taken to maintain the particular direction of the cut off tree in transplanting also (LIV.6). The fact that the transplanted cutting of a tree or a seed sown in the soil does not change its nature, except for those slight differences that may be due to the influence of the soil, is recorded in LXXIV.2.

**ORDER OF PLANTATION.** While laying out a garden, whether public or attached to a homestead, first were planted auspicious trees like *ariṣṭa, aśoka, punnāga, sīrīṣa* and *priyaṅgu* (LIV.3). It was with a view to improve the aesthetic and hygienic surroundings of the homestead that gardens were attached to houses. Thus, *plakṣa, vata, udumbara* and *aśvattha* to the south, west, north and east respectively of a house were believed to have untoward effects, whereas the presence of the same trees in the north, east, south and west in order was approved (LII.83). The presence of thorny, milky and fruit trees near a house was supposed to bring various calamities to its master. Such trees were, at the first instance, to be cut off or otherwise, other auspicious plants, to wit, *punnāga, aśoka, ariṣṭa, bakula, panasa, sāmi* and *śāla* were planted between them (LII.84-5).¹ The *Śukranīti* lays down that plants yielding good flowers should be planted near villages and a garden to the left of a dwelling house (IV.4.49-50).

**IRRIGATION.** The trees thus planted were to be watered twice, in morning and evening, in summer, on alternate days in winter, and whenever the soil be dry during the rains (LIV.9). The *Śukranīti* (IV.4.50), which contains a siṅilar direction, adds that in spring plants should be irrigated in the fifth part of the day, and never in the rainy season. Earthen pitchers were used in irrigating plants (LVIII.2). From Kālidāsa’s reference to *secana-ghata*² it appears that there were special jars for this purpose.

**DISTANCE BETWEEN TREES.** As to the space to be left between two trees, we are told that it is the best if they are planted 30” apart from each other, middling, if 24 ft. apart, the least distance being 18 ft.; for, it is stated, the trees growing closeby and touching one another with their roots interlocked do not yield a good quantity of fruits (LIV.12-13). The *Śukranīti* (IV.4.44-5), however, advises the peasants to plant

the best trees at a distance of 30 ft.; those of middling quality, 22½ ft.; ordinary ones, 15 ft., and inferior ones, 7½’ apart.

**TREES REQUIRING MOIST SOIL. (ANŪPAJA).** It is stated that sixteen plants, viz., jambū, vetasa, vaiṇira, kadamba, udumbara, arjuna, bijapūraka, grape vine, lemon, pomegranate, vañjula, naktamāla, tilaka, jack tree, timira and amritaka require rather moist soil for their proper growth (LIV.10-11).

**PLANT-DISEASES.** The paleness of leaves, arrested growth of aprouts, saplessness of branches, and oozing out of sap, these are the diseases of plants due to the agency of cold, wind and heat.¹ According to Kāṣyapa, cited by Utpala, absence of branches, stems, foliage, fruits and shade, sereness, and the waning lustre of leaves are the ailments of trees which are caused by cold, heat, rain, wind, and by trees growing too close to one another resulting in their roots being intertwined, and by elephants rubbing their temples against the tree.² For healing the plant, its defective part was first trimmed off with a knife, it was smeared with a compound of ghee and mud and sprinkled with milk and water (LIV.15). In the event of a tree losing its power of bearing fruits, it was sprinkled with milk cooled down after being boiled with horse-gram, black gram, green gram, sesame and barley (LIV.16).

According to another method followed for an exuberant yield of flowers and fruits in a tree, it was sprinkled with a mixture of two āḍhakas of the powdered dung of sheep and goats, one āḍhaka of sesame, a prastha of groats, a drenā of water, and one tulā of beef kept together for seven nights (LIV.17-18). This manuring device is also mentioned in the Šukraniti (IV.4.53), but without specifying the quantity of ingredients. It also emphasises the role of flesh and fish-washing in the nurture of plants (IV.4.45, 52)³.

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¹ शौचवातात्यथृः रोगो जाते पाषाण्युपत्रतः।
अवृद्धिपूर्व व्रावलानां शालायोगों सस्तुतिः।

² शालाबिंतप्रकृती चायया विहितात्यथ ये।
वेपि पर्णसुवह्रेत्रा ध्वशा: प्राश्च पाषाण्यु।
शीतोष्णवंचावतात्यथृः मृणेष्यामितिरसि।
शालिनां तु भवेद्रेधो द्रिशानां लेखनेन च।

³ Varāhamihira asks the cultivator to be duly purified and to wor-
C. Flora

The growth of population and its settlement over a large part of the country has deprived India of much of her vegetation. But a student of Varāhamihira's works is bound to be deeply impressed with her enormous floral wealth in former times. We have references to forests both of natural (vana,\(^1\) kānana\(^2\)) and cultivated (e.g. śālikśwanānī, XV.6) sorts.

**CLASSIFICATION.** Varāhamihira seems to follow the broadest classification of plant life into (1) trees (taru, vrkṣa, druma, pādāpa), (2) succulent shrubs (gulma), and (3) creepers (latā, valli) in general.\(^8\) Utpala rightly explains gulma as a tree without trunk (gulma akānda-vitapa ity=arthah, XL.7) or a collection of tendrils with only one single root (gulma eka-mūlajo latā-samūhah, XI.2)\(^4\). In Caraka (Sūtrasthāna, I. 36), Suśruta (Sūtrasthāna, I.2.3) and Manu (I.46), vanāspaṭi is defined as a tree that bears fruits without flowers,\(^6\) but in our work it is deprived of this technical sense and is synonymous with vrkṣa denoting trees in general (LIV.18).\(^6\) The words latā and valli are often used for creepers in general, but sometimes a distinction seems to be intended between the two.\(^7\) The distinction is not quite clear; vallīs are probably creeping plants while latās are twining plants. They are used in this sense in the Amarakoṣa (valli tu vratatīr=latā; mūlāc=cāgram gata latā, II.4.9, 11). The word pratāna, which occurs only once (XLVII.5), denotes creepers with stems spreading on the ground (pro-

ship the tree with a bath and anointment before planting it (LIV.8). For auspicious time of planting, cf. LIV.31; XCVII.6.

1. XV.3; XIX.1, 7; XXIV.15; XXXII.10; XLV.66, 93; XLVII.7, 5, etc.
2. XLV.75.
3. Vṛkṣa-gulma-latā=cā, XXIX.14; taru-gulma, XL.7; pādāpa-gulma-vallyah, LIII.100; druma-gulma-vallyah, LIII.101, 105; gulma, XI.2; taru-gulma, XCVII.13.
4. Also cf. gulma ekamūlo vṛkṣah, XXIX.14; gulmair=ekamūlajaiḥ, sākhāsamāhau sūkṣmaih, XLVII.5; gulmair=ekamūlaiḥ, sākhā-samāhau gulmaha, LIII.99; gulma ekamūlaiḥ sākhā-samāhau, LIII.100; gulma eka-mūlajaiḥ sākhā-

samāhau, LXXXIV.1.
6. Elsewhere it is used for plant life in general, cf. XXIX.1,
7. XLVII.5; LIV.18; LXXXIV.1.
cumbent or document). Osadhi connotes the plants that wither away after fructification, and Cakrapaṇi, the commentator of Caraka, divides the osadhis into two classes, (1) annuals or perennials bearing fruits, and (2) plants that wither away after maturing and without fructification. But our author uses this word in the sense of herbaceous plants possessing medicinal properties. He refers to the osadhis growing on land (sthala-sambhav = ausadhinām, XL.2) and to persons clever in their use (V.41). There is a reference to kṣupa (XCIII.13) which, according to Amarakośa (II.4.8), denotes a plant with minute branches and roots. The grass (ṭṛṇa) constituted a separate class by itself.

Varāhamihira refers to trees bearing feminine names (strisamjñā = taravah, XLII.14), indicating the existence of a system of classifying trees on the basis of the gender of their names. He also alludes to another classification of trees into thorny (kaṇṭakina), fruit-bearing (philin, phaladruma, phalataru), flower-bearing (puspadruma) and those with milky sap (kṣirin, LII.84; sakṣira, LXXXV.17; XCIV.16; kṣirataru, LIII.118). Utpala says that khadira etc. are thorny trees while bijapūra etc. are fruit-bearing. The popularity of this classification is apparent from the Śukranātisāra (IV.4.48-51, 58-61) which enumerates the fruit-bearing and thorny trees, the latter to be planted in forests. The list of thorny trees there begins with khadira while bijapūra under its other name mātulūṇga is included among the fruit-bearing trees.

From the mention of red, yellow, white and black flowers, it appears that the flowers were classified on the basis of their colour. Blossoms with particular colours were considered sacred to particular gods.

3. V.41; X.13; XVI.7; XIX.12; XXXII.10; XL.2; XLVII.37; XCIX.5.
5. XLVII.4; LII.84; LXXVIII.14. Cf. also LIII.53—kaṇṭakya = akanťa-kāṇām.
6. LII.84-5; LXXVIII.18; LXXXV.17.
7. LXXXV.17.
8. VIII.3, 46; XV.1, 14; CIII.47.
9. For instance, red flowers were regarded as especially sacred to the
An alphabetical list of the flora mentioned by our author is given below.¹

1. Abhayā (XLVII.39), also called haritaki (LXXV.11; LXXVI.1) and pathyā (LXXV.3), Terminalia chebula, is a herb possessing medicinal properties.

2. Abja (XLII.33, LXIX.2), the lotus so called because of its growing in water. For the ordinary lotus, our author employs several other names, viz., ambuja (XII.10; XXX.20; LVII.39, 44; LXX.13), utpala (LXXV.2; LXXVI.7), pankaja (XXVIII.14; LVII.41), kamala (V. 59; XXIV.14; XLIII.5; LXIX.1; LXXX.8), padma (XXIX.10; LIII.100; LXVII.45, 92; LXIX.11), satapatra (LIII.101; LXVII.23). There were several varieties of lotus (vicitrāmbuja, XII.11), white, red and blue ones being referred to: sitotpala refers to the white variety (XII.4, 9); raktotpala, Nymphaea rubra (XXIX.9) and kahlāra, Ottelia alismoides (LV.4) to the red; and indivara (XII.9; XLVII.9), nilanīraja (LXIX.7) and nilotpala (XXI.23; LXIX.9; XXXII.21; XLII.33; XLIX.7; LXVII.66) to the blue sort. We have several references to kumuda, water lily (IV.30.32; VIII.33; IX.45; XII.10; XXIX.10), and kuvalaya (XXX.20) denotes its blue variety. According to Upāla, padma mentioned in LIII.100 refers to sthalapadma, Hibiscus mutabilis, a variety growing on land. Varāhamihira speaks of kamalavana (XLII.5), evidently referring to lotuses growing in continuous stretches of water over a long distance and thus presenting the appearance of a forest, a scene quite common in India even today. The opening and closure of the lotus buds at the appearance of the sun and the moon are referred to (Dhurjavam asura-sura-vadhā-mukha-kamalavana-tuṣāra-tikṣṇāmśum, XLII.5). There are references to the stalk (mrṇāla noted for whiteness, IV.32; XI.49), polem (kiñjalaka, XXX.20), buds (dala, LXIX.7) and the inside (padma-garbha noted for its

¹ The details about the plant life noticed elsewhere in other contexts are not repeated here. In the case of plants bearing more than one name, all the necessary information is given under the name which comes first alphabetically.
lustre, LXIX.11; kamalodara, LVII.48) of the lotus. Water lilies (XII.10) and lotuses (XII.4, 9; XLVII.9) are described as growing in ponds in autumn.

3. Agnimanthā (XLIII.39), Aeschynomene sesban.

4. Ajā (XLVII.41), a medicinal herb mixed with pusyasnāna water.

5. Ajakarṇa (XLII.15), approved for making Indra's flagstaff.

6. Ajamoda (LXXV.11), Apium graveolens, a medicinal herb used in a digestive powder. Utpala gives dīpyaka as its another name.

7. Akṣa (XLVII.4), also called nibhitaka (LII.118; LIII.24-5, 102), Terminalia belerica.

8. Amalaka (LIII.121; LVI.6; LXXV.6; LXXVI.3), Phyllanthus emblica.

9. Ambataru (LXXVIII.17-18), a timber tree recommended for furniture.

10. Āmra (XXIX.11; LII.119; LVIII.6), also called cūta (LXXXV.80), Mangifera indica, recommended for fashioning images (LVIII.6).

11. Āmrātaka (LIII.50; LIV.11), Spondias mangifera.


14. Aṅjana (LIII.50), a timber tree employed in making furniture (LXXVIII.2).

15. Aṅkola (LIII.50; LIV.27, 29), Alangium Lamarkii.

16. Apāmārga (LIII.115; LXXXIV.7), Achyranthes aspera.

17. Aparājītā (XLVII.39), a medicinal herb mixed with Pusyasnāna water Utpala gives samī as its other name. According to the Amarakoṣa (II.4.104), it was also called Viṣṇu-krāntā which Utpala regards as one of the herbs bearing auspicious names (praśastanāmnyaś = c = aṣadhyaḥ, XLVIII.42).

18. Araṇī, a timber tree forbidden for building purposes (LII.118).

19. Ariṣṭa (LII.85; LIII.105; LIV.3), Melia azadirachta, a timber tree recommended for fashioning images (LVIII.5).
20. *Ariṣṭikā* (XLVII.40), a medicinal herb mixed with *Pusyasāna* water.

21. *Arjuna* (XXIX.11; XLII.15; XLIII.4; LIII.12, 101, 105, LIV.10; LVIII.6; LXXXIV.6; XCIV.16), also called *kakubha* (XLIII.4; LIII.76, 119), *Terminalia arjuna*.

22. *Arka* (XXIX.10; XLIX.25; LXXXIV.3), *Calotropis gigantea*.

23. *Asana* (XXIX.5; LXXVIII.2, 11, 15, 17), *Terminalia tomentosa* or *Bridelia martana*.

24. *Aśmāntaka* (LIII.43), *Oxalis sp.*; *Bryophyllum calycinum*.

25. *Aśoka* (LII.88; LIII.119; LIV.3), *Saraca indica*, *Jonesia Aśoka*. Both of its species, *raktāśoka* (XXIX.2; XLII.42; LXXIX.6), the red aśoka, and *nilāśoka* (XXIX.2), the blue aśoka, are noticed. The red aśoka flower is noted for its deep red hue and whenever no species is specified the red variety is intended (VI.13; XXXVII.2; XLII.33).

26. *Āṣphota* (LIV.22), also called *sārivā* (LIII.87), *Hemidesmus indicus*.


28. *Aśvakarnā* (XXIX.7; LIII.105; LXXXIV.7), *Shorea robusta*.

29. *Aśvattha* (XXIX.3; XLIII.12; LII.83; LXIX.3), *Ficus religiosa*, was regarded as sacred. Also called *pippala* (LIII.96) which is the original of Hindi *pīpal*.

30. *Atasi* (X.21; LVII.32; LXXX.7), *Linum usitatisimum*, its flower being noted for dark blue colour.

31. *Atibalā* (LIII.50), *Sida rhombifolia* or *Abutilon indicum*.

32. *Atimuktaka* (LXXVI.7), *Aganosma caryophyllum*. The name is, however, more frequently used as a synonym of *syandana* or *spandana* (*Bignonia indica*), *Ougeinia Dalbergiodes*, a timber tree (XXIX.5; LIV.4, 22, cf. Amara II.4, 26) used in making images and furniture (LVIII.2, 17, 18).

33. *Badari* (XXIX.5; LIII, 16, 17, 72, 74, 75), *Zizyphus jujube*. Its twigs were chewed as tooth-sticks (LXXXIV.5) and its fruit was called *badara* (LIII.114; LXII.2).

34. *Bakula* (LII.85; LIII.119), *Mimusops elengi*. Its flowers were regarded as particularly sacred to the Sun and Mars (CIII.47). Also called *kesara* (LVIII.6).
35. Bāna (XII.6) flowers are noted for their black shade (X.21, where Saturn is compared with it).

36. Bandhujīva (XXIX.8), Pentapetes phoenicea (Ixora coccinea) yields red flowers (XI.11), and a lady with her lips as red as bandhujīva flowers is said to be beautiful (LXIX.6). The same as bandhūka (XXX.15).

37. Bhadrā (XLVII.40). Utpala gives balā as another name.

38. Bhadrādāru (LXXXIV.7), suradāru (LVIII.5; LXXVIII.2), or devadāru (LXXVIII.15), Cedrus libani, variety deodara. It grows on the Himalayas at an elevation roughly between 8500 and 5000 feet (F. C. Ford Robertson, Our Forests, pp. 10, 37). The exudation of devadāru was called kunduruka (LVI.2; comm. kunduruko devadāruvarṣa-nīrīyaṇaḥ).

39. Bhallātaka (XXIX.11; XLI.5; LII.50; LVI.3), Semecarpus anacardium.

40. Bhāṇḍāra (LXXXIV.6), a tree twigs whereof are recommended for use as tooth-sticks.

41. Bhārṇgi (LIII.48), a herb.

42. Bijapūra (LIV.4, 10), Citrus medica.

43. Bilva (LII.18, 50, 76, 105; LXXXV.80), Aegle marmelos, is a sacred tree whose mark on an article is considered to be auspicious (XXXIII.10; XLIX.2; LXIX.10; LXX.13; LXXVIII.21). Its figure along with that of the pramathas and svastika is recommended to be made on temple doors (LV.15). Its twigs were used as sacrificial fuel (XLV.24) and chewed as tooth-sticks (LXXXIV.5). Its timber was fashioned into images (LVIII.5), and its fruit mixed with Puṣvānāna water (XLVII.42) and used in preparing the vaṣṭrepa (LVI.3, 5). Also known as śṛīvekṣa (XXXIII.10; XLIX.2; XLV.24; LV.15; LXIX.10; LXX.13; LXXVIII.21) and fruit as śṛīphala (LXXXIV.3).

44. Bimba (LXIX.6). Varāhamihira, like other Sanskrit poets, compares female lower lip with its fruit.

45. Brāhmi (XLVII.41), Herpestis Monnieria.

46. Brāhiti (XLXXXIV.5), Solanum indicum. According to Utpala, it is the same as kaṇṭakārikā (LIII.57) or nidīghikā (cf. Amara, II.4. 93). Botanically, however, kaṇṭakārikā bears a different name, Solanum jacinii. It is said that if
kanṭakārikā is seen without thorns but with white flowers, a water-vein underneath it may be expected.

47. Campaka (XXIX.8; LXXVI.6, 7), Michelia champaca.
48. Candana (XLIII.9), Santalum album. The fragrant sandal wood is recommended for making images (LVIII.5) and furniture (LXXVIII.2, 12, 14, 18) and its paste was frequently used in toilet and cosmetic preparations in ancient India (LXXVI.9, 30). It grew abundantly in the Malaya region and was consequently called malaya (LXXVI.7, 8, 14, 24. Cf. Raghavaṇa, IV.48, 51, etc.).

49. Chattrā (LI.101), Fennel; Mushroom.
50. Cirabilva (XXIX.5), the same as karaṇja (LI.33) and nakamāla (LI.101, cf. Amara, II.4.47). But botanically all these three bear different names: Holoptelia integrifolia, Galedupa arborea, Caesalpinia bonducella. The nakamāla needs moist soil for proper growth (LIV.11). Kariṇja twigs are recommended as tooth-sticks (LXXXIV.4).

51. Coca (XL.4). According to Utpala, it is the same as pālevata or nālikera, coconut (cocaṁ pālevatam nālikeram vā; also on LIV.4 where he identifies pālevata with coca). But Amara regards it as a synonym of vac, now called taja (II.4.154).

52. Dāḍima (LIV.4, 10; LXXXIV.7), Punica granatum, pomegranate. The red hue of the seeds of the ripe pomegranate fruit is noticed (parinatā-dāḍima-gulikā-gunjā-tāmram, LXXX.8). Also called piṇḍāra (LI.50).

53. Danti (XLIII.9; LI.48), Baliospennum axillare.
54. Darbha (XXIV.8; XCIV.5), Poa cynosuroides, a holy grass much used in religious ceremonies. Kuśa flowers are mentioned in XXIX.13.

55. Dhanvana (LVI.1), Grewia tilifolia.
56. Dhānya (LXXVI.13, 15) or dhānyakāphala (LXXX.6), Coriandrum Sativum, much used in cosmetic preparations in ancient India.

57. Dhava (XLII.15; LI.118; LI.105), Anogeissus latifolia; Conocarpus latifolia.
58. Drākṣā (LIV.4) or mrdea (LIV.10), grape vine.
59. Dūrvā (XL.4; LI.37, 47, 77, 78), Cynodon dactylon. Its stalk is noted for its dark green colour (dūrvākāṅḍa-śāme, V.58), its flower being mentioned in XXIX.13.

60. Edikāksi, a variant reading in XLVII.41.
61. Garuḍavegā (LIII.87), a herbaceous plant (vīruḍh).
62. Girikarnikā, Clitorea ternata, white variety, mentioned under the name śvetā (XLIII.10).
63. Gokṣuraka (LXXV.10), Tribulus lanuginosus, popularly known as gokhru. It possesses medical properties and was used in medicines.
64. Guggulu (LVI.3, 5; LXXVI.9, 11), Balsamodendron mukul, popularly called gugal.
65. Guṇḍra (LIII.100), Saccharum sara, is classed as a tṛṇa.
66. Guṇjā (LXXX.8, 11, 12) or kṛṣṇala (LXXX.11), Abrus precatorius seeds, popularly known as ghonghet, are noted for their red colour (LXXX.8) and formed a unit of weight. At present necklaces of guṇjā seeds are worn by tribals in North India.
67. Haridrakaturu (LIII.45; LXXVIII.2, 16), Curcuma longa.
68. Haridrā (V.58), turmeric, noted for its deep colour. Also called rajani (XLIII.9) and kāṇcanī (XLVII.41, cf. Amara, II.9.41).
69. Hastikarna (XXIX.7) or ibha (LIII.101), Ricinus communis.
70. Inguđa (XXIX.6), Ximenia aegyptiaca, is a wild tree commonly known as ingua.
71. Indrataru (LIII.69).
72. Jambū (XXIX.4; LIII.8, 9, 86, 87, 101, 119, LIV. 4, 10; LXXXIV.7), Eugenia jambolana, is the rose-apple tree now called jāmun.
73. Jāpa (XXVIII.14), Hibiscus rosasinenses, a flowering plant called the China rose. Its blossom is noted for dark red colour.
74. Jāti (LXXXIV.4), Barleria cristata.
75. Jīvā (XLVII.39), Dendroblum sp., is a herb mixed with bath water and popularly called doḍi. Jīvanti, jīvanti, jīvanti-
    yā, madhu and srava are its other names given in the Amarakoṣa (II.4.142).
76. Jīvaka (LVIII.6), commonly called vijayasāra, a timber tree recommended for making statues. According to Amara, it is the same as asana noticed above (II.4.44).
77. Jyotiśmati (XLVII.39), Cardiospermum halicacabum, is a herbaceous plant (LIII.87).
78. Kadāli (XXIX.7; XL.4; XLIX.26; LIV.4), *Musa sapientum*, is the well-known plantain tree. Its trunk is noted for its bluish-yellow shade (LXXIX.8; LXXXII.1).

79. Kadamba (LIV.10; LXXXIV.5), *Anicephalus kadamba*, yields flowers at the approach of rains and there is a reference to northern wind fragrant on account of its flowers (XXVII.8).

80. Kākodumbarikā (LIII.19), *Ficus sp.*, is commonly called kaḍumbari. Utpala gives phalgu as another name (cf. Amara, II. 4.61).

81. Kampillaka (LIII.21), a tree requiring moist soil for normal growth.

82. Kapikacchu (LXXV.4, 9) is a twining creeper commonly known as kavānch. Also called svaguptā (XLIII.10, cf. Amara, II.4.86-7 for other names).

83. Kāpitha (XXIX.12; LIII.41; LIV.22; LVI.1, 5, 7), *Feronia elephantum*, is the wood-apple tree popularly called kaitḥ.

84. Karavīra (XLIX.7; LXXXIV.6), *Nerium odoratum*, is popularly known as kanail. It yields red flowers of excellent hue but without any fragrance.

85. Karīra (LIII.67, 74, 76), *Capparis aphylla*, called kare in Hindi. Its sprout and milky sap are mentioned (LIII. 106).

86. Karṇikāra (XXIX.9) *Hibiscus mutabilis*, commonly called kathacampā, bears red flowers of charming hue but with no smell whatsoever. If in a moist soil it bears white flowers, it is indicative of sub-soil water (LIII.59). Amara gives pari-vyādha as another name for it (II.4.60).

87. Kāśa (LIII.100,103), *Saccharum cylindricum*, a kind of grass known as kāśa.

88. Kāśmāri (XLIII.12; LXXVIII.2; LXXXIV.3), *Gmelina arborea*, is a timber tree popularly known as khambhari. Also called śriparṇi (LIII.105. Cf. Amara, II.4.35-6).

89. Kataka nuts (kataka-phala) along with other articles were used for purifying water (LIII.121).

90. Kāṭambharā (XLIII.10), is a herb, its another name, according to Utpala, being mahuśetā. But Amara (II.4, 110, 153) distinguishes them from one another.

91. Khadira (XXVI.9; XXIX.11; XLIII.12; LVIII.5,
6; LXXXIV.5; LXXXV.80), *Aceea catechu*.

92. *Kharjúra* (LI.101) or *kharjúri* (LI.58), *Phoenix sylvestris*, is the date tree (*khajúr*). It is one of the palmaceae classed as tree-grasses (*ṭṛṇa-drūma*) by Amara (II.4.270). Varāhamihira refers to a *kharjúra* tree with two tops (*dvī-śiraka*, LI.58), which is an exception.

93. *Kicaka* (LXXXV.80), a species of bamboo. According to Amara, those bamboos which produce noise when moved by the wind are called *kicaka* (*veṇavaḥ kicakās=te syur=ye svanany=anil-oddhatāḥ*, II.4.161).

94. *Kimśuka* (VI.13; XXIV.14) or *palāśa* (XXIX.6; XXX.7; XLIII.12; LI.17, 59, 83, 96, 112; XCI.4), *Butea frondosa*, yields red flowers of excellent hue but devoid of any smell. This tree profusely grows in Madhya Pradesh and in parts of Uttar Pradesh. A *palāśa* tree with white flowers, which form an exception, indicates the presence of a water-vein nearby (LI.59).

95. *Kovidāra* (XXIX.13; LI.27), *Bauhinia species*, popularly called *kafnār*, blooms in autumn.

96. *Kṣemā* (XLVII.41), *Augelica glauca*. Utpala gives *kāsthaguggula* as its synonym and says that it was popularly known as *coraka* which is the original of its modern name *cora*. It was also known as *cola* and used in cosmetic preparations (LXXVI.14).

97. *Kṣemataru* (LXXXIV.3).

98. *Kyōrikā* (XXIX.2), *Ficus sp.*, is the same as that called *khirani* in Hindi. Utpala identifies it with *dugdhiṅka*, *Euphorbia species*, popularly called *dūdhī*. Amara (II.4.45) gives *rājādana* and *phalādhyakṣa* as other names of *kṣirikā* and distinguishes it from *dugdhiṅka* (II.4.100).

99. *Kunda* (XXIX.5), a jasminum species. The *kunda* flowers are specially noted for their white hue (*avadāta*, IV.30; VIII.53). Beautiful are indeed the teeth resembling the *kunda* buds (LXIX.6).

100. *Kuṅkuma* (X.11; XLI.10; XLI.21), *Croceus sativa*, is saffron. It was used as a dyeing stuff and a thread coloured with it (*pratisara*, XLIII.5; XLVII.33) was and is still used in religious ceremonies.


102. *Kuruṇṭaka* (XLII.33), *Barleria prionites*, is according to *Amara*, a yellow variety of the above (*tatra pīte kuruṇṭakah*).

103. *Kuṣṭha* (XLIII.9; LXXVI.5, 6, 7, 32) or *utpala* (LXXVI.10), *Costus speciosus*, is the fragrant herb called *kuth*. It was much used in preparing perfumes and formed an important article of Indian export to the Roman empire (H. G. Rawlinson, *Intercourse between India and the Western World*, p. 124).

104. *Kusumbha* (XXIX.9), *Carthamus tinctorius*, bears red flowers which were used for dyeing. A cloth coloured with *kusumbha* flowers was called *kausumbha* (X.11). *Utpala* calls it *mahāraja* (on XXIX.9), which appears to be a mistake for *mahārajana* (*Amara*, II.9.106), indicating its abundant use for colouring.

105. *Kuṭaja* (XXIX.12), *Holarrhena antidysenterica*, flowers during rains. It is popularly known as *kuraiya*.

106. *Lakṣmanā* (LIII.48), a herb.

107. *Lakusa* (LIV.4, 10), *Astracarpus lakucha*, *Erythrina indica*.

108. *Lavalī, Phyllanthus distichus*. *Lavalī-phala*, which *Utpala* explains as *Lavaṇga* flowers (for there can be no fruits, *lavalīphalam lavoṇga-puspan tasya phal-āsambhavāt*), served as a spice in betel (LXXVI.37). A spurious verse (XXVII.5) locates *lavalī* and *lavoṇga* along the south-west coast and speaks of the south-western wind blowing unceasingly tossing up and down in the sea heaps of small cardamoms, *lavalī* and *lavoṇga*.


110. *Madayantikā* (LIII.102), *Jasminum zambac*.

111. *Madhūka* (XXIX.4; LIII.35, 119, LVI.5; LVIII.5; LXXXIV.3), *Bassia latifolia*, is the *mahū* with the flowers of which wine is scented.

112. *Mālatī* (CIII.14), a jasminum species.

112a. *Mallikā* (LX.14; LXI.2), a jasminum species.

113. *Maṇjīṣṭhā* (LVI.5; LXXVI.6), *Rubia cordifolia*, is the Indian madder popularly called *maṇjīṣṭhā*. The permanent dye produced from it is alluded to in several places. The colour
produced by it is called māṇjīṣṭhārāga (XII.1.9; XXX.12) and an article coloured with it māṇjīṣṭha (X.11; XXX.14). Also called samaṅgā (XLIII.9; XLVII.39. cf. Amara II.4.90-91).

114. Māṣaparnī (LIII.88), Glycine debilis.
115. Māurī (LIII.87), a herb.
116. Mokṣaka (LIII.113), a variety of lodhra. Utpala informs us that it was commonly called maṇīvaka.

117. Nāga, Mesua ferrea, is the nāgakesara tree. We have numerous references to its flowers (XXIX.12; XLIII.10; LXXVI.13, 32; LXXVII.24) and fruits (LVI.5). On LIII.101, where Varāhamihira refers to the nāga tree, Utpala says that nāgakesara is obtained from it (nāgakesaram yasmād-uptādyate) and explains nāga-puşpa as nāgakesara. Nāga is generally believed to be the same as punnāga, but Varāhamihira makes a distinction between the two as is evident from his mention of both these side by side (LXXVII.24).

118. Nālikera (LIII.40) is the coconut tree.

119. Nandikāvarta (XXIX.8), Tabernaemontana coronaria, is probably the same as the nandivṛkṣa of the Amarakośa (II.4.128).

120. Navamallikā (LIII.48), a jasminum species.

121. Nicula (XXIX.12) is the cane reed tree mentioned as growing on sea-shore (XLVII.12) and ponds (LIII.119; LV.5). The mention of nicula and vetasa together in one and the same line (LIII.119) points to the distinction between the two. Amara (II.4.29-30, 61) distinguishes them from one another, but the nature of this distinction is not quite clear. Kalidāsa mentions it as growing wildly near Rāmagiri (Ramtek near Nagpur, Mehadūta, pūrvamegha, 14) and on the banks of the rivers Tamasā, Gambhirā and Mālini (Raghu, IX.75; Mehadūta, pūrvamegha, 41; Śākuntala, III.23).

122. Nimba, Melia azadirachta, is the famous nim tree. Its wood is forbidden for building purposes (LII.118). Its leaves (LIII.115) and fruits (LVI.5, 7) were supposed to possess chemical properties. Also called picumanda (XXIX.12 refers to its flowers, cf. Amara, II. 4.62).

123. Nīpa (LIII.101, LXXXIV.6), Nauclea kadamba.
124. Nirgundi (LIII.14) or sinduvāra (XXIX.9; LIII.101), Vitex trifolia.
125. Nyagrodha (XXIX.3; LIII.96; LXXXIV.3; LXXXV.80) or vaṭa (LII.83), Ficus bengalensis.
126. **Padmaka** (LXXVIII.2, 13), *Prunus Puddum Roxb.*
127. **Panasa** (LI.85; LIV.4, 11), *Artocarpus integrefolia*, is the famous *kațahala* tree.
128. **Pārijāta** (LXXVI.27), *Erythrina indica*, is the same as that called *harasiṅgār* in Hindi.
129. **Parusaka** (LIII.50). *Grewia asiatica*.
130. **Pāṭala** (XXIX.7), *Stereospermum suaveolens*, is a *vṛkṣa-jāti* according to Utpala. The *pāṭala* flowers are slightly red (*śvetalohita*, V.58 and comm.).
131. **Pāṭhā** (XLVII.39), *Stephania hennandifolia*.
132. **Pattra** (XL.4; LXXVI.5, 7, 12, 23, 29, 32, 33), *Laurus cassia* or *Cinnamomum inens*, the same as *gandhapatra* or *sugandhapatram*, much used in perfumes.
133. **Pītu** (XXIX.11; LIII.63; 65, 75), *Salvadora indica*, is even now known by this very name.
134. **Pippāli** (XVI.29; LIX.8; LXXV.11), *Piper longum*, a spicy plant.
135. **Pīḷaka** (LII.83; LIII.119), *Ficus tsiela religiosa*, is a variety of the banyan tree called *pākara*.
136. **Priyaka** (XLII.15; LIV.3; LXXXIV.7). According to Amara, *priyaka* may denote *kadamba*, *jivaka* or *priyaṅgu* (II.4.42, 44, 56). It is difficult to say which of these trees is intended here.
137. **Priyaṅgu** (XLIII.9), *Aglaia Roxburghiana*, the same as *gandhapriyaṅgu* according to the commentator, was used in perfumes (LXXXVI.8).
138. **Pūgā**, *Areca catechu*. Betel nuts (*pūgaphala, LXXXVI.2*) were chewed with betel leaves (LXXVI.36, 37).
139. **Punnāga** (LII.85; LIV.3), *Calophyllum inophyllum*. Its flower is mentioned in LXXXVI.24. It is known as *sandēṣarā* in Gujarāti.
140. **Pūrṇakoṣa** (XLIII.10; XLVII.40), a herb used in religious ceremonies.
141. **Rāja-koṣātaka** (LIII.121), *Luffa amara*. Its powder was used for clearing water.
142. **Rodhra-vṛkṣa** (LXXXV.80), *Syzigium crataegoides* or *Syzigium racemosum*, is the same as the *lodh* tree.
143. **Rohita** (LIII.72) or *rohitaka* (LIII.68, 79), *Andersonia Rohitaka*, is commonly known as *rohiḍa*. It yields flowers as red as those of pomegranate (*dāḍima-puspaka* is another name,
Amara, II.4.49). A white variety of rohitaka is referred to (LIII. 84).

144. Sahadevī (XLIII.10; XLVII.40), a herb. According to Utpala, it was also known as sahagandhā.
145. Śāka (LIII.105; LXXVIII.2, 13, 16), the teak tree.
146. Śāla (XXIX.2; LII.85; LVIII.6; LXXVIII.2, 13, 16; LXXXIV.7), Shorea robusta, is supposed to be the same as sarja and both these share the same botanical name (cf. Amara, II.4.44, which regards them identical). But the mention of both of these in one and the same line implies some sort of distinction which is not quite clear.
147. Śallakī (LVI.1), Boswellia serrata.
148. Śālmali (LVI.1), Bombax malabaricum, is the silk-cotton tree called semal. The cotton obtained from it is used forstuffening.
149. Śami (XXIX.11; LII.85; LIII.83; LVIII.5; LXXXIV.6), Mimosa suma (Prosopis spicigera). We have references to knotty (LIII.81) and white śami showing too many thorns (LIII.85). Its wood was believed by Sanskrit poets to possess latent fire. (Cf. Śākuntala, IV.3, agnīgarbhāṅ śāmiṁ iva).
150. Saptaparṇa (XXIX.4), Alstonia scholaris.
151. Sarja (XLIII.4; LIII.105; LVIII.6), Shorea robusta. The exudation of sarja (sarja-rasa) formed an ingredient of vajralepa and vajrakalka (LVI.3, 6) and of certain perfumes (LXXVI.11).
152. Śatāvari (XLIII.10; XLVII.40), Asparagus racemosus.
153. Saugandhika (XXIX.10) is, according to Amara (II.4.166), a grass or white kahlāra (I.10, 36). According to the Haima quoted by Bhānuji (on Amara II.4.166), it may denote a grass, gandhotpala, padmarāga or kahlāra besides a dealer in perfumery.
154. Śīṃśapā (LIII.105), Dalbergia sisoo, is the sīsam tree. Its wood is very strong and durable and is recommended for furniture (LXXVIII.2, 12, 15), for which purpose it is still used abundantly.
155. Sindhuka, a tree recommended for images (LVIII.6).
156. Śīriṣa (XXIX.4; LIII.50; LIV.3; LIX.8; LXXXIV.4), Mimosa sirissa. At one place, Utpala says that śīriṣa flowers are bluish-yellow and at another place describes the
same as whitish-yellow (nila-pīta, III.28; śveta-pīta, LXXIX.6; LXXXII.1; he makes no remark on LXXIX.11).

157. Śivā (XLVII.40), Phyllanthus emblica, is mentioned as a herbaceous plant (vīrudh, LIII.87).

158. Ślesmātaka (XLVII.4; LIV.27, 29, 30), Cordia mixta, is commonly known as lasodā or bahuā (the latter being a derivative of bahuwāraka, another name of ślesmātaka, Amara, II.4.34).

159. Somarājī (XLIII.10) somavallī (LIII.108), Proralia corylifolia. According to Amara, somavallī is another name for guḍūcī, while somavalli and somavallikā, among others, are said to be synonymous with vākucī commonly known as vakū (Amara, II.4.82-83, 95-6).

160. Šonākataru (LIII.23), Bignonia.

161. Śri (LXXVI.11) or śrīvāsaka (LVI.3) is the resin of a tree.

162. Śrīnātaka (LXXIX.17), Trapa bispinosa, is an aquatic creeper producing the fruit now called śīṅghādā. It is noted for its three angles.

163. Śrīnāvēra (LXXV.11), Zingiber officinale, a bulbous root used in medicines and as a spice. It is popularly called adaraka (a derivative of ārdraka, its another name; cf. Amara, II.9.37).

164. Śukarādpātī (LIII.48), a herbaceous plant.

165. Śukarikā (LIII.88), Mimosa pudica, is mentioned as a vīrudh (herbaceous plant).

166. Śūryaśalī (LIV.22), Gynandropsis pentaphylla.

167. Suvarṇatara (LIII.70). Utpala regards it as the name of a particular tree. G. P. Majumdar’s rendering of it by ‘any tree denominated after gold’ (Upavama-vinoda, p.23) appears to be untenable. It may be identical with the suvarṇaka mentioned by Amara (II.4.24).

168. Suvarṇāpuspa (XXIX.10), Cassia fistula.

169. Suvarṇāpuspī (XLIII.9), mentioned as an oṣadhi (herb).

170. Śyāmā (LXXXIV.6) Echinocarpus frutescens, is called both a latā (XXIX.13) and a vīrudh (herb, LIII.87). Kālidāsa compares its creeper with the body of woman apparently on account of its delicacy and thinness (Mālavikāgnimitra, II.6).

171. Tāla (LIII.40, 119), Borossofus flabelliformis, is the palm tree.

172. Tāli (XXVII.4), Talipot palm. Varāhamihira
locates it in the south and speaks of the rough and howling southern wind making the monkeys dance through the leaves of palm trees, bowers of creepers and trees. Kālidāsa describes it as lining the sea-coast of Kāliṅga (Raghuvamśa, XIII.15).

173. Tamāla (XXI.23; XXIV.17) Cinnamomum tamala, is noted for the dark green hue of its leaves.

174. Tilaka (XXIX.6; LIII.50, 73; LIV.11) bears white fragrant flowers (LXXXVI.24; CIII.47) in the spring season which were called vasanta-tilaka (CIII.33).

175. Timira (LIV.11).

176. Tinduka (XXIX.3; LIII.50, 112, 115; LVI.1, 5, 6; LXXVIII.2, 15), Diospyros glutinosa, is the ebony tree called tendū. Its fruit is also known by the same name.

177. Tintidi (LIV.21), Tamarindus indica, is the tamarind tree called cincā or imali.

178. Trāyamāṇa (XLIII.10) or trāyamāṇa (XLVII.39), is an oṣadhi.

179. Trivṛtā (LIII.48, 87), Ipomea turpethum, is mentioned as a vīrūdh.

180. Tvaś (LXXVI.5, 6, 12, 24), cassia bark.

181. Udambura (XLII.15; XLIII.4, 12, 20; LIII.83; LIII.11, 18, 96; LIV.10; LIX.8), Ficus glomerata, is called āumar or gūlar in Hindi. Mention is made of its ripe fruit (LIII.107).

182. Uśīra (LXXVI.12, 13, 29), Andropogon laniger.

183. Vacā (XLIII.9; LVI.1), Acorus calamus, otherwise called vijayā (XLVII.39).

184. Valla (LXXIX.7) flower is slightly yellowish (valla-puṣpaṁ kāśaṁ valla-puṣpanibham īṣat pāṇḍuram, comm.).

185. Vanaśa, bamboo, is called as a gulma (XI.26; XXX.27). Swords shaped like bamboo leaves were highly valued (XLIX.7). As we have seen above, a species of bamboo named kicaka is specified. Also veṇu (XLII.8).

186. Vāṇirā (LIV.10), Calamus Roxburghii.

187. Varṇaḷa (LIII.50; LIV.11; XCIV.16), Calamus rotang or Salix tetrasperma.

188. Vārāhī (LIII.87) is classed as a vīrūdh and is probably the same as that called vārāhikanda.

189. Varuṇaka (LIII.50) is probably the same as varuṇa (Crotoevo religiosa) mentioned in Caraka. According to Amara
(II.4.25), it has its synonyms in varaṇa, setu, tiktaśāka and kumāraka.

190. Vasanta-tilaka (CIII.33) bears white blossoms with which are compared the grey hair of an elderly person (vasanta-tilaka-dyutimūrdhajo =pi. Cf. Vasantatilaka vrk̄ṣas =tasya puspam = ativa śvetavāraṇam bhavati, Utpala). But most probably it is an allusion to the tilaka blooming in spring.

191. Vāśikā (LIV.22), Adhatoda vasika. Vāṣī (LXXIX.16) is probably the same as vāśikā; its fruits is said to be elongated (vāsiphala-pradīghāni, LXXIX.16).

192. Vetasa (LIV.22), Calamus viminalis, belongs to the anūpa region (LIV.11) and therefore its presence in an arid area indicates a sub-soil water-vein nearby (LIII.6, 86, 101). It is recommended for being planted on the banks of water-reservoirs (LIII.119). Its flowers are mentioned in XXIX.6.

193. Vidārikā, Ipomola digitata. The juice and root of vidārikā were used for medical purposes (LXXV.5, 9, 10).

194. Vīkāṅkata (XLVII.42; LXXXIV.3), Placourtia sapida, or Gymnosporia montana, is commonly called kāther.

195. Vīraṇa (LIII.47), Andropogon muricatum, is classed as a gulma (XXX.24).

196. Viśveśvarī (XLVII.39) is, according to Utpala, the same as padmacārini, which is mentioned in Amara, II.4.146.

197. Vyāghrapadā (LIII.87) is classed as a vīrudh.
II

FAUNA

The *Brhatsamhitā* furnishes materials for an important chapter in the history of ancient Indian fauna. As many as seven chapters (LX-LXVI) are devoted to fauna besides much valuable information scattered throughout the work.

**CLASSIFICATION.** Varāhamihira classifies entire animal life into rural (*grāmya*¹), wild (*āranya*²), aquatic (*ambucārin*, *jalacara*, *jalacārin*, *saliacara*, *jalaja*, *salilaja*), terrestrial (*bhūcārin*), atmospheric (*vyomacārin*), diurnal (*dyucara*, *divasacara*, *divasaścara*), nocturnal (*niścara*, *kṣapācara*)¹¹ and diurnal-nocturnal (*ubhayacārin*, LXXXV.6). The diurnal, nocturnal and diurnal-nocturnal creatures are enumerated in LXXXVII.1-3. Another classification was into male, female and hermaphrodite (LXXXV.6). Our author states that owing to the multiplicity of their genera it is difficult to ascertain the sex of creatures and quotes two verses from Rṣi (Vṛddha-Garga according to the commentator) according to which male creatures have fleshy, raised and large shoulders, broad necks, handsome breast, low but deep voice and firm courage; the females are characterised by slender breast, head and neck, short face and legs, little courage and clinging and melodious voice, and the hermaphrodites possess mixed characteristics (LXXXV.7-9). Creatures were also distinguished from each other according as they bore masculine (*punnaṃāṇaḥ*) and

1. LXXXV.10, 24.
2. LXXXV.10, 24. Cf. XLV.65, where urban and wild birds are contrasted.
3. XCV.5.
4. IV.5; XV.2; XXI.23.
5. LV.5.
6. V.33.
7. XVII.24.
8. IX.33.
9. Cf. XCV.58 *sthalarara*.
10. LXXXV.24; XLV.65; LXXXVII.1.
11. LXXXV.24; XLV.65; LXXXVII.2.
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feminine (stīsaṁjñāḥ) names (LXXXV. 36-7). Birds and wild animals are also distinguished from one another (khaga-mrga, paksi-mrga, patatri-mrga, mṛgāndaja, vihaṅga-mrga). Some other modes of classification were also in vogue, e.g., according of food-habits, as trṇabhuj (V.30) or eaters of grass, and kravyād (XLIX.3; LXIX.22; LXX.12)7 or carnivorous animals; according to certain distinguishing limbs, as daṁśtrin (V.93; VI.3; VIII.51; XIX.1; XXXIII.9; LXXXIV.44), animals with prominent teeth like the boar, dog and serpent, or upari-daṁśtrin (XCV.57). animals with teeth above like the boar, śṛṅgin, horned animals like the deer (XVI.8; CIII.61), and ekaśapha, animals with uncloven hoofs like horses and asses (V.78; LXXXV.23); according to size, as ksudra-janṭus (XI.45); according to habits, as sārtisyapas, reptiles (XXVIII.13) (LXIX.22) or śīghraga, moving fast like the camel (V.54). The burrow-dwellers (vīḷaśayas) are distinguished from the tusked animals (LXXXV.44).8 Caraka (I.27. 35-55), it is interesting to note, classifies the animal kingdom mostly according to the habits of food and living. Thus, he knows burrow-dwellers (bhūmiśaya), aquatic creatures (vāriśaya, vāricārin, ambucārin) and wild beasts (jāṅgalā mṛgāḥ) besides the animals and birds that eat their food after tearing (prasaha), scattering (vīskirā) and picking it up (pratuda). A list of the fauna mentioned by Varāhamihira is given below.

WILD ANIMALS. The word mṛga is mostly used to denote wild life in general9 and only occasionally the deer.10 The lion (siṁha, hari), the king of the wild life (mṛgendra), was

2. III.38; XV.13; XLVII.13.
3. XXI.16; XXIV.12; XLV.91, 94.
4. XXIV.25.
5. XXX.5; LXXXV.43.
6. XXX.7; XLV.66; XCVI.7.
7. Cf. LXXXV.67, where creatures subsisting on grass, water, flesh and grains are mentioned.
8. Cf. LXXXV.28, where burrow-dwellers are distinguished from the tiger, bear, monkey, leopard and buffalo.
9. III.25, 38; VI.3; VIII.4; XV.3, 13; XXI.16; XXIV.12, 25; XXX.5, 7; XXXIII.9, etc.
10. XLVII.14; XCI.
11. XL.4: XLVII.13, 76; LV.28; LXVII.18, 95.
12. XI.47.
found in the Vindhya forest (XII.6). It is noted for its tail turning from left to right (XI.47) and deep sound (LXVII.95). The elephant is referred to as hastin, karin, gaja, dhipa, dwirada and dantin, and its female as karenu. Varāhamihira mentions four kinds of elephants—(1) an elephant with tusks coloured like honey, a well-proportioned body, uniform limbs, a backbone shaped like a bow and hips like those of a boar, and which is neither too stout nor lean and is fit for work is called Bhadra; it is 7, 9 and 10 cubits in height, length and girth respectively; the colour of Bhadra and its ichor is green; (2) Manda has a loose breast and folds on the waist, long belly, thick skin and neck, long abdomen and the root of the tail, and the look of a lion; it is 6, 8 and 9 cubits in height, length and girth: Manda and its ichor are yellow; (3) Mrga is characterised by short lips, tail and sex-organ, slender feet, neck, teeth and ears, and large eyes; its height, length and periphery measure 5, 6 and 8 cubits; Mrga and its ichor are black; (4) an elephant with mixed characteristics is termed Sankīrṇa (LXVI.1-5). The four categories are also named by Kauṭilya and Someśvara. Varāhamihira also refers to four other kinds forbidden for domestication, viz., 1. Kubja, 2. Vāmanaka, 3. Matkuṇa and 4. Saṇḍha (LXVI.10). Of these, Matkuṇa is known to Kauṭilya also. As we have seen above, ivory was employed in decorating furniture. Varāhamihira refers to elephants hailing from swampy and mountainous regions (XCVIII.1). The tiger (vyāghra, sārdāla) with its bluish-red eyes (LXXIX.9), bear (tkṣa), hyena (tārakṣa) and

1. L.19; LXXXVI.42, etc.
2. LXXXVIII.1.
3. XXVII.4.
4. XXIV.15.
5. LXXXVI.42.
6. V.33.
7. XLIX.24.
8. The following is based on BS, Hastilakṣanādhyāya, Ch. LXVI.
9. Bhadra is also named in LXXX.20.
10. Arthasastra, II.31, p. 137.
12. Arthasastra, II.31, p. 136. For the definition of these four varieties, see the anonymous verses quoted by Utpala on LXVI.10.
14. XLIII.13; XLVII.76; L.19; LXVII.17, 37; LXXXV.28.
15. LXVII.115; CHIII.4; XII.6.
16. LXXXV.21, 28, 42.
17. XII.6.
monkey (kapi\(^1\), vānara\(^2\), sākhāmṛga\(^3\)) inhabited the Vindhyaas (XII.6), while the yak (camari), roaming among the Himālayas, supplied its hair for fly-whisks (LXXI.1-2). We have also references to the cat (bīḍāla\(^4\), mārjāra\(^5\), vṛsadantā\(^6\)) noted for being hostile to rats (XCVI.12) and for eating the flesh of its own species (LXXXV.65), the deer, both buck (mṛga\(^7\), harina\(^8\)) and doe (mṛgi\(^9\)), with their young ones (CIII.28) and no less than nine varieties, namely, kuraṅga\(^10\), ruru\(^11\), rohita\(^12\), ṛṣya\(^13\), pṛṣata\(^14\), enaka\(^15\) (a black antelope), kṛṣṇasāra\(^16\) (spotted antelope), chikkāra or dhikkāra\(^17\) and the musk-deer,\(^18\) the boar (vākara\(^19\), varāha\(^20\), kroḍa\(^21\)), the bison (mahīṣa\(^22\)), the wolf (vṛka\(^23\)), the panther (dwiṭpiṇ\(^24\)), the jackal, both male (śṛgāla\(^25\), gomāyu\(^26\), kroḍṭuka\(^27\), jambuka\(^28\), lomāśa\(^29\)) and female (śīva\(^30\), lomā-
śikā¹), the porcupine (śalyaka², śāvidh³), the hare (śasa⁴, śasaka⁵), and the pole-cat (jāhaka⁶).

DOMESTIC ANIMALS. The kine (go⁷, dhenu⁸, surabhi⁹, uṣrā¹⁰) constituted an important item of wealth (IV.14; XIX.7, 14) and had come to be regarded as sacred.¹¹ Cows and oxen (vrṣa,¹² go¹³, go-pati,¹⁴ anaḍuh¹⁵, surabhi-tanaya¹⁶, ukṣan,¹⁷) went out for grazing in the morning and returned home in the evening (XXIV.35). Herds of cows (gokula, IX.20; XIX.14) and cow-pen (gostha, LXXXVIII.9) are also mentioned. Oxen were yoked to ploughs (XLV.62) and used as beasts of burden (LX.9, 14, 16). Varāhamihira refers to oxen with eyes hued like a beryl, a mallikā flower and a water-bubble (LX.14). Utpala states that eyes resembling a mallikā flower form really a characteristic of horses and quotes in his support an anonymous Prakrit verse¹⁸ and a stanza from Śālihotra¹⁹, according to which a horse with dark pupils and eyes surrounded by white rings is termed Mallikākṣa. A white ox with tawny eyes, copper-coloured horns and a large face was called Harīṣa (LX.17).²⁰

1. LXXXIX.2.
2. LXXXV.23.
3. LXXXVII.3
4. LXXXV.22, 26, 42.
5. LXXXVII.2, 21.
6. LXXXV.43.
7. IV.11, 14; V.33, etc.
8. XII.16; XLV.55.
9. XL.3; XLV.55.
10. LXXXVI.22; LXXXVII.9.
11. In VIII.42, cow is associated with temples and Brāhmaṇas. A cow was made to stay at the house-site for a night before the construction began (LII.96). Also cf. XLVII.11.
12. XII.6; XV.16; XXIV.35; XLVII.76.
13. XLV.62.
14. LXVII.115.
15. XCVI.24.
16. XL.3.
17. XLV.55.
18. उज्जू अक्षिणकन्तौ तारत्ने ई समलिकाकुटुः ई।
भविष्यद्व अज्ञी जाण के मलिकाधच्या।
Sudhakara Dvivedi renders it into Sanskrit as follows:—
ऋज्जुनी अक्रणकार्तिनी तारात्ने समलिकाकुटुः।
भावन्त्ये अक्षिणे यथा के मलिकाक्षाः।
19. शुक्लाराजपरिष्कृते यथान्तर्लोचनेशुभे।
मलिकाक्षो महासम्भवं स महाक्रुणंताकः।
20. For the defects and merits of cows and oxen, see Ch. LX.
Of goats (aja, basta, chāga), Varāhamihira refers to four kinds—(1) Kuṭṭaka, a goat which leads a flock and enters in water first and has white head or six dark spots on its head; (2) a goat coloured like pounded sesamum (mixed white and yellow), having spotted head or neck and copper-red eyes, or a white goat with black legs and vice versa is termed Kuṭila; (3) Jaṭila is a white goat which walks with a jingling sound and has black testicles and a black band in the middle; and (4) Vāmana, a goat with blue hair and feet, or with slightly white fore part and blue hind-part (LXIV.5-9).

The age of a horse (aśva, turaga, turaṅgama, turaṅga, vāji, haya) and mare (vaḍava) was determined in terms of the number of their teeth. Thus, we are told that a colt of one year has six white teeth; they turn tawny when it is two years old; the incisors, the middle and the last teeth fall and reappear at the age of three, four and five respectively; the same three teeth beginning with the incisors become black, yellow, white, hued like glass, māksika (?) and conch-shell, hollow and shaky and fall at the age of eight, eleven, fourteen, seventeen, twenty, twenty-three, twenty-six, twenty-nine and thirty-two respectively. Jayadatta. Sūri also tells us that a horse deve-

1. XXIX.7; XXXVIII.2; XLIV.8; XLV.94, etc.
2. LXXV.5; XLIX.24.
3. LXIV.1, 7, 8.
4. For good qualities and defects of goats, see Ch. LXIV.
5. XLV.94; XVI.22; XIX.3, etc.
6. VII.6; X.3; XI.4, etc.
7. XCII.6, 9.
8. V.72.
9. V.41; XVIII.5; XXIX.7, etc.
10. V.66; IX.43; XXV.8, etc.
11. XLV.52; XLIX.24.

12. यहमिस्तर्स्: सिताम्बंचत हरिषिन्यस्त्: कपायंद्रिवयः
सन्द्वैमध्यमात्मः पतितसमिद्विद्यविधिप्रचाविकादः ||
सन्द्वानुक्रमेण विकपरिगतं: काशव: पतिसुक्ता:
काचा माश्रीकाशंबावं चतुरं च विद्वचः ||

LXV.5.
lops its teeth and testicles at the age of two to five years. Similar directions for ascertaining the age of a horse from the number of its teeth are found in Nakula’s *Aśva-cikitsa* (Ch. V), composed before A. D. 1000. Ten hairy circles (*āvartas*), one on the lower portion of the upper lip (*prapāṇa*), one in the hair of the forehead (*lalāṭa-keśa*), and two each in the interval between the belly and the navel (*rāndhra*), above it (*uparandhra*), on the head and the breast, were considered to be an essential quality of a good horse (*dhruva-vartas*, LXV.4). Jayadatta Sūri’s *Aśva-vaidyaka* (III.70-72) refers to these circles by divine names, viz., Māruta, Hutaśana, Skanda and Viśākha, Hara and Hari, Candra and Sūrya, and Aśvins, and regards a horse lacking even in one of these circles as inauspicious.

Dogs (*kukkura*4, *svan*5, *sārameya*8) and bitches (*kukkuri*7) were kept for watching (XXVIII.9-10; LXI.1-2). A dog with five nails each in three legs and six in right fore leg, red lips and muzzle, the gait of a lion, shaggy tail, eyes like those of a bear, and long and soft ears and which smells the ground while running is recommended for being tamed as a watch-dog (LXI.1). Similarly, a bitch with five nails in three feet and six in left fore leg, eyes surrounded by white lines, crooked tail, and long tawny ears is recommended for domestication (LXI.2). Mention is also made of buffaloes, both male (*mahiṣa*8) and female (*mahiṣī*9), asses (*gardabha*,10 *khara*11, *vāleya*12) noted

3. For other details about horses, see LXV.1-4.
4. XXVIII.9, 10.
5. XLV.70; LXI.1; LXVII.4; LXXXVIII.1, XCVI.8.
6. LXXXVII.9.
7. LXI.2.
8. III.35; XL.3; LXVII.31, 104, etc.
9. IX.40; XCI.3; CIII.61.
10. LXVII.95, 108; XLIV.9; LXXXVII.5.
11. III.35; IX.40; XVI.33, 35; XXXIII.9, etc.
12. LXXXV.26; LXXXVII.5.
for rough voice (LXVII.95), camels (ustra₁, karabha²) with their crooked necks (LIII.62), mules (vesara³), a hybrid species begotten by an ass on a mare (LXXXV.66), and sheep (avī⁴, avika⁵, hudi⁶).

**BIRDS.** Of birds (khaga⁷, paksin⁸, patatrin⁹, andaja¹⁰, vihaga¹¹, vihaṅga¹², sakuni¹³), we have references to the peacock (mayūra¹⁴, sikhin¹⁵, barhin¹⁶) crying at the approach of rain (XXIV.19), pigeon (kapota¹⁷) with its three kinds, viz., grey, variegated and saffron-coloured (LXXXVII.1, 12-13), its female (kapotakī¹⁸, śyāmā¹⁹), parrot (śuka²⁰) noted for its beautiful nose (LXVII.60), crow (kāka²¹, dhrāṅka²², vāyasa²³) with its slightly blue egg (XXVIII.4) and the habits of eating flesh (XCIV.41), transmitting food into the mouth of each other (XCIV.43) and laying two, three or four eggs at a time (XCIV.6), blue jay (cāsa²⁴), owl (ulūka²⁵, kausīka²⁶), hawk (syena²⁷), vulture (grdhra²⁸), heron (kaṅka²⁹), wagtail (khaṅjana³⁰, khaṅjanaka³¹) with its four varieties, viz.,

1. XVI.33; XXIV.21; XLIV.9; LIII.106, etc.
2. III.35; XXXIII.9; XLI.7; LIII.62, etc.
3. XVI.19.
4. XXIX.7; L.19.
5. XXXVIII.2; XLIV.8.
6. XLIX.24.
7. III.38; XV.13; XLVII.13.
8. XXI.16; XXIV.12; XLV.91, 94.
9. XXIV.25.
10. VIII.4; IX.30; X.20; XVI.28; XXX.5, etc.
11. III.35; V.55.
12. XV.3; XXX.7; XLV.66.
13. LXXXV.34.
14. XXVIII.14; LXXII.1; CIII.26.
15. III.28; XXVII.4; XXXIV.4, 6; LXXXV.20, etc.
17. XXVIII.11; XLII.61; XLV.67. For its colour, cf. V. 56; LIII.82.
18. LXXXVII.5.
19. LXXXV.37; LXXXVII.5, 14.
20. VII.20; XXVIII.11, 14; XLVII.6; LXXXVII.11; SCII.4.
21. XXV.4; XLII.62; XLIX.3, etc.
22. XXIV.21; LXXVIII.24; XCI.5.
23. XCIV.17. For omens from crows' movements, see Ch. XCIV.
24. XXVIII.14; XXXIV.4; XLII.62; XVII.6; LXXXV.23, 43, 48; LXXXVII.23-25.
25. LXXXV.21, 49; LXIX.22; LXXI.12; LXXXVIII.24; LXXXVII.36; XCI.5.
26. XLII.62; XLV.67; XLVII.4.
27. XLII.62; XLV.67, 68; LXXXVIII.24, etc.
28. XLVII.4; LXXXVIII.24; LXXXVII.11; XCI.3; XCV.9, etc.
29. XLII.62; XLIX.3; LXIX.22; LXX.12; XCIV.46.
30. XLIV.3, 6, 10, 11, 15.
31. XLIV.1; LXXXVII.20.
Bhadra (with stout body and black raised neck, Śampūrṇa (dark from the face to the neck), Rikta (with white cheeks and a dark spot on the neck) and Gopīta (yellow),\(^1\) cuckoo (kokila)\(^2\) brought up by others, i.e., crow (anya-bhṛta,\(^3\) para-pusta\(^4\)), its male (puṃs kokila\(^5\)), cock, both male (kukkuṭa\(^6\), krkavāku\(^7\), tāmracāda\(^8\) and female (kukuṭī\(^9\)), along with the variety called gartā-kukkuṭa or kulāla-kukkuṭa (LXXXVII 8, 22), sky-lark (bhāradaḷa)\(^10\) along with its female (bhāradaḷi\(^11\)), sparrow (caṭaka\(^12\), kalaviṇka\(^13\)) noted for its strong sexual desire (LXXV.7), hen-sparrow (caṭikā, sūkarikā\(^14\)), jīva-jivaka\(^15\) (a pheasant), hārīta\(^16\) (a kind of pigeon), wood-pecker (śatapatra\(^17\)), francoline partridge (tittīra\(^18\)), bee-eater (dīvyaka, dhavana\(^19\)), the Greek partridge (cakora), ulūkačeti, also known as piṅgalā,\(^20\) piṅgalikā, pecikā, and hakka\(^21\) (a kind of owl or a crane, LXXXVII.4), sārikā (falking maina, Garacula religiosa, LXXXVII.30), valgulī (LXXXVII.2), a nocturnal bird, pippīkā (LXXXV.38), bhāṇḍika also called durbalika (LXXXVII.7,28-30), anḍāraka (LXXXVII.26), napṭra (LXXXV.49),

1. For omens from wagtails' movements, see Ch. XLIV.
2. XLV.68 (warbling in dewy season inauspicious); LXXXV.23, 26.
3. XLVII.14; XCVI.11.
4. LIX.7; LXXXV.37.
5. XLVII.7.
6. XLV.68 (crowing in the evening inauspicious); LXXXV.20, 48; LXXXVI.6.
7. XXVIII.6; XLVII.6; LXXII.1. Utpala takes krkavāku to mean jala-kukkuṭa (on XXVIII.6), but Varāhamihira regards it as synonymous with kukkuṭa, cf. LXXXVII.7. Cock-fighting is alluded to in LXII.2.
8. LXXXVII.34.
9. LXII.3. For signs of cocks and hens, see Ch. LXII.
10. LXXXV.4. According to Utpala, it was popularly known as lāṭa.
11. LXXXVII.15.
12. LXXVII.6.
13. LXVI.6, grāma-caṭaka according to Utpala.
14. LXXXVII.9.
15. XLVII.6.
16. XLVII.6; LXXXV.21; LXXXVII.15.
17. XLVII.6; LXXXV.21.
18. XXVIII.17; LXXXVI.7; LXXXVII.21.
19. LXXXVII.9, 18.
21. LXXXV.21, 37, 49. For its movements, see LXXXVII.38-47.
phenā (LXXXVII.1, 26) or phenakā (LXXXVII.31), piriši (LXXXV.20, 44), sinkhanāda (LXXXV.20), krakara (a kind of partridge, XLVII.6), kutāparī (LXXXV.20, 44), also known as karāyikā (LXXXVII.16-17; XCVI.1), bhaṣa, bhaṣaka (LXXXV.38), kutapāra, kurbaka and pūrṇakāta (a small kind of crane, LXXXVII.4), plava (a kind of duck, LXX.12), śrika (XLVII.6) or śrikantha (LXXXV.38), śrikarna (LXXXV.38; LXXXVII.27), kapiṇjala (a kind of partridge XLVII.6; LXXXV.22), bhāsa (LXXXV.38), pāravata (turtle-dove, XLVII.6; XLIX.25; LIII.10, 108), vaṇjula (XLVII.6; LXXXV.20, 48) also called vaṇjulaka and khadira-cāncu (LXXXV.5, 11), cātaka (Cuculus melanoleucus, XXVIII.14; LXXXVII.27) crying in rains (XXV.19), koka (a ruddy goose or cuckoo, LXXXV.21), kāraṇḍava (a duck, XLVII.9; LV.5), cakrawāka (a ruddy goose, cakara in Hindi, LV.5), haṁsa (a swan eating lotuses (abjāda, LXXXV.27), kalahanśa (a sort of white goose with red beak and legs, XLVII.10; LXIX.7) noted for its sweet voice, balākā (a small crane, XXV.17), sārāsa (XLVII.9; LXXXII.1; LXXXVII.37), kurara (XLVII.9) or utkroṣṭa (an osprey, LXXXV.22) and krauṇca (a curlew or heron).

REPTILES. Amongst reptiles (sarīṣṣpa) are mentioned serpents (ahi, bhujaga, bhujānga, oyāla, sarpa, phānīna) with their white belly and black back (XXVII.13; LIII.66), mongoose (nakula) noted for its hostility towards rats (XCVI.12), mice (ākhu, mūsaka), squaint-eyes (kekara, LXVII.65), musk-

1. Cf. Mahābhārata, I.132.68. Nilakaṇṭha tells us that it is a bird with blue wings or a vulture—bhāsaṁ nila-pakṣaṁ pakṣīnaṁ sakumāṁ= ity= anye, grdhram= ity= apace.

2. Koka and all the following birds are described as living in the proximity of water. Koka, kāraṇḍava, cakrawāka and haṁsa are represented as moving on water in autumn, XI.4, 8, 11.

3. XLVII.9; LV. 45, 7; LXXII.1; LXXXV.22.


5. VL.5, 6; LXXXV.22, 27; XCII.7.

6. XXXIII.9; LIII.11, 33 (ahi-nilaya), 36 (ahi-rāja), 41 (ahi-samīrāya), 42, 67 (ahi-grha), 68 (ahi-vāra), 85, 88 (ahi-nilaya).

7. V.63; XXIV.13; LIII.28, 46, 66.

8. XII.12; LIII.10 (bhujanga-grha); LXXXVIII.24; XCIII.5.

9. VI.3; V.6.

10. LIII.38 (sarpa-rāsha); LII.12; LXVII.20; LXXXV.65.

11. XII.12 (water polluted by serpents' poison); LXXXVII.19.

12. LIII.32, 71; LXXXV.41, 43.

13. VIII.4; XLIX.25; LXXXV.23; XCVI.7.

14. XLVII.14; LII.12; LIII.20; LXX.2; LXXXV.65; XCIV.4.
rats (chucchā,1 chechundari, nyāpa-sutā1a) and lizards of various kinds, viz., godhā (big lizard)2, saratā,3 kṛkalāsa4 (a lizard which frequently changes its colour), chippikā5, grhagodhikā,6 kudya-matsya (small house-lizard).

AQUATIC ANIMALS. Of aquatic animals, mention is made of alligators (nakra, XXVII.14; XXXIII.9; makara, LXVIII.17; grāha, XCHIII.14) capable of devouring elephants; various kinds of fish (matsya,7 jhaṣa8, mīna,9 prthu-loman10), viz., Rohita (Rohi in Hindi, LIII.15), Ṣaphari (a smaller variety, LV.6), that smelling like a goat (ajagandhaka, LIII.22) and Timi (whales, XII.3) noted for its white complexion (XII.5), oysters (śūkti), conch-shells (śankha, XII.4), watery serpents (jala-jīhmaga) and elephants (jalebha, XII.3), frogs (manḍūka,11 dardura12, bheka13) yellow, black or green in colour (LIII.7, 18, 30, 39, 67) and crying at the approach of rains (XXIV.19; XXVIII.4), and tortoises (kūra, LIII.44; LXIII.1, 13; kacchapa, XXVIII.14; kacchapaka, LIII.34), kept in pleasure lakes or wells (LXIII.3).14

INSECTS. Of insects, there were mole crickets (ralā, srotobhedya, taḍāgabhedya, ekaputraka, kalakahārikā, LXXXV.37; LXXXVII.6) with their body measuring two angulas and crying at night, scorpions (vrśeika, XLIX.3; LIII.73), locusts (śalabha, VIII.4), flies (maksikā, XCVI.17)15, ants (piṭilika) indicating rain when they shift their eggs (XXVIII.7) or carry them from a low-lying place to a tree or an elevated ground and drought

1. LXXXV.37.
1a. LXXXVII.5, 47.
2. XXXIII.9; LII.120; LXXXV.42; LIII.3 (white), 69 (tawny); LXXXVII.3.
3. LII.121; LXXXV.41. Utpala (LXXXV.41) says that sarata is a bird, but to some it is the same as kṛkalāsa.
4. XXVIII.8; XLIX.3; LXXVIII.24; XCHIII.5.
4a. LXXXVII.2, 35 (Hindi chipkalt).
5. LIII.16; LXXXV.37 (pallī according to Utpala); LXXXVII.47.
6. LXXXVII.8.
7. XXX.8; XL.8; LIII.10, 15, 22 (matyaka), 94.
8. XXVIII.4; XXXIII.10; XLIX.24.
9. XXVIII.14; LXVII.44, 45; LXXXVI.7.
10. LXXXV.65.
11. XXVII.7; XXVIII.4; LIII.7, 18, 30, 39, 67; LXVII.17.
12. XXIV.19; LIII.31, 32, 64.
13. LII.121.
14. For good qualities of a tortoise, see Ch. LXIII.
15. A blue fly clinging to the head is said to cause death, XCIV.58.
when they throw them in water (XCIV.59) and various kinds of bees, namely, *madhukara* (XXIV.14) or *saṭcaraṇa* (large black bee, CIII.17, 32) and *madhu* (honey-making bees, XCIV.58).

We may conclude our study of fauna with a few general remarks. The mule was recognised as the only hybrid breed, other animals cohabiting with different species being supposed to augur calamity (XLV.55; LXXXV.66). The serpent, mouse, cat and fish eat the flesh of their own species (LXXXV.65). The delivery of twins by a mare, camel, buffalo, cow and she-elephant is said to bring about their death (XLV.52). The dewy season, it is stated, is the mating period of the *rohita*, horse, goat, ass, *kurāṅga*, camel, deer and hare; the spring season, of the crow and cuckoo; Bhādrapada, of the boar, dog and wolf; the autumn, of the swan, cow and *krauṇaṇa*; Śrāvaṇa, of the elephant and *cātaka*; and winter, of the tiger, bear, monkey, panther, buffalo and the burrow-dwellers (LXXXV.26-28).²

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1. A honey-comb inside a house, it was believed, makes it empty.

2. Elsewhere it is said that there is an increase in the lasciviousness on the part of bulls and birds in the spring season (XLV.84). For a comprehensive account of the mating seasons of different animals, cf. Parāśara cited by Utpala. Chs. LXXXV-XCV are very important for the study of ancient Indian fauna.
III
ARTS AND CRAFTS

The remarkable advance of industry and of technical skill in all branches of arts and crafts and the ever-expanding activity which our period witnessed led to a phenomenal rise in the number of specialised occupations practised by the people. The following information is elicited from Varāhamihira’s works.

I. Arts and Crafts

IVORY. Of the numerous arts and crafts practised by the people that of the ivory-carver was one of the most important. Though due to the extreme fragility of the material, very few specimens of ancient Indian ivory carving have been recovered by the spade of the archaeologi.1 literary2 and epigraphic3 evidence leaves no room for doubt regarding the high antiquity and prosperous condition of this art. Ivory was put to various uses, one of them being, as stated above, inlay with wooden furniture. The demand of ivory objects was so pressing that it could not be satisfied by the immense indigenous resources and recourse had to be taken to imports from outside. Cosmas Indicopleustes, who travelled through India in the middle of the sixth century A. D., informs us that India imported ivory from Ethiopia where elephants were more numerous and their tusks larger than those of their counterparts in India.4

1. Special reference must be made to the remains of Indian ivory work found among the ruins of Pompeii in Compania (Annual Bibliography of Indian Archaeology (1938), Vol. XIII, pp. 1-5; S. K. Saraswati, A Survey of Indian Sculpture, pp. 90-92, Pl. XVII, fig. 79) and a magnificent collection of fragments of Indian ivory toilet from Bagram in the ruins of the palace of Kaniška (Annual Bibliography of Indian Archaeology, 1937, pp. 30-33; B. Rowland, The Art and Architecture of India, p. 91, Pl. 51; Saraswati, op. cit. pp. 92-3, figs. 67, 72, 78). Also vide JNSI, XVI, p. 73, Pl. 2.23; Indian Archaeology for 1959-60, pp. 24, 51; ASI, AR, 1911-12, pp. 48, 93.
2. Cf. Raghuvamśa, XVII.21; Harṣa-carita, Ch. VII.
3. Lüders’ List, No. 345.
4. Cosmas XII; McCrindle, Ancient India as described in Classical Literature, p. 165.
Varāhamihira refers to ivory objects (nāgadantaka, LII.60; dantaghaṭita, LXXXVI.9) and furnishes some interesting information regarding the suitability of the portion of elephant’s tusk to be employed in decorating furniture. We are told that the portion of the tusk equal to two circumferences at the bottom which is hollow should be rejected. In the case of elephants hailing from marshy regions (anūpa) a little more portion is to be rejected, and in the case those hailing from a mountainous tract, a little less.¹ The same direction is contained in the Arthaśāstra which adds that the tusks of the elephants born in a region irrigated by rivers should be cut off once in 2½ years, while those of the elephants hailing from a mountainous region once in five years.² Great emphasis was laid on the excision of the tusk and good or bad results were anticipated according as the figures made by excision were of auspicious or inauspicious objects.³ Generally speaking,

1. दन्तस्य मूल्यपरिवेश विरायतः प्रोज्ज्वय कल्येवच्छेष्मौः
अधिकम्यूपरचरानां न्यून मिरिचारिणां किंतुः ॥
LXXVIII. 20; XCI.1.

Cf. Utpala on LXXVIII.20— मिरिचारिणां पवित्रचारिणां न्यून-
मयि प्रोज्ज्य शेयं कल्येवद यत्: पवित्रशिष्यस्तद्वन्ता धर्मिति ।
dantmoolaparipraveshavatāṁ śrī: pramukhyo pataśteṣy kalyeṣṭu । By, XXI.7.

2. दन्तमूल्यपरिलक्षणाहिंगुणं प्रोज्ज्य कल्येवेत् ।
अब्दे दुःखवे नदितानां पद्यचाब्दे पवइक्षास्मूः ॥

Arthaśāstra, II.32. p. 139.

3. Thus figures resembling śrīvēṣa, Vardhamāna symbol, parasol, banner and fly-whisk were believed to ensure good health, victory, increase of wealth, and happiness. If the venation resembled a weapon, it indicated victory in war; one like the Nandyāvarta symbol, recovery of lost territory; one like a clod (loṣṭha), full occupation of a conquered territory; one like a woman, loss of wealth; one like bhṛṅgāra, the birth of a son; one like a pitcher, acquisition of treasure; one like a rod, hindrance to a journey; those resembling a lizard, monkey and serpent, famine, disease and oppression by an enemy respectively; those like a vulture, owl and crow, pestilence; one like a noose or torso (kabandha), king’s death. If the venation bleeds or is dark, grey, rough or bad-smelling, bad results must be expected. Vide LXXVIII.21-26; XCI.2-7. Cf. Viśvakarma-prakāśa, X.78. which is verbatim reproduced from LXXVIII.26.
white, even, fragra it and glossy venation was regarded as auspicious.¹

Ivory objects formed an important item of India’s export trade with the Roman empire. The *Periplus of the Erythraean Sea* (56-62) includes ivory in the list of articles exported from Barygaza and South Indian ports.

Among other animal products we have references to honey², bees’ wax (sikhaka, XXVI.8; madhūcchisti, XVI.24), musk (mrga, LXXVI.12, 27; kastürkā, LXXVI.16), pearls (Ch. 80), corals (LXXIX.5), conches (VII.6; XIV.4; XV.25, etc.), fly-whisk (Ch. 71), hide (XLI.6) and leather articles (LXXXVI.8) like containers (yy, I.4) and footwears (upānah).³ Skins of oxen, lions, tigers and wild cats were used as seats, especially while observing religious rites (XLVII.43-5). We have references to tanners (carmakara, LXXXVI.33; carmasilpin, LXXXVI.8) also.

**METAL-WORK.** Metal industry had reached a high water-mark of development long prior to Varāhamihira. Mention is made of mines (ākara),⁴ spoken of as a source of prosperity to the country (ākarāḍhya, XIX.6, 17), and miners (ākarika).⁵ As will be shown in a subsequent section, at least twenty-three precious stones are named. As for metals (dhātu, XVI.14; CIII.12, 61), we find mention of gold (kanaka,⁶ kāncana,⁷ cāmikara,⁸ niśka,⁹ suvarṇa,¹⁰ hiranya,¹¹ hema,¹² sālakumbha¹³), silver (rajata,¹⁴ rāṇya¹⁵),

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¹ Cf. also *Bṛ*, XXI. 7-8.
² V.60; XV.9, etc. For other references vide supra Ch. IV, Section 3.
³ BS, Vol. I, p. 73.
⁴ XVI.14; XIX.10; LXXIX.10; CIII.12, 61.
⁵ XV.1. Cf. *Bṛ* X.3, which refers to earning livelihood by mining.
⁶ I.1; III.23, 36; XVI.4; XXIX.8; XL.2; XLIII.12; LXXXV.8; LXXXVI.2, 3, 30.
⁷ XLVIII.4; LXXVIII.14; XClI.8.
⁸ XXIV.8; XLII.33.
⁹ LXXIII.7.
¹⁰ XL.7; XLI.6; LIX.4; XClIV.20; CIV.7, 8.
¹¹ V. 74; XXIX.10; LIX.17; XClVI.13.
¹² VII.20; XXVI.9; XLIV.6; LIII.110; *Bṛ*, X.3.
¹³ XII.20.
¹⁴ XI.14; XVI.26; XXI.23; XXV.9; XXIX.6; XXXIII.10; XXXIV.4; XLI.6; XLIII.12; XLVII.46; L. 19; LXIII.11; LXXX.26.
¹⁵ L. 17; XClIV.15; LXXXV.80.
copper (tāmra¹), iron (kṛṣṇāyasa,² kṛṣṇa-loha³), glass (kāca⁴), lead (sīsaka⁵), bell-metal (kāṁsya⁶) and iron-rust (ṛítikā⁷). The goldsmith (hiranyakanya, V.74; hairanyaka, LXXXVI.32, swarṇa-kāra, LXXXVI.30) satiated the aesthetic sense of the people by manufacturing ornaments. Gold was used in fashioning weighing balances, sacrificial ladles, thrones and images and in covering bed-steads.⁸ Certain processes adopted by workers in gold are repeatedly alluded to, e.g., melting (druta-kanaka, I.1; XXVIII.3), heating in the fire (santāpa,⁹ parilāpa¹⁰), whetting at touch-stone (nikāṣa¹¹), and hammering for testing its purity (abhiniveśa¹²). The heating of copper, evidently for casting it into various shapes, is also referred to (VI.13). As one of the major processes followed by smiths in their work is heating the metal in fire, they are often described as ‘earning their livelihood by fire’.¹³ It is usually held that, as at present, silver was not mined in ancient India also.¹⁴ It is, therefore, interesting to note that Varāhamihira shows acquaintance with silver-mines (rajstākara, XVI.26). That silver was probably mined in India in those days would appear from a perusal of Yuan Chwang’s account; he tells us that ‘gold, silver, Ti-shih (bronze), etc. are products of the country which are very abundant.’¹⁵ We learn from him that gold and silver were obtained from Bolar (Little Tibet), Ṭakka, Kulūta, and Šatadru in Panjub, and from Sindh. Weighing balances, ladles, vessels,

1. III.21, 23; VI.13; XLVII.46; L. 17; LIX.5.
2. LXXXVI.26.
3. XL.7; CHIII.53.
4. XL.8, 10; XLIV.12; LXXXVI.23.
5. LVI.8.
6. XL.6; LVI.8.
7. LVI.8.
8. XXVII.9; XLIII.12; XLVII.46; LIX.4; LXXVIII.14.
10. III.36.
11. BS, Vol. I, p. 65; IX.44.
12. निकृष्ठ-सन्तापामिबिनेत्रेः कनकस्यवाचित्कर्ममस्त्युतेष्यः


Cf. Utpala—निकृष्ठ निर्धन्यं पापाण्तेले। सन्तापामिबिनेत्रेः

अमिबिनेत्रेश्च चन्द्र-प्रदेशां-संवृद्धेऽतः। सुवर्णस्यवाचित्कर्ममस्त्युत्ते

13. Īvamiti ca ye hutāsya-ṛṣṭī, V.35; agny upajīvin, V.28; X.4; agnivāra, VI.1; XVII.13; analōjīvin, LXXXV.29; analo:pajīvin, V. 69; analājīti, XCVI. 21; analo:pajīvaka, VIII.3; hutāsa-ṛṣṭī, V.53; hutāsanājīvin, XVI.12.
statues and thrones were fashioned from silver. Copper thrones (XLVII.46) and images (LIX.4) are also noticed. Many specimens of copper sculptures have been reported in archaeological excavations. The most outstanding example of copper-work in the Gupta age is the colossal Buddha image, 7 ½ feet high, from Sultanganj, now in the collection of the Birmingham Museum. In a six-storeyed building at Nālandā Yuan Chwang found ‘king Pūrṇavarman’s copper image of Buddha more than 80 ft. high. For manufacturing images of such extraordinary dimensions, large copper-foundries must have been needed.

The words loha and ayas were used as generic names for less costly metals in general as is clear from the use of the former in plural (XXVIII.5; XL.6). In his gloss on XL.6, Utpala says that loha may denote iron (āyasa) or bell metal (kāṃśya). The word kṛṣṇa is sometimes prefixed to loha (XL.7; CIII.63) and ayas (LXXXVI.26) in order to distinguish iron from copper or bell metal. The history of such a loose use of ayas goes back to the Rgveda where its exact connotation cannot be determined precisely. The fact of the accumulation of rust on iron and its musty smell in the rainy season is noticed (XXVIII.5). The best extant illustration of iron-manufacturers’s skill is the well-known Meharauli pillar with the inscription of Candras, usually identified with Candragupta II. This iron column which, including the capital, is 23 ft. 8 inches high and weighs more than six tons, is, to quote Percy Brown, ‘a remarkable tribute to the genius and manipulative dexterity of the Indian iron-worker.’

POTTERY. Pottery formed one of the most essential necessities of every day life. Like the oil-miller, the potter (ghaṭakāra, XV.1; VP, 9; ghaṭakṛt, XVI.28) also worked with the wheel and was consequently known as cākrika and cakracara (X.9, 12). Among the clay objects (mṛṇnaya, LXXXVI.12) manufactured by him

1. XXVI.9; XLIII.12; LXXX.26; LIX.4; XLVII.46.
2. Smith, History of Fine Arts in India and Ceylon, p. 82, Pl. 47 B. For a standing female figure in copper from Bhita, see ASI, AR, 1911-12, p. 89.
4. For the use of loha in plural see Arthaśāstra, II.17.14.
5. Percy Brown, Indian Architecture (Buddhist and Hindu), p. 61, Pl. X.
may be included a remarkable variety of vessels,\textsuperscript{1} burnt bricks (LII.23; LXXXVIII.i.), and clay figures and figurines (LIX.4; VP, 9ff.). We have a reference in the \textit{Vivāhapatālala} to the employment of expert sculptors for fashioning such clay figures. Both the wheel-turned and moulded pots reported from excavations at Ahicchatra, Bhīṭā, Basarh, etc.,\textsuperscript{2} attest the remarkable efficiency of potters in their art. Clay figures and figurines were a rage in those days and we have references in contemporary literature to their use for decorative purposes.\textsuperscript{3}

\textbf{WOOD-CARVING}. The carpenter (\textit{taksan}, XLII.20; LXXXVI.20, 24; \textit{vardhakīn}, XLII.22) enjoyed a unique position in the rural economy. As he used a measuring thread or rope, he came to possess the secondary designation of \textit{sūtradhāra} (XLII.12). Vātsyāyana (I.3.16) includes wood-carving (\textit{taksana}) in the list of sixty-four arts. The carpenter cut trees for his raw material (XLII.12, 19), manufactured conveyances like the cart and raised wooden structures (LII.23).\textsuperscript{4} The highly advanced state of the wood-worker’s craft is evident from the fact that technical names had to be coined for various kinds of holes in the wood.\textsuperscript{5}

\textbf{MASONRY}. Varāhamihira mentions stones hued like a dove (LIII.10, 108), saffron (LIII.26), collyrium (LIII.11, 110), cow’s milk (LIII.20), cloud (LIII.30, 107), frog (LIII.32), horse-gram (LIII.36), emerald (LIII.46), copper (LIII.71) and rice-flour (LIII.73). Mention is also made of green (LIII.34) and blackish-white (\textit{dhūsara}, LIII.44) stones and of those called \textit{puṭa-bid\textsuperscript{6}} or \textit{puṭa-bhedaka}\textsuperscript{7} and \textit{kuruwinda} (corundum, LIII.28), all to be found underground. The last is a precious stone (LXXXI.1) next only to the diamond in hardness. The rocks of the hue of cat’s eye, green gram, ripe fig, \textit{bhaṅgāṅjana} (a kind of toilet collyrium), honey, \textit{ghee}, linen, \textit{soma} creeper, ashes, camel, ass, bees, \textit{aṅgusthikā} flower, the sun, fire, moonlight, crystal, pearls, gold, sapphire, red arsenic, the rays of the rising sun, and yellow orpiment

\textsuperscript{1} For references vide supra Ch. IV, Section, 7.
\textsuperscript{2} Cf. \textit{Ancient India}, I (1946), pp. 41 ff. (Ahicchatra); \textit{ASI, AR, 1911-12}, pp. 84 ff. (Bhita); \textit{ibid.}, 1903-4, p. 93 (Basarh).
\textsuperscript{3} Cf. \textit{Harṣacarita}, IV; V. S. Agrawala, \textit{Gupta Art}, p. 11.
\textsuperscript{4} Cf. \textit{Mudrā-rākṣasa}, Act, II, pp. 129-31, where the carpenter Dārura-maman repairs the palace and palace-gates before Candragupta’s entry.
\textsuperscript{5} For these coin-words, see supra p. 251, note 1.
\textsuperscript{6} LIII.42. Cf. Utpala—\textit{Puṭair=bhidyata iti puṭa-bhīt puṭa-bhedakaḥ}.
\textsuperscript{7} LIII.7. Cf. Utpala—\textit{Puṭair=bhidyata iti puṭa-bhedakaḥ}.
as also those of brown and pale white colours and those accompanied by red or variegated spots are also referred to. They were believed to be haunted by the Yakṣas and Nāgas and capable of averting drought (LIII.107-111).

**CHEMICAL PREPARATIONS FOR BREAKING ROCKS.** Varāhamihira is acquainted with no less than four methods which were employed in breaking hard rocks in those days.

(i) A rock found unbreakable by hammering should be heated in the fire made from the fuel of the *palāśa* and *tinduka* until it assumes the hue of the fire, and then sprinkled with lime water (*sudhāṃbu*). Thus it becomes breakable.

(ii) The ashes of the *mokṣaka* tree and reeds should be boiled in water and sprinkled on the rock after it is heated in the above manner. This process should be repeated seven times.

(iii) The butter-milk, *kaṇji*, liquor, horse gram and jujube fruits should be kept together for seven nights and then sprinkled on the heated rock.

(iv) The leaves and bark of the *neem* tree, sesamum stalks, *apāmārga*, *tinduka* and *gudācī* should be burnt down to ashes and steeped in bovine urine. This preparation should be sprinkled seven times on the heated rock. Then it breaks.¹

### II. Other Occupations

The oil-miller (*tailika*, X.5; XVI.31) worked with the wheel and was, therefore, called *cākrika*² (X.9) and *cakracara* (X.12). In inscriptions, oil-men are referred to as *tailika³* and *tila-piṣaka⁴*

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¹. *Bṛhat Saṃhitā of Varāhamihira*


³. *CII, III, No. 16, p. 70, l. 8.*

⁴. *ASWI, IV, No. 12, p. 104.*
and are represented as having formed their own guilds. The perfumer (gandhayuktijña, XV.12; kācchika, LXXXVI.41) catered to the aesthetic needs of society by manufacturing various kinds of perfumes. His was a specialised art and an independent science called gandhayukti had come into existence. Satisfying the aesthetic needs of the people were also specialists in ornaments (bhūṣaṇajñā, XV.12), jewellers (manijña, XV.12; XVI.17), garlandmakers, both male (mālākāra, X.9; LXXXV.32) and female (mālākāri, LXXVII.9), barbers (nāpīta, X.9; XV.1; L.5; nāpīti, LXXVII.9). toilet-attendants (prasādhaka, XVI.17), dyers (rajaka, X.5, XV.22; rāgajñā, XV.12; rajikā, LXXVII.9), tailors (sūcika, X.9), weavers (tantu vāya, XV.12; kaulika, LXXXVI.20), architects and sculptors (sthāpati,²) musicians (geyajña,³ gāndharva,⁴ gāndharvika⁵), instrumentalists (vādaka, X.3), bards (māgadhaka, X.10; cārana, XLII.66; LXXXVI.6; vandin, XLVII.49; vṛttaka, LXXXV.68), dancers, both male (nartaka, X.3; XVI.19; XLII.26) and female,⁶ actors (nāṭa,⁷ raṅgopi-jīva⁸), painters (citrañja, X.10; citrakara, LXXXVI.15; citrakrt, LXXXVI.40; lekhyajñā, XV.12; XIX.10; ālekhayajña, XVI.18) and magicians and jugglers (indrajālajñā, XVI.18; XIX.10; kuhañjñā, LXXXV.32; kuhañjñavaka, XVI.18; XIX.10).

A very large number of the copper-plate grants of the Gupta and subsequent periods has come down to us. The engraving of these records must have required great skill on the part of engravers and writers (lekhaka).⁹ Pustavārta (LXXXVI.37) is another interesting term in this connection. In Gupta inscriptions mention is often made of an official called Pustaprālā, probably the

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1. Dyeing had developed into a specialised art called rāgayukti experts wherein are referred to as rāgayuktivid, cf. XVI.17; LXXXVI.17, 41.
2. LII.97, 103, 108; LV.30; LIX.18.
4. XV.3; 9; XVI.17; XIX.10; XXXII.11; LXXXVI.33.
5. XCVI,21.
6. Inferred from XIII.1-2.
7. X.10; XV.9; XVI.19; XLII.26.
8. IX.43.
9. V. 39, 74; X.10; XXXIV.14. In inscriptions lekhaka denotes a drafter and is to be distinguished from the composer and engraver, cf. III, III, No. 18, p. 84, l. 24; No. 21, p. 96, l. 20; No. 35, l. 25; No. 40, l.23; No. 80, p. 289, l. 14; IA, VII, p. 242.
Keeper of Records. Mention is also made of another official called Kāyastha. The Prathamakāyastha referred to in the Damodarpur CP. inscr. was probably ‘the chief scribe, who may have acted as chief secretary to the Administrative Board’ (adhikaraṇa) of which he was a member.

Among others we have references to artisans in general (kāruak, ṣilpiṅ, kalā-vidoas), dealers in flowers, fruits and roots (kusuma-phala-mūla-vārtha, V.77; XV.17; maulika, IX.32), distillers (saunḍika), sellers of liquors (mādhuvikakraya, L.5; rasavikrāya, X.8), slaughterers (saunika, L.21), fishermen (matsyabandha, XV.22; kaivarta, XVI.32; XVII.17; L.21; LXXXVII.7; dhīvara, LXXXVI.34; jalaśājīva, XI.55), fowlers and hunters (vyādhā, LXXXVI.10; pāṣika, XV.22; CIII.63; śākunin, LXXXVIII.31; śākunika, XV.22; XVI.32; LXXXVI.34; saukarika, XV.22; XVI.32), makers of bows (dhanuṣkara, V.73), conveyances (yānaka, X.17) and bridges (setukara, XV.18), mechanics (vantravid, XVI.17), farmers (lāṅgalajivin, kārṣaka, kṛṣikara, kṛṣikṛt, kṛṣira, kṛṣijīvin), catchers of elephants (dvipagrāha, X.9. Cf. LXXXVI.17), carters (śakatika, X.4; XV.2. Cf. VIII.3), soldiers, physicians (vaidyā, ṣyusajjā, bhīṣaj), surgeons (salyṣṭra, V.80), sailors (nāvika, naujīvika, naukarṇa-.

1. EI, XV, pp. 131, 139, 143; XX, p. 62.
2. LXXXVII.12. Fleet renders ‘kāyastha’ as ‘a writer’ (IA, V, pp. 57-8). Utpala gives ‘devāra’ as a synonym of ‘kāyastha’. Divira is mentioned in CII, III, No. 27, p. 122, l. 7. Also Cp. IA, VI, p. 10, where Bühler renders kāyastha or devira as ‘a clerk, writer, or accountant.’
4. Ibid., p. 131, in. 7.
5. V.29; XXIX.71; LXXXVII.32.
6. XV.5, 9, 11; XVI.17; XXXI.3; XXXII.11; XXXV.30; LXXXVI.43.
7. XXXIII.19.
8. IX.34; X.17; LXXXV.31.
10. V.29, 34; XV.2; XVI.8, 12.
11. XVI.5.
12. XXXIV.12.
13. XXXIII.21.
15. VIII.52; LXXXVI.23; LXXXVIII.4; CIII.63.
16. V.35, 41; XVI.12; XVII.17, 20, 24; XXXII.11; L.21; LXXXVI.11.
17. V.41; X.3; XV.26; XXXIII.11; CIII.61.
18. XVI.27.
19. V.80; VII.6; IX.32, 43; X.9, 16, 17; XV.7, 17; CIII.61, 62.
20. IV.8; IX.31.
dhāra, potapāla, proclamers (ghauśika), bell-ringers (ghauśika, X.6, 12), sellers of water (vārijivaka, XV.18; vāryupajīvin, V.42; salilopajīvin, XV.6), diviners (ikṣaṇika), mid-wives (dhātri, LXXVII.9), executioners (vadhika, XVI.12; vadhara, bandharata, XV.4; bānḍhana, XVI.32) and labourers (karmin, LII.109; LXXXV.44).

III. Slavery and Labour

Labour and capital are the two most important factors in the production of wealth. In ancient India three kinds of labour—slave, hired and forced—were current and are referred to by our author. The institution of slavery existed as an essential element in the social and economic life of all the ancient nations, India being no exception. Varāhamihira refers to both male and female slaves and speaks of the possibility of a girl born under the influence of a certain combination of stars and planets being enslaved (BJ, XXIV.3). Mention is also made of the garbhadāsa (BJ, XXIII.14) who corresponds with the udaradāsa of Kauṭilya, Manu and Nārada. Garbhadāsa is ‘one who is born to a dāsi from a slave.’ There is an allusion to the prosperity of slaves (dāsa-pari-vṛddhi, IX.21), indicating that they could own property.

Hired labour also substantially contributed to the production of national wealth. Apart from references to the people earning their livelihood by servile work or craft (antyaśṛtti, BJ, XII.15; antyaśilpa, BJ, XVIII.11) and low services (nīcakṛtya, BJ, XVIII.3), we find mention of persons working for others. Amongst the hired servants (bhṛtaka, bhṛtya, presya) attention may be

1. XV.25.
2. X.10.
5. LXXVII.11; LXXXV.32.
6. IX.21; LXXVII.9; LXXXVI.15, 39.
10. LXXVII.26, 36; BJ, XVIII.1.
12. V.69; LXVIII.36; C.6; BJ, XVI.6; XVIII.12.
13. XLV.13; L.25; LXVII.26; BJ, XIX.1.
drawn to cowherds and shepherds (gopa, gopālaka, pāṣupa, pāṣupālaka), grooms (turagopacāraka, X.3; hayopā, IX. 35), elephant-drivers (mahāmātra), charioteers (ṣūla, X.10; LXXXVI. 20; rathika, XV.11), messengers (dūta, X.10; XIX. 12; LXXXVI.8; dūti, LXXVII.9; cara, X.10; lekhahara, XV.3), diggers of wells (kūpakṛt, IX.30), carriers of loads (bhāravaha, LXXXVI. 24; bhārodvaha, V. 42) and domestic servants (sevaka, V.34; sevājana, XV.30; sevābhirata, XV.5). The number of hired, particularly domestic, servants, appears to have been very large and there are references to persons having numerous servants.

Though there is only one reference to free forced labour (viṣṭi) in Varāhamihira (治理体系, XVIII.11), a large number of epigraphs recording grants of land with or without right to forced labour indicate its prevalence during our period. The famous Junagadh inscription states that Rudradāman I got the Sudarśana lake repaired without exacting from his subjects taxes, forced labour and voluntary contributions (apiḍayitvā karaviṣṭi-pranaya-kriyāḥ paurajānapadaṁ janam), indicating that forced labour was usually exacted for works of public utility.

1. V. 36; XVI. 5; LXXXV. 30; LXXXVI. 45.
2. CIII. 61.
3. XVI; 13.
4. XV. 23.
5. IX. 28; XV. 11, 19; XVI. 26.
6. LXVIII. 36; C. 6;治理体系, XVI. 6.
7. El, VIII p. 36.
IV

TRADE

The goods manufactured by industrial workers must have been distributed far and wide through the channel of brisk inland and overseas trade, which contributed in no small proportion to the affluence and prosperity of the period. Besides the lure of wealth, the blessings of a large unified empire and long-enduring peace such as secure trade routes must have provided an additional incentive to traders, whose unceasing activities were in evidence long before the Gupta age. India's trade was not confined to her own limits; but, as in earlier period, she had commercial relations with many other nations of the world. We know from Fa-hian, Yuan Chwang and Cosmas indicopustes that India had regular commercial ties with China, Ceylon and other countries in the east and with Persia, Ethiopia, Egypt and Byzantine Empire in the west.

INTERNAL TRADE. There were local markets in villages and towns where well-decorated shops¹ lined both sides of the street. Besides ordinary shop-keepers (āpana§tha²) and traders (vanij³, vānjaka⁴, panyavrtti⁵, panyāśrayin⁸), rich businessmen (arthaµati⁷) are also mentioned. The former probably satisfied local needs of the people, while the latter hoarded commercial commodities and carried them to distant places for the sake of gain.

MEANS OF TRANSPORTATION. Varāhamihira refers to conveyances as vāhana and yāna.⁸ The bullock-cart (sakaṭa⁹)

1. XLII.26.
2. L.21.
3. V. 29; VII. 6; IX. 31; X. 6. 7; XV. 8, 11, 13, 25; XVI. 28; XVII. 26; XXXII. 10; XXXVIII. 2; L. 21; CIII. 63.
4. XXXI. 4.
5. X.17.
6. XVI.16.
7. V.21.
8. IX.43; LXVII.116.
9. VIII.3; XXXIV.5.
was used both as a means of transporting goods and as a conveyance. Of its components, mention is made of the wheel (cakra\(^8\)) the spoke (ara\(^4\)), the rim (nemi\(^8\)), axle (ak\(\text{\textit{s}}a\))\(^8\)), axle-pins (a\(\text{\textit{ni}}\))\(^7\)) and the yoke (yuga\(^8\)). We have also references to chariots, evidently used as conveyance. Indra’s chariot is described as dazzling, 8-wheeled and as bedecked with variegated gems (XLII.6). The noise produced by a group of chariots was regarded as auspicious.\(^9\) Chariots were usually drawn by horses; but Utpala (on XLII.34) refers to goratha, a chariot drawn by oxen. Śivikā\(^11\) is the palanquin carried by men on their shoulders. It is still in use in some parts of India. There is a curious reference to a man riding another man (LXXXV.73). It seems to be the same as the narayāna mentioned in IT, VII.20. What it was like is difficult to ascertain. It probably refers to some manned conveyance. Of animals, horses and elephants were employed for covering long distances.\(^12\) Horse-riders (ituragāroha\(^13\)) are also noticed. A special blanket called kutha\(^14\) was spread on the elephant’s back before riding it. Utpala calls it vāraṇa-kambala.\(^15\) Bulls were used as beasts of burden and probably for riding also,\(^16\) as may be inferred from references to bulls equal to horses in speed. The boat (nau\(^17\)) and the ship (pota\(^18\)), are the water-transport systems mentioned in our work. Sailors of boats\(^19\) and ships\(^20\) are also alluded to. As we have seen above, men were also employed for carrying wares. River-navigation was in a fairly advanced state

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1. XLII.21.
2. LXXXV.74.
3. XLV.9.
4. XLII.22.
5. Ibid.
6. Ibid; XLV.9.
7. XLII.22.
8. XLV.9.
9. XVI.26; LXVIII.17; LXIX.10.
10. XLII.34; LXVII.95.
11. LXVII.45; LXXXV.73.
12. LXXXV.73.
14. GIII.23. Cf. Amara II.8.42. It is a variant reading given by Utpala, the other being—’kathāṁ staraṇam ca. Keśit kuthāstaraṇam—iś-śečanti.
15. kutha vāraṇa-pambalas=tad= et a staraṇam.
16. LX.9, 14, 15, 16.
17. IV.8.
18. X.10; XLVII.12.
19. IV.8; VII.6; IX.31; XVII.17.
20. X.10.
and traders often frequented water routes (jala-mārga). There are many references to bridges (setu).

**CARAVAN TRADE.** The traders organised themselves into large bands (sārtha) led by the sārthavāha or pradhāna. Sometimes there were more than one leader and in such cases one superior by birth, learning and age was regarded as the seniormost. In spite of so much care, robbers sometimes got the upper hand, and Varāhamihira speaks of ruin and loss of wealth to caravan traders. Kālidāsa also (Mālavikāgnimitra, V) gives pathetic account of the plight of a caravan that was going from Vidarbha to Vidiśā. A seal from Basarh (ancient Vaiśāli) describes one Dōḍa as a sārthavāha and from some other seals we learn that the sārthavāhas along with the sreṣṭhin and merchants constituted a nigama (corporation). The unique position enjoyed by the sārthavāhas in town life in those days is clear from the Damodarpur copper-plate inscriptions which inform us that they had their representatives on the Administrative Board (adhikaraṇa) of the Koṭivarṣa viṣaya.

**GUILDS.** The artisans practising the same craft often organised themselves into a guild (sreṇī) under their president called sreṇīśreṣṭha or sreṣṭhin. At Basarh have been discovered, as noted above, some sealings of the corporation (nigama) of bankers, traders and merchants, sometimes associated with those of private individuals, who were apparently its members. This, according to Bloch, suggests that during those days something like a modern chamber of commerce existed in upper India at some big trading centre, perhaps at Pāṭaliputra, wherefrom members

1. XVI.16.
2. XV.18; XVI.16; XIX.12; XXVIII.5.
3. LXXXVI.39.
4. IV.13; LXXXVI.14.
5. LXXXV.11.
7. LXXXVI.39.
8. ASI, AR, 1903-04, p. 110, Pl. XLI. 19, 23, 29, 32; XLII.39, 40, 47, 274.
10. X.13; XXXIV.19.
12. XXIX.10; XXXIII.25.
issued directions to their local agents. Some epigraphic records of the Gupta as well as earlier period furnish specific references to artisans’ guilds and add considerably to our knowledge about their functioning. Thus, there are references in earlier inscriptions to the guilds of koṇācikas (?), bamboo-workers, braziers, kularikas (perhaps potters), deśayaṭrikas (?), oil-millers, weavers, and samīṭakaras (wheat-flour-makers ?). Weavers’ and oil-men’s guilds are also named in the Mandasaur inscr. of the time of Kumāragupta and Bhandhuvarman7 and Indore copper-plate inscr. of the time of Skandagupta8 respectively. These guilds served some very useful purposes in the then Indian economy. People deposited with them sums of money, sometimes very large, as perpetual religious endowments out of the interest of which certain specific expenses were to be defrayed.9 We have instances of guilds undertaking in their collective capacity certain pious acts. Thus, a silk-weavers’ guild is said to have built a Sun-temple at Manda-

6. EI, XXI, p. 59.
7. CII, III, pp. 81 ff.
9. Some instances are given below:—

(a) Junnar inscr. No. 27, *ASWI*, IV: unspecified amounts deposited with bamboo-workers’ and braziers’ guilds; (b) Nasik inscr. No. 9, *ibid.*, p. 102: Uśavadāta deposited in all 3,000 kārṣṭṭaṇas, 2,000 with a weavers’ guild and 1,000 with another as permanent endowments at a fixed rate of interest to defray certain expenses of Buddhist monks; (c) Nasik Inscr. No. 12, *ibid.*, p. 104, ll. 10-12: records various deposits with the guilds of kulirakas, deśayaṭrikas, oilmen and others; (d) A Mathura inscr. (2nd century A.D.), EI, XXI, p. 89: 550 purāṇas deposited with a flour-makers’ guild for an alms-house. The name of another guild cannot be made out; (e) Indore CP. inscr., CII, III, p. 70: Brāhmaṇa Devaviṣṇu deposited a perpetual endowment with an oil-men’s guild at Indrapura for providing 2 palas of oil daily for maintaining a lamp in a Sun-temple; (f) Gadhwa inscr., CII, III, p. 38; Candragupta II permanently endowed 20 dināras, evidently with a guild, whose name cannot be made out, for maintaining two alms-houses; (g) Kumāragupta deposited two sums of 13 and 12 dināras, apparently with a guild or two, for providing two alms-houses, CII, III, p. 40, ll. 6-7, p. 41, l. 7.
saur in A. D. 437-38 and repaired the same in 473-74. The guilds also enjoyed perfect freedom of immigration. As an instance may be cited the case of a silk-weavers' guild which migrated from Lāṭa to Daśapura (mod. Mandasaur). The high degree of prestige enjoyed by the guilds is obvious from the inclusion of the nagaraśreṣṭha in the adhikaraṇas (Administrative Boards) of Koṭijvara viśaya and of Pundravardhana.

REGIONAL PRODUCTS. Ordinary regional economic products were, as usual, consumed locally, whereas their surplus was exported to those areas where they were not produced. The long-distance trade was instrumental in bringing about different parts of the country closer, for they had to depend, to a certain extent, on the economic products of one another. Spices like small cardamoms, averrhoas and cloves which found favour throughout the country were grown in the coastal region of the south-west and exported elsewhere from there. Areca-nuts, aguru, and pārijāta were similarly obtained from the north-east. Pepper (marica) is not assigned to any region, but it was undoubtedly a famous product of the south and formed an important article of export to other countries. Sandal wood, which was so commonly used in those days, grew on the Malaya mountain (southern parts of the Western Ghats below the Kāveri) and was consequently called malaya. Yuan Chwang also regards it as a product of Malaya, and according to Cosmas (XII), it was exported to western ports, Persia and Ethiopian coast through Ceylon. An incense called silhaka was obtained from the Turuška country (probably Bactria) and was, therefore, named turuška. According to

1. CII, III, p. 80.
2. Ibid.
3. R. G. Basak (EI, XV), D. C. Sircar (SI, p. 284, fn. 6) and Saletore (Life in the Gupta Age, p. 366) take it to mean guild president or chief guild president, while according to K. N. Dikshit, it denotes Mayor, cf. EI, XX, p. 61.
5. Paharpur inscr., EI, XX, p. 61.
6. XXVII.9. But this chapter is spurious.
7. XXVII.9. This stanza is not found in S. Dvivedi's ed.
8. L. 15; LXXVI.32.
9. Cosmas, XII.
10. LXXVI.7, 8, 14, 24.
11. II, 228.
12. LXXVI.7, 8, 9, 23, 26, 30.
the *Amarakośa* (II.6.128), *silhaka* was derived from the Turuṣka and Yavana countries. The incense called *vola*, it may be suggested, was probably so called because it was obtained from the Tamil country. According to a *Nighaṇṭu* stanza cited by Utpala, saffron was derived from Kashmir. Amara (II.6.123-4) mentions Kashmir and Vāhlika as sources of saffron. *Kālidāsa* describes saffron grown on the banks of the Indus. Of the animal products, yak's tail was secured from the Himalayan region. As to ivory, Varāhamihira merely mentions elephants of the moist and mountainous regions without any specification. *Kālidāsa* associates them with Kaliṅga, Kāmarūpa and Aṅga. Rock-salt was derived from the rock-salt deposits of the Panjāb Salt Range and Kalat District now in West Pakistan and was called *saindhava*. Diamonds, pearls and other precious stones were mined in several localities as will be shown in the following section. The wide-spread use of all these articles referred to in the preceding chapters testifies to the existence of an extensive trade in these and other commodities.

**PRICES.** The system of state control of prices which appears to have been enforced in an earlier period was no more in vogue. The fluctuation of prices, as usual, must have been determined by economic factors, such as rules of demand and supply. The tendency of hoarding commercial wares and earning surplus profits by selling them at a suitable time appears to have been very much in evidence. Thus, merchants often hoarded corn, liquids, honey, perfumes, oil, *ghee*, jaggery, metals, jewels, pearls, skins, weapons, armours, chowries, donkeys, camels, horses, fabrics, blankets, flowers, fruits, bulbs, roots, saffron, conches, corals, glass, etc., for a period ranging from one month to two years after which they sold them at fabulously high prices, sometimes amounting to twice or thrice the prime cost, thus deriving large profits (XLI. 3-12). But sometimes, under adverse circumstances, prices went down and merchants had to suffer heavy losses (XXXIX.11; XLI.5, 6). This well-considered but, apparently sudden, rise

1. LXXXVI.14.
4. LXXI.1.
5. LXXXVIII.20; XCI.3.
and fall in prices is sought to be explained on astrological grounds. Thus, Varāhamihira directs the astrologer to forecast every month details regarding the fluctuation of prices by observing excessive rainfall, meteor, rod, haloes, eclipse, mock-sun and similar other portents on the amāvāsā and pūrṇimā as also at the time of the sun’s entry into a new sign. It is also stated that an eclipse in the mid-day causes the sale of corn at a fair price (V.30); an eclipse in the Markaṭa rāśi, abnormal rise in the prices of grains; Mars passing through the south of Rohini, fall in prices (VI.10); the rise of Mercury after its conjunction with the sun, an unusual rise and fall in the prices of corn (VII.1); the transit of Mercury through any of the six asterisms beginning with Hasta, rise in prices of oils and other liquid objects (VII.4). It is further observed that in the Pauṣa year of the twelve-year cycle, the corn fetches two or three times its normal price. Similarly, prices must be expected to go up in the Māgha and Caitra years (VIII.6, 8). The upward trend in prices is also said to be caused by Venus overpowering Saturn (XVII.25). The commodities of trade were believed to be presided over by zodiacal signs (Ch. XL). It was believed that profit is ensured if the sun and the moon in various signs are conjoined with and aspected by very friendly planets. It is further stated that the moon conjoined with the sun or in full disc and in conjunction with or aspected by benefics foreshadows increase in the prices of the articles belonging to that sign which is at the time occupied by the moon. Similarly, the sun conjoined with or aspected by malefics brings down the prices of articles belonging to the particular sign (XLI.13-14).

OVERSEAS TRADE. There is evidence for the existence of India’s trade relations with other countries in the Gupta age. As we have seen above, our author refers to water-routes, ships and shipmen (potapalava, X.10) and seafaring vessels (arṇavayāna, YY,

1. अतिबुद्ध्यूक्तकाव्यदान परिवेष्यप्रभणपरिवर्ध्यूपरिवृः ।

2. Devi-triṣuguno dhānayārghabh, VIII.5. It should signify two or three times rise in prices and not fall as Utpala would have us understand:—Dhānyasy-

IV.52). He speaks of the sea-shore overcrowded with ships that have arrived securely laden with precious objects (XLVII.12). Varāhamihira refers to South India as the home of expert mariners (vāricara, XIV.14), a position it still retains. India had very close commercial contacts with Ceylon wherefrom she imported pearls (LXXX.2-3). As observed by Cosmas, by virtue of its central position, the island of Ceylon became a great resort of ships from all parts of India, and from Persia and Ethiopia, and in like manner it sent out many of its own to foreign ports including Male (Malabar Coast), Kalliana (Kalyan) and Sindh. Persian pearls (LXXX.2, 5), which appear to have been very much liked in India in those days, must have been imported through the intermediary of Ceylon. The accounts of Fa-hian, Yuan Chwang and I-ting testify to the briskness of overland and sea-borne trade between India and China and other countries of Asia. The continuance of Indian trade with Rome is attested by the discovery in S. India of a number of Roman coins and Indian embassies to Justinian in A.D. 530 and 552. The most important trade ports in India in the 6th century, according to Cosmas, were Sindhu, Orrhotha (Gujarat), Kalliana (Kalyan), Sibor (Chaul), and five ports in Male (Malabar) exporting pepper: Parti, Mangarouth (Mangalore), Salopatana, Nalopatana and Poudopatana, the last three probably situated between Mangalore and Calicut.2

1. JRAS, 1904, pp. 307 ff.
2. K. A. N. Sastrī, Foreign Notices of South India, p. 89.
JEWEI INDUSTRY

In ancient and mediaeval periods of her history, India formed one of the greatest trading centres for precious stones. Sporadic allusions to gemstones are scattered through the vast mass of literary works, both indigenous and foreign. In course of time, however, entire knowledge pertaining to precious stones was systematised and given the status of a śāstra called ratnaparikṣā. It is mentioned by Kauṭilya (Arthasastra, BK. II. Ch. 11) and Vātsyāyana (I.3.16)¹, the latter including it in his catalogue of sixty-four subsidiary arts. It is not possible to decide when this subject assumed the shape of an independent science. In Varāhamihira and Buddhabhāṭa (c. 6th cent. A. D.), it appears in a considerably developed state. The former refers to pūrvācāryas (LXXXI.11) in general and the latter (Ratnaparikṣā, I.1)² admits that his work is an abridgment of an older Ratnasastra. In Kauṭilya, on the other hand, it appears to be in a nebulous condition. We may, therefore, assume that the study of this subject was scientifically cultivated in the early centuries of the Christian era.

According to Yaśodhara, ratnaparikṣā treats of the qualities, defects, prices, etc., of jewels (Ratnam vajra-mañimukt-ādi, teśāṁ guṇa-doṣa-māly-ādibhiḥ parikṣāḥ vyavahār-āṅgam, Jayamaṅgalā on Kāmasūtra, I.3.16). After examining some works, Louis Finot concludes that the ratnasastra works mainly deal with the following topics: origin, mines, colour, species, qualities and defects, effects, prices and counterfeits.³ The Rantaparikṣā section of our work is one of the two oldest treatises

¹ The view of Louis Finot (Les Lapidaires Indiens, p. ii) that the Kāmasūtra is the earliest work to refer to ratnaparikṣā is to be modified in view of the discovery of Kauṭilya’s Arthasastra subsequent to the publication of Finot’s work.

² References pertain to Finot’s work. Many useful texts are incorporated in it.

³ Finot, op. cit. p. xx.
to treat of these topics, the other being Buddhhabhaṭṭa’s *Ratnaparīkṣā*. In subsequent times, Varāhamihira was recognised as an authority on *ratnāśāstra*. Caṇḍeśvara (14th century) refers to Varāha as one of the sources he drew upon in his *Ratnadīpikā* (I.3).²

The term *ratna* in Sanskrit has a double sense—precious objects in general, and precious stones in particular. Varāhamihira, therefore, specifies it in the latter sense. “The word *ratna*”, states he, “is applicable to elephants, horses, women, etc., on account of the excellence of their intrinsic qualities. Here (for the purpose of the present section), however, it is used for gemstones (*upala-ratna*) such as a diamond” (LXXIX.2). Some beliefs about the origin of gems are recorded. Some held that gems originated from the bones of Daitya Bala; according to others, from those of Dadhīci; and according to still others, the great variety of jewels is due to the intrinsic qualities of the earth (LXXIX.3).⁴

The classification of gems into *mahāratnas* and *uparatnas* is ignored by Varāhamihira, who names the following twenty-two stones (LXXIX.4-5) :— (1) *vajra* (diamond), (2) *indranila* (a variety of sapphire), (3) *marakata* (emerald), (4) *karketana* (chrysoberyl), (5) *padmarāga* (ruby), (6) *rudhirā-khya* (carnelian), (7) *vaidūrya* (cat’s eye), (8) *pulaka* (garnet), (9) *vimalaka*, (10) *rājanāmi*, (11) *sphaṭika* (rock-crystal), (12) *şālikānta* (moonstone), (13) *sauagandhika* (a kind of

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1. Buddhhabhaṭṭa’s work also belongs to the close of the 5th or the middle of the 6th century A. D. From a painstaking analysis of close similarities and dissimilarities between the two works in certain respects, e. g., catalogue of gemstones, prices of diamonds, pearls, etc., Finot has shown the improbability of these works borrowing from one another. Certain similarities between them may be explained, according to him, on the hypothesis that both these works drew upon some common tradition or work, probably the *Ratnasāstra* named by Buddhhabhaṭṭa. Vide Finot, *op. cit.*, pp. vi-ix.

2. Dr. V. W. Karambelkar, who critically edited this work, believes that though Caṇḍeśvara abundantly draws upon the *BS* etc., he does not mention them expressly. Vide his preface to the *Ratnadīpikā*, p. ii. But Varāha of the said verse is certainly Varāhamihira.

3. Gems are referred to as *upala* in XII.5; LXXIX.3.


5. e. g., Caṇḍeśvara’s *Ratnadīpikā*, I.5-7.

6. Also mentioned in XVI.27; XXIX.8; XL.8.

7. Cf. LIII.110.

8. It is called *rudhirākṣa* in 17, VI.9.
The diamond was considered to be the foremost among gems and practically all the ratnāśātra texts begin with it. The bank of the Venā (Wainganga near Nagpur), Kosala (probably South Kosala), Surāśṭra (Kathiawad), Śūrparāka (Sopara), Himavat, Matāṅga, Kaliṅga (the region between the Godāvari and the Mahānadi) and Puṇḍra (N. Bengal) are named as findspots of diamonds. In some of these regions, no diamonds are found at present. It is likely that some ancient diamond-workings have been abandoned leaving no trace whatsoever, and, secondly, as suggested by Finot, some of the places referred to in the old texts may have been ports of export trade in diamonds. Thus no tangible traces of diamond-mines are to be found in Surāśṭra and Śūrparāka, which appear to have been emporia of diamond trade. The Venā seems to refer to Wairagadh situated on its bank where diamonds are found in lateritic grits. Wairagadh appears to have been famous for its diamonds and was consequently known as Vajrākara or Vajragrha.

2. Cf. BS, LXXIX.2:—Iha tūpala-ratrānām—adhikāro vajra-pūrṇānām; Śukraniti, IV.2.47:—Ratna-sreṣṭhatahām vajrām.
3. BS, LXXIX.6-7. Cf. buddhabhāṭṭa, I.18, who gives the same findspots.
4. Finot, op. cit. p. xxv.
6. It is referred to as Vayirāgara in Tiruvorriyur Adhipuriśvara temple inscr. of Kulottunga Cola I and as Vajirāgara in the Pāṇḍava-Perumal Temple inscr. of his 5th regnal year. From this Kielhorn inferred that the original name of Wairagadh was Vajrākara (EI, VII, App. 124-5, Nos. 756-61). The fact that it is called Vajiraghara in the Hathi gumpha inscr. of Kharavela (EI, XX, p. 79, l. 7) has led K. P. Jayaswal and R. D. Banerji to opine that Vajragrha was the original name (ibid., p. 78).
Kauṭilya evidently has Wairagadh in mind when he refers to Sabhārāṣṭra, which, according to a commentary, is the same as Vidarbha, as a source of diamonds.\(^1\) South Kosala must have comprised diamond-mines of Vindhya Pradesh where diamond-working is still practised. The Vindhya Pradesh diamond-fields “are scattered over an area some 60 miles long by 10 miles wide, across a number of former small states of the Bundelkhand Agency, the most extensive workings being in Panna.” In 1906 “there were thirty-six ‘principal localities that have yielded diamonds’, in six separate states of Bundelkhand.”\(^2\) Except a few sporadic finds near Simla, no diamond-mines are reported from Himavat.\(^3\) Mataṅga is the tract between the rivers Kṛishṇa and Godāvari, i.e., Telingana, and probably refers to the well-known Golconda diamond-mines. As for Kaliṅga,\(^4\) diamond finds are recorded from the Mahānadi alluvium in the Sambalpur district of Orissa, in the sands of the Koel river, an affluent of the Son, in the Palamau district, and at Hirakund.\(^5\) No diamond-working is known in north Bengal.\(^6\)

Varāhamihira refers to streams, mines and sporadic places as the three sources of diamonds (Srotāḥ khaṇih prakirṇakam\(^7\)=īty= ākara-sambhavas\(^8\)=trividhaḥ, LXXXIX.10). The

2. Brown & Dey, op. cit., pp. 580-81 (It gives a list of diamond-bearing localities in Vindhya Pradesh); Desai, op. cit., pp. 461-2. Finot (op. cit., p. xxvi), however, thinks that Kosala refers to region round Ayodhyā where Panna diamonds were brought and sold. According to a commentary, Kauṭilya’s Madhyamarāṣṭra, a source of diamonds, refers to the Kosala country. Vide Shamasasty, op. cit., p. 78, fn. 9.
3. The Arthaśāstra mentions the mountain Maṇimāṇṭaka as a source of diamonds and the commentator adds the mountains Sahya, Vindhya and Vedotktā (ib., p. 78, fn. 12).
4. Kauṭilya refers to the diamond-mines of Indravāṇaka which, according to a commentary, is identical with Kaliṅga (ib., fn. 11).
6. According to a commentary on the Arthaśāstra quoted by Shamasasty (p. 78, fn. 12), “Magadha, Kaliṅga, Śūrpaka, Jaladayasa, Paur.ḍraka, Barbara, Tripura, the mountains such as Sahya and Vindhya, Benaras, the mountain of Vedotktā, the country of Kosala and Vidarbha are the places where diamond-mines are situated.”
7. Cf. Utpala—prakirṇakam yasyāṁ bhūmau manayo bhavanti samudreyathā. For ocean or water as a source of jewels. Cf. V.42; VII.6; X.7; XII.16 XIII.10; XL.8; LXXXVI.10.
same statement is contained in the Arthaśāstra (Khanis=srotah. prakīrṇakaṁ ca yonayah, II.11). Buddhhabhaṭṭa adds the sea, forests and mountains as the sources of precious stones in general (Payunidhau sariti ca parvate kānane=pi ca, Tat tad= ākaratāṁ yātāṁ sthānam=adhvayagauravāt, Ratna-parīksā, I.10).

Each of the above regions is said to yield diamonds of a particular description. Thus a diamond from the bank of the Waṅganga, Kosala, Surāṣṭra, Sopara, Himavat, Mataṅga, Kaliṅga and Puṅdra respectively is described as faultless, coloured like a śrīṣa flower (i.e. slightly yellow), copper-coloured (red), black, slightly red, coloured like a valla flower (grey), yellow and blue (LXXIX.6-7).

A diamond with a certain colour and shape was believed to be presided over by a particular deity. Thus an hexangular white diamond is assigned to Indra; one dark and shaped like a serpent’s mouth to Yama; one with the colour of a plantain staff, i.e., bluish yellow, and of any shape to Viṣṇu; that coloured like the karṇikāra flower and shaped like the female genital organ to Varuṇa; that shaped like the śṛṅgāṭaka fruit, i.e., triangular, and coloured like tiger’s eye, i.e., bluish red, to Agni; and that having the form of a barley corn, i.e., stouter in the middle, and of the hue of the red asoka flower to Vāyu (LXXIX. 8-10 and comm. Cf. Buddhhabhaṭṭa, I.22).

It was customary with the ratnaśastrakāras to assign jewels of different colours to different castes. Our author accordingly ascribes a red and yellow diamond to the Kṣatriyas, white one to the Brāhmaṇas, śrīṣa-coloured to the Vaiśyas and that coloured like a sword, i.e., black, to the Śūdras (LXXIX.11). This caste-wise division is followed even by the Buddhist writer Buddhhabhaṭṭa (I.23-6). It is difficult to determine how far these rules were followed in practice; they appear more imaginary than real.

According to the system employed in weighing and pricing the diamond, eight white mustard seeds constituted one tanḍula (a grain of rice). The maximum weight mentioned in this connection is 20 tanḍulas, each of the following units being two degrees lower than the preceding one. Although the price of each unit is given (LXXIX.12-13), the coin denomination intended is left unspecified; but Utpala
gives the tariff in terms of kārṣāpanas. Thus the price of a diamond weighing

<table>
<thead>
<tr>
<th>20 Tanḍulas is fixed at 200,000 Kārṣāpanas</th>
</tr>
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<tbody>
<tr>
<td>18 &quot; &quot; 150,000 &quot;</td>
</tr>
<tr>
<td>16 &quot; &quot; 133,333(\frac{3}{4}) &quot;</td>
</tr>
<tr>
<td>14 &quot; &quot; 100,000 &quot;</td>
</tr>
<tr>
<td>12 &quot; &quot; 66,667 &quot;</td>
</tr>
<tr>
<td>10 &quot; &quot; 40,000 &quot;</td>
</tr>
<tr>
<td>8 &quot; &quot; 12,500 &quot;</td>
</tr>
<tr>
<td>6 &quot; &quot; 8,000 &quot;</td>
</tr>
<tr>
<td>4 &quot; &quot; 2,000 &quot;</td>
</tr>
<tr>
<td>2 &quot; &quot; 200 &quot;</td>
</tr>
</tbody>
</table>

An average mustard seed weighs .001 grains; therefore a tanḍula, which is equal to 8 mustard grains = .08 grains. The maximum weight of a diamond mentioned in this connection is 20 tanḍulas, i.e., 16 grains or 4 carates which is indeed very low. Stones of a much higher weight are found even at present when diamond industry is steadily declining. It is impossible to believe that in that heyday of this industry diamonds weighing more than four carates were unknown. The reason behind selecting this weight appears to lie in the fact that twenty tanḍulas constituted the unit dharana especially employed in weighing diamonds (Viṃśati-tanḍulaṁ vajra-dharanaṁ, Arthaśāstra, II.19).\(^1\)

The weight was not the only criterion in determining the price. A diamond fetched more or less price according as it was good or defective. Varāhamihira lays down a general principle according to which the price of a diamond with any of the defects to be noticed shortly decreases by 1/8th (LXXIX.16). Another price-list is to be found in Buddhhabhaṭṭa’s Ratnaparikṣā, but there the price is given in rūpakas and only the highest figure of the two lists, i.e., 2,00,000, agrees with one another, the rest differing widely from each other.\(^2\) In all likelihood, the leading figure repre-

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1. Finot has also discussed this problem, but failed to arrive at any satisfactory conclusion.

2. For a comparative table, vide Finot, op. cit., p. xxx; for Buddhhabhaṭṭa’s text, ibid., p. 11, No. 39.
sents the standard price while the succeeding ones are local variations.

Good and bad qualities of diamonds are also briefly enumerated. Thus an ideal diamond, it is stated, should be so hard that it cannot be pierced by any other substance, light in weight as compared to its volume and capable of floating on water, brilliant, glossy and resembling lightning, fire and rainbow. The diamond that has scratches like crow’s legs, flies or hair, is mixed with clay or gravel, broken, double-faceted, burnt, of deformed colour, devoid of lustre, perforated, has bubbles or spots, is truncated on points, flat and unduly elongated like vāśī fruit (?) is said to be defective.

A good or bad diamond was believed to have corresponding effects on the person of the wearer. Thus a defective diamond, says Varāhamihira, causes decrease of wearer’s kith and kin, wealth and life, while a perfect one brings fear from thunderbolt, enemy and poison to an end and increases prosperity (LXXIX.18).

Diamond was supposed to cause abortion in a pregnant woman. While some held that a diamond should not be worn by a woman longing for sons, according to others, she could wear a diamond that is shaped like a śṛṅgāṭaka fruit, i.e., triangular, trigoned or like a coriander seed or buttocks (LXXIX.17).

1. तद्विद्यामें व्यवस्थिसि तरति रक्षितवत् स्निःथम्।
   तवद्नल्लवकाशानोपमं च वचं हितायोक्तम्।
   काकपदमकल्काकात्यायुक्तानेशकरिविविधम्।
   हिमणाशि दश्यकल्पक्वतिविश्वीणानि न सुभाषि।
   यानि च बद्वददलिताप्रिचितपातकांश्ययां ग्रीष्मिणि।

2. Kālidāsa (Raghuvaṇīa, I.4) refers to “a gem pierced by vajra”; Manau vajra-samukte. Mallinātha explains it as a special kind of needle meant for piercing precious stones (vajraṇa maṇi-cedhaka-svēci-viṣeṣa) and cites Kesava in his support. At present the diamond is noted as a material of superlative hardness and the superfine finish obtained from the use of diamond lathe-tools is unsurpassed, cf. Brown & Dey, op. cit., p. 585.

3. Utpala is mistaken in taking “tarati” to mean “sinks”:—ambhasi jale tarati nimajjat-itī.

4. Cf. Śūkranitādūra, IV.2.53; Buddhahatā, I.45; Candesvara, I.42.
5. Utpala wrongly takes śroṇi to mean a woman’s lower lip—śroṇi-
   niḥhamā strī=adhara-rāga-sadṛṣṭam.
II. The Pearl

The pearl, variously referred to as mukta (XII.1: LXXX. 13, 25, 34), muktaphala (LXXX. 1, 30) and mauktika (XXIV. 16; XXIX.6; LIII.110), is said to have eight sources: (1) the elephant, (2) serpents, (3) oyster, (4) conch, (5) clouds, (6) bamboo, (7) fish and (8) hog. Buddhhabhaṭṭa (II.52-71) also knows all these sources; the Śukranitisāra (IV.2.59) omits the elephant; Kauṭilya (sUKTIH śāṅKHAḤ prakīrṇakam ca yoNAyAH, II. 11) names only pearl-oysters, conches and sporadic sources. Of these, the pearls derived from the oyster were regarded as the best and were much in use.¹

ĀKARA (provenances). The following eight regions are named as the find-spots of pearls: (1) Siṃhala, (2) Paraloka, (3) Surāśṭra, (4) Tāmraparṇī river, (5) Pāraśava, (6) Kaubera, (7) Pāṇḍyavāṭaka and (8) Himavat (LXXX.2). Buddhhabhaṭṭa² replaces Pāṇḍyavāṭaka by Pūṇḍra and omits Pāraśava from his list. Of these, Kauṭilya names only three, the Tāmraparṇī, Pāṇḍyavāṭa and the Himālayas, and adds Pāṣikya (pearl produced in the river Pāṣa), Kauleya (that derived from the river Kūlā near the village of Mayūra in the island of Siṃhala), Caurneya (that obtained from a river near the village Maruchi in the Kerala country), Māhendra (one secured from the Mahendra mountain), Kārdamika (that from the river Kārdama in Persia), Srautasīya (that which is produced in the river Srotasī), Hrādiya (one produced in a pool of water known as Śrīghaṇṭa in a corner of the Barbara sea).³ Siṃhala (Ceylon) has been well-known from very early times for its prosperous pearl industry. Megasthenes⁴ (4th century B. C.) and the author of the Periplus (61) (1st century A.D.) mention large pearls of Ceylon (the former calls it Taprobane and the latter

1. दिपभुजणुक्तिक्षांवांस्रेण्वहुतिमुक्करप्रसुताणी ।
   मुक्ताफलाणि तेषां बहुसातु च शुक्तिजं भवति ॥

2. Finot, op. cit., text, No. 75.
3. Arthaśāstra, II.XI, p. 75; Engl. Tr. by Shamaśastry, pp. 75-6 & notes.
4. J. W. McCrindle, Ancient India as described by Megasthenes and Arrian, pp. 62-3.
Palaesimundu). The Chinese pilgrim Fa-hien, who visited India and Ceylon in A.D. 399-414, tells us that the small islands round Ceylon, nearly a hundred in number, produced chiefly pearls and other precious stones and in one of the islands, about ten li square, fine pearls called mani were found. We are further informed that the king of the country sent his men to guard it and if pearls were obtained, he took 3 out of 10. He also refers to 'many precious stones and priceless pearls' hoarded in the treasury of the Buddhist priests.\(^1\) Ceylonese pearls are said to be of various shapes, glossy, swan-coloured and large (Bahusaṁsthānāḥ snigdhaḥ haṁs-ābhāḥ Sinhal-ākarāḥ sthūlāḥ, LXXX.3). Paraloka is probably identical with the place called Purali in Kerala which is known for its pearl-fishery; Paralia of Ptolemy and of the Periplus appears to be a corruption of Paraloka.\(^2\) The pearls from Paraloka are described as dark, white or yellow, mixed with gravel and uneven (krṣṇāḥ svetāḥ pūtāḥ saaśar karāḥ Pāralaukikāḥ viśamāḥ, LXXX.4). Surāṣṭra refers to the Gulf of Cambay pearls wherefrom were neither too large nor too small and had the shade of butter (na sthūlā nātyaḥ alpaḥ nava niṭā-nibhaś ca Saurāṣṭrāḥ, LXXX.4). The river Tāmraparnī, pearls whereof are said to have been slightly copper-coloured or white and bright (Iṣat tāmrāḥ svetāḥ tamo-vyuktāḥ ca Tāmrākhyāḥ, LXXX.3), is the same as the Tambaravari or the united course of the Tambaravari and the Chittar in the Tinnevelly region which is even now celebrated for its pearl-fishery. The Tāmraparnī ran through the Pāṇḍya country (Pāṇḍyavāṭa of our author) which formed the southernmost part of the Indian Peninsula comprising modern Tinnevelly and Madura Districts and yielded triangular and minute pearls resembling the nimba fruit or coriander seed (Nimba phala-triṣṇa-dhānaya-cūriṇāḥ syūḥ Pāṇḍyavāṭa-bhāvāḥ, LXXX.6). Pearl-fishery is still practised near the harbour of Tuticorin, below Tanjore. The Periplus (59) refers to the pearl-fisheries worked by condemned prisoners at the port of Colchi (modern Korkai) belonging to the Pāṇḍya kingdom. It

1. Giles, Travels of Fa-hien, pp. 66, 69. Alberuni (I, 201) informs us that the pearl-banks of Sarandib (Ceylon) had been abandoned in his time.
2. Marco Polo. (K. A. N. Sastrī, Foreign Notices of South India, pp. 162-3) also describes the pearl-fisheries of Malabar.
further tells us that at Argaru (Uraiyur), an important town in the Pāṇḍya country, were bought the pearls gathered on the coast thereabouts. Kālidāsa also knows of the extensive pearl-fisheries practised at the mouth of the Tāmraparnī and represents the Pāṇḍya king as having presented Raghu with the choicest pearls obtained therefrom (Raghuvaṁśa, IV.50). Under the name of Mo-lo-ku-t’a this country is mentioned as ‘a depot for sea-pearls’ by Yuan Chwang.1 Pāraśava refers to the Persian Gulf. The Pāraśava pearls are said to be very brilliant, white, very heavy and possessed of highly commendable features (Jyotismatyaḥ śubhrā guravo = timahāgūṇāḥ = ca Pāraśavāḥ, LXXX.5). The pearls from the Himalayan region were noted to be light, broken, hued like curds, large and doubly coated (Laghu jarjaraṁ dadhinibham brhad = diva-saṁsthānam = api Haimam, LXXX.5). No pearl industry is known to exist now in this tract. Pearls from Kaubera (not identified) were noted for being uneven, black or white, light, brilliant and of good size (visamanāṁ krṣṇa-śvetam laghu Kauberanā pramāṇa-tejovat, LXXX.6).

Like diamonds, pearls with specific colours were assigned to the jurisdiction of different divinities. Thus pearls coloured like a linen flower were believed to be presided over by Viṣṇu; those like the moon, by Indra; those tinged like orpiment, by Varuṇa; black ones, by Yama; those hued like a ripe pomegranate fruit or guñja, by Vāyu; and, lastly, those resembling smokeless fire or lotus, by Agni (LXXX.7-8).

We get a fairly long tariff of prices which are given in two denominations, kārsāpana and rūpaka. The weight and the intrinsic merits were taken into consideration while determining the price. The tariff is divided into two parts, (1) one single pearl of different units of weight, and (2) various numbers of pearls weighing a dharana (LXXX.9-12, 13-16):—

<table>
<thead>
<tr>
<th>I.</th>
<th>The Weight of a Pearl</th>
<th>The Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4 māsakas</td>
<td>...</td>
</tr>
<tr>
<td>2.</td>
<td>3½</td>
<td>...</td>
</tr>
<tr>
<td>3.</td>
<td>3</td>
<td>...</td>
</tr>
<tr>
<td>4.</td>
<td>2½</td>
<td>...</td>
</tr>
</tbody>
</table>

1. Watters, II, p. 228.
A similar tariff of prices is contained in Buddhahaṭṭa's Ratnaparīkṣā. While there are certain close similarities, the differences cannot be overlooked; while Varāhāmihira gives prices in terms of kārṣāpana and rūpaka, Buddhahaṭṭa gives in rūpaka alone; and it is curious to note that in spite of difference in regard to coin denomination, the first five figures are identical in the two lists. It may indicate that kārṣāpana and rūpaka are used as names of one and the same coin. It is also likely that the figures identical in the two lists give the standard market value while others refer to local variations.

II. **Number of Pearls Weighing a Dharana**

<table>
<thead>
<tr>
<th></th>
<th>The Price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>(1) 13</td>
<td>325 rūpakas</td>
</tr>
<tr>
<td>(2) 16</td>
<td>200</td>
</tr>
<tr>
<td>(3) 20</td>
<td>170</td>
</tr>
<tr>
<td>(4) 25</td>
<td>130</td>
</tr>
<tr>
<td>(5) 30</td>
<td>70</td>
</tr>
<tr>
<td>(6) 40</td>
<td>50</td>
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<tr>
<td>(7) 55</td>
<td>40</td>
</tr>
<tr>
<td>(8) 80</td>
<td>30</td>
</tr>
<tr>
<td>(9) 100</td>
<td>25</td>
</tr>
<tr>
<td>(10) 200</td>
<td>12</td>
</tr>
<tr>
<td>(11) 300</td>
<td>6</td>
</tr>
<tr>
<td>(12) 400</td>
<td>5</td>
</tr>
<tr>
<td>(13) 500</td>
<td>3</td>
</tr>
</tbody>
</table>

The groups of one-dharana pearls specified above bore certain technical designations useful in day-to-day business

1. Finot, p. xxxv of table...
transaction. Thus 13, 16, 20, 25, 30, 40, 55 and 80 or more pearls weighing a dharana were called Pikkā, Piccā, Arghā, Ardhā, Ravaka, Siktha, Nigarā and Ćūnā respectively (LXXX.17). These appear to have been popular stock-words in use among traders dealing in gemstones. We are told by the scholiast that these words were used in the places where pearls were mined (etāś = c-ākarasthāne vyavahārārtham = upayujyante). The fact that the necessity of coining such nomenclatures was felt shows that brisk trade in pearls was carried on during our period. We come across another list of names in Buddhhabhaṭṭa; but none except for Siktha (Sikta in Buddhhabhaṭṭa) agrees with those of Varāhamihira, suggesting the possibility that they refer to practices obtaining in different regions or periods. At the same time it shows the impossibility of one borrowing from the other.

The above tariff, says Varāhamihira, is intended for pearls of good qualities and the prices of intermediate groups are to be found out proportionately. The value of the inferior sort was to be reduced as follows—The market value of slightly black, white, yellowish, copper-coloured and slightly uneven pearls was fixed at 1/3rd less than that specified above; that of very rough, 1/6th less; and that of yellow ones, a half (LXXX.18-9).

So far about pearls derived from the mother-o’-pears. Varāhamihira also devotes considerable space to giving an account of the pearls said to be derived from the remaining seven sources. It was believed that in the temples of the elephants belonging to the line of Airāvata born at the moon’s conjunction with Puṣya and Śravaṇa synchronous with Sunday or Monday and in those of the Bhadra class of elephants born during the northern course of the sun and at the time of a solar or lunar eclipse are to be found pearls that are plentiful, large, variously shaped and brilliant (LXXX.20-21). The pearls produced in the root of the boar’s jaw are said to have the lustre of the moon. Those from the fish are represented as large and as resembling the eyes of the fish (LXXX.23).\(^1\) The cloud-born pearls possessing the brilliance of lightning and produced like hailstones,

\(^1\) For another allusion to fish-pearls, cf. XI.8.
when falling from the seventh layer of the wind, it is said, are taken away by heavenly beings (LXXX.24). The serpents belonging to the lineage of Takṣaka and Vāsuki and those moving freely were believed to have bright and blue-tinged pearls in their hoods. The mode of testing the genuineness of the serpentine pearls is given thus:—keep the pearl in question in a silver vessel on a blessed spot; if then there is a sudden rain it indicates its genuineness (LXXX. 25-6). The pearl originating from the bamboo is described as resembling camphor or crystal, flattened and uneven, whereas that born of the conch is said to be round, brilliant, and lustrous (LXXX.28).

We may be sure that these pearls are imaginary. The cloud-pearl is, as we have seen above, described as taken away by heavenly beings and thus not coming to the earth. The statement that to recognise the above pearls is impossible (LXXX.29) and that their price cannot be estimated (LXXX.22, 27, 29) point to the same conclusion. Fine perforation is regarded as one of the good qualities of a pearl, and Manu (IX.286) goes to the extent of laying down a fine for defective boring of stones. Curiously enough, the piercing of elephantine pearls is forbidden (LXXX.22).

It was customary with ancient Indian writers on medical science as well as on other branches of learning to ascribe certain medical and magical properties to precious stones in general and mythical ones in particular. In keeping with this tradition, Varāhamihira regards the aforementioned pearls of mythical origin as highly sanctifying (LXXX.22, 23) and of immense value (23,29) and ascribes to them such magical properties as bestowing sons, victory in war (if the wearer be a king), freedom from disease and grief, good fortune, fame, wealth and other desired objects, and removing the effects of poison and misfortune (LXXX.22, 27, 30).

III. The Ruby

Although the ruby (padmarāga) is the third in the order of treatment, it is well-known that a ruby weighing more

1. Serpentine stones are also referred to in XII.5; LXXXI.5-6.
than two carats exceeds a diamond of the same weight in value. The ruby is divided into three classes according as its origin lies in saugandhika (sulphur), kuruvinda (cinnabar), and sphatika (crystal). The characteristics of each of the three varieties are thus described: the ruby originating from sulphur has the lustre of bees, collyrium, lotus or the juice of the rose-apple fruit; that deriving its origin from cinnabar is grey (śabala), of dim brilliance, and mixed with mineral substances; and those born of rock-crystal are very brilliant, of many shades and pure.¹ Kauṭilya² also mentions saugandhika and seems to regard it as the best.

Precious stones in general are said to be good if they are smooth, dazzling with rays, pure, sparkling, heavy, nicely shaped, brilliant within and deep-red; on the contrary, those that are impure, of dim lustre, full of scratches, mingled with mineral substances, broken, ill-perforated, not attractive, and mixed with gravel are said to be defective (LXXXI.3-4). The weight, colour, lustre and other qualities were taken into account while fixing the price of a ruby. We get a table of prices, but the system of currency intended is left unspecified. If Utpala is to be relied upon, Varāhamihira has rūpaka in view. Thus a ruby weighing

1 pala (4 kāraṇa) was priced at 26,000 rūpakas
3 karaṇa " 20,000 "
½ pala (2 karaṇa) " 12,000 "
1 karaṇa " 6,000 "
8 maṣaka (½ karaṇa) " 3,000 "
4 " " 1,000 "
2 " " 500 "

The price of rubies with intermediate weights was fixed proportionately, taking into account their superior or inferior qualities. A ruby defective in colour, for instance, fetched only half the price specified above; that deficient in lustre, only 1/8th; that with few good qualities and many defects, 1/20th; and, that which is smoky, has many holes and fewer good characteristics, 1/200th (LXXXI.7-11).³

2. Arthaśāstra, II.11, p. 76.
3. For a different system of pricing, vide Buddhhabhaṭṭa, III.144.
IV. The Emerald

Only one chapter consisting of a single stanza is allotted to the emerald. Emeralds tinged like a parrot's wings and bamboo leaves (green), plantain tree (greyish-yellow), and a śiśa flower (slightly yellow) are referred to. An emerald possessing good qualities is recommended for use while propitiating gods and manes (LXXXII.1; also mentioned in LIIII.46).

Other Stones. We have very scanty information about other stones. Śāṅkīnta and mahānila are merely varieties of rock-crystal and sapphire respectively. Vimalaka, rājamanī, brahmamani, jyotirasa, sasyaka and sanākha are not named in any other contemporary work and cannot be certainly identified. The Cullavagga (IX.ii.1) refers to jyotirasa and sanākha. Vimalaka is represented as having yellow shade (V.57; VII, VI.18). Sasyaka is said to be blue and is compared with Mercury (VII.20 & comm.). This is probably another name for the emerald.¹ S. M. Tagore regards jyotirasa as identical with jasper or heliotrope.² Kauṭilya³ speaks of vimalaka, sasyaka and jyotirasa as varieties of inferior gems. Elsewhere he mentions the first two as rūpyadhaṭus.⁴ Crystal is specially noted for its clarit, is compared with the moon, Jupiter and Canopus, and said to be found in the ocean (IV.30; VIII.53; XII.20, 5; LIII.110). Vaidūrya is specified for its lustre (X.21; XXVIII.3; XXIX.8; XLIII.33), and Utpala describes it as bluish-yellow (nīla-pita).⁵ Sphāṭika,⁶ śukti, sanākha,⁷ vidruma,⁸ vaidūrya⁹ and other jewels¹⁰ are said to be found in the sea. Pearls, sanākha and vaidūrya are said to have been mined in the south.¹¹ We have a vague reference to a green stone (harita-maṇi, CLI.61), but without any specification. Another

¹ S. M. Tagore (Maṇi-mālā cited by Finot, p. xviii) regards gandhar-sasyaka as 'a reddish stone more or less bright'. The sasyaka described by Utpala must be different from it.
² Ibid.
³ Arthaśāstra, II, 11, p. 77.
⁴ II.12, p. 82.
⁵ Comm. on XXX.20; XXXVII.1.
⁶ XII.5.
⁷ XII.4.
⁸ XII.2. The coral is also referred to in XLI.10; XVI.13; XXIX.8.
⁹ LXXXVI.10.
¹⁰ XII.3; 3, 5.
¹¹ XIV.14.
stone called *susāra* is also mentioned (LXXXVI.23), but there is nothing to indicate its identity.

The foregoing pages will have made it abundantly clear that Varāhamihira furnishes us with very valuable information on the prosperous condition of jewel industry in the Gupta period and that in regard to many important details it is borne out by reliable external evidence. The value of this information is all the more enhanced by the fact that the *Brhat-samhitā* is the oldest datable work to deal with this subject. No writer on the history of the *ratnaśāstra*, therefore, can ignore the valuable evidence analysed above.
VI

WEIGHTS AND MEASUREMENTS

The system of weights and measurements in India differed from region to region. In a stanza from the Samāsa-saṁhitā quoted by Utpala on XXIII.2, mention is made of Māgadhamaṇa. Another standard system originated in Kaliṅga and was known as Kālīṇga. Both these systems are known to Caraka (Kalpasthāna, XII.105), who regards the former as superior to the latter.

TULĀ. We get an interesting account of the weighing balance (tulā) in XXVI.6, 9, according to which both the scale-pan (śikya, śikyaka) measuring six aṅgulas in diameter were fashioned from linen cloth; each of them was connected with the balancing rod (tulā) by means of four strings (śūtra), 10 aṅgulas in length; a cord (kakṣyā), 6 aṅgulas in length, held the rod between the two scales; the rod, 12 aṅgulas long, was made of gold, silver, khadira wood or a shaft which had wounded a man. Though this balance is described in connection with a quasi-religious ritual, it will not be wrong to assume that similar balances were used in ordinary business transactions as well.

WEIGHTS. Varāhamihira refers to gravitational (tulā-māṇa) as well as cubic (parimāṇa) measures. The following weights are specified—

1. Taṇḍula = 8 white mustard seeds (sitasaṅgap-aśṭakam taṇḍulo bhavet, LXXIX.12). According to the table of weights given in Caraka (Kalpasthāna, XII. 87-88), 6 particles (dhevaṃsis) = 1 marici, 6 maricis = 1 rakta-saṅapa (rape seed), 8 saṅapas = 1 taṇḍula. It was used in weighing precious stones like diamonds.

2. Kṛṣṇala (LXXX.11), Guṇjā (LXXX.12-13). The barberry seed served as the unit of weight for precious metals and stones. Probably there were two systems of weight current in different parts of the country, one based on saṅapa and the other on kṛṣṇala; but sometimes they were used together in the same region. Fractions of guṇjā were also in use (Cf. 3½ guṇjās, LXXX.11; 2½ guṇjās, LXXX.12).
3. Maśaka (LXXX.9, 10; LXXXI.8-9). According to the Caraka table, 2 ṭaṇḍulas = 1 dhānya-māśa, 2 māsas = 1 yava, 4 yavas = 1 aṇḍikā, 4 aṇḍikās = 1 māśaka; thus 32 dhānya-māsas make one māśaka (Kalpa, XII.87-88). A different table is found in the Kauṭilya (II.19), which regards 10 dhānya-māsas or 5 guṇjās as equal to 1 suvarna-māśaka. According to Amara (II.9.85) also, 5 guṇjās make 1 māśaka (Cf. Manu, VIII.134). A silver māśaka, however, was equal to two guṇjās.

4. Kāraṇa (LXXXI.7, 8). In the Kauṭilya (II.19) and Amara (II.9.87), 16 māsakas = 1 kāraṇa. According to Caraka, 3 māsas = 1 sāna, 2 sānas = 1 drainkṣaṇa, 2 drainkṣaṇas = 1 kāraṇa, i.e., 12 māsas = 1 kāraṇa. It was employed in weighing precious stones and metals.

5. Pala (LXXXI.7) = 4 kāraṇas.1 Men weighing 1600 or 1000 palas (LXVIII.25, 29) and a ruby weighing half a pala (LXXXI.8) are mentioned.

6. Dharaṇa. Varāhāmihiṇa specifies dharaṇa as 1/10th of a pala (pala-dāsabhāga dharaṇam, LXXX.13).2 Different dharaṇa units were in use for different articles. Kauṭilya, for instance, takes 88 white mustard seeds to be equal to one rūpya-māśaka and 16 rūpya-māsakas to form 1 silver dharaṇa, whereas 20 ṭaṇḍulas constitute a vajra-dharaṇa.3 Varāhāmihiṇa gives prices of diamonds weighing 20 ṭaṇḍulas and below.

7. Tulā (LIV.17) = 100 palas (Caraka, Kalpa, XII.97; Amara, II.9.87).

8. Bhāra = 20 tulās or 2000 palas.4 According to Caraka, however, 4 palas = 1 kuṭava, 4 kuṭavas = 1 prastha, 8 prasthas = 1 kaṁsa, 4 kaṁsas = 1 droṇa, 2 droṇas = 1 ṣūrpa, 2 ṣūrpas = 1 bhāra, i.e. 2048 palas = 1 bhāra. Men weighing half a bhāra (bhārāṛda), 1 bhāra and 1½ bhāras are referred to (LXVII.106; LXVIII.18).

These weights may be given in a tabular form as follows:—

1. Cf. Arthaśāstra, II.19; Caraka, Kalpaśthana, XII; Manu, VIII.135; Amara II.9.86.
3. Arthaśāstra, p. 103.
<table>
<thead>
<tr>
<th>Measures</th>
<th>Equivalent to</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Sita-sarṣaṇas</td>
<td>1 Tāṇḍula</td>
</tr>
<tr>
<td>5 Kṛṣṇalas</td>
<td>1 Māṣaka</td>
</tr>
<tr>
<td>16 Māṣaksa</td>
<td>1 Karṣa</td>
</tr>
<tr>
<td>4 Karṣas</td>
<td>1 Pala</td>
</tr>
<tr>
<td>1/10 Pala</td>
<td>1 Dharana</td>
</tr>
<tr>
<td>100 Palas</td>
<td>1 Tūlā</td>
</tr>
<tr>
<td>20 Tūlās or 2000 Palas</td>
<td>1 Bhāra</td>
</tr>
</tbody>
</table>

**Measurements of Capacity.** Cubic measures were used alongside for measuring grains and liquid substances like water. We have references to the following measures of capacity:

1. **Pala** (XXIII.2). It was probably the smallest unit of cubic measures and was adopted from the weight specified above.

2. **Kuḍava** (III.46). It is equal to 4 palas. But as will be presently shown, for measuring water, it was probably counted as equal to $\frac{3}{4}$ palas.

3. **Prastha** (LIV.17). 4 kuḍavas or 16 palas make 1 prastha.

4. **Āḍhaka** (LIV.17). 4 prasthas or 64 palas constitute 1 ordinary āḍhaka. But while measuring rain-water an āḍhaka consisting of 50 palas was used (XXIII.2). Varāhamihira himself distinguishes the āḍhaka used in measuring water from the ordinary one. Thus in connection with the selection of a house-site, we are asked to dig a pit, fill the dug out earth in a water-āḍhaka, and to weigh the same; if one water-āḍhaka-full of earth weighs 64 palas, the site is suitable. As stated by Varāhamihira himself, this was based on Māgadha-māna. It is confirmed by Kauṭilya, who states that the dṛṇa measure

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1. Cf. Caraka, Kalpaśṭhāna, XII; Amara, II.9.89.
2. Ibid.
3. पलान्यपामाक्क चतुःपद्धि: LII. 91.
   Cf. Utpala: अथवा यत्र मूर्तिकानामाक्कमपमाम्बूनां चतुःपद्धि: पलानि भवेत् तद् चन्यमेव | एतदुःततं भवति । मूलो मूर्तिकां सङ्कृत्या अवतर्नित्ततां तथा आदकमापूर्यां तोल्येति । तथवदि चतुःपद्धि: पलानि भवति तद् चन्यं नान्येति ।
of state revenue is equal to 200 palas and that āḍhaka is $\frac{1}{4}$th of it. This shows that whereas the ordinary āḍhaka (probably according to the Kālinga-māna) consists of 64 palas, in the Māgadha-māna it is = 50 palas.

5. Droṇa (XXI.32, 34; XXIII.6-9; LIV.17; : LVI.2). It consists of 4 āḍhakas, i.e. 256 palas = ordinary droṇa, 200 palas = Māgadha droṇa employed in measuring water. Droṇa varied according to its use also. Thus Kauṭilya mentions droṇa measures constituted by 200, 187$\frac{1}{3}$, 175 and 162$\frac{1}{3}$ palas.

<table>
<thead>
<tr>
<th>Ordinary Measures</th>
<th>Māgadha measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 Palas</td>
<td>3$\frac{1}{3}$ Palas</td>
</tr>
<tr>
<td>4 Kuḍava</td>
<td>4 Kūḍava</td>
</tr>
<tr>
<td>(16 Palas)</td>
<td>(12$\frac{1}{3}$ Palas)</td>
</tr>
<tr>
<td>4 Prastha</td>
<td>4 Prasthas</td>
</tr>
<tr>
<td>(64 Palas)</td>
<td>(50 Palas)</td>
</tr>
<tr>
<td>4 Āḍhakas</td>
<td>4 Āḍhakas</td>
</tr>
<tr>
<td></td>
<td>(200 Palas)</td>
</tr>
</tbody>
</table>

**LINEAL MEASURES (PRAMĀNA).** Varāhamihira mentions the following lineal measures:—

1. Aṅgula. It is stated that the minutest particle of dust seen when the sun passes through the interstics of a window is called paramāṇu and is the first of the lineal measures. In the table given by our author, 8 paramāṇus = 1 rajas (a particle of dust), 8 rajas = 1 vālāgra (hair-edge), 8 vālāgras = 1 liksā (nit), 8 liksās = 1 yūkā (louse), 8 yūkās = 1 barley-corn, 8 barley-corns = 1 aṅgula.\(^1\) This is the smallest practical measure and is roughly equal to $\frac{1}{4}$th of an English inch. Various kinds of aṅgulas were in use. Thus according to a stanza of Viśvakarman cited by Utpala, 8 yavas = largest aṅgula, 7 yavas = middling aṅgula, 6 yavas = lowest aṅgula measure.\(^2\)

1. जालान्तरते भानो यद्यन्तर दशान रजो याति |
   तद्विन्यास परमाणु प्रथम तद्विच प्रमाणानां ॥
   परमाणुजो वालालिक्षमव यथार्थम् चेति । |
   अद्गुणानि यथात्वाररंगस्मृते भवति सहस्या ॥ LVII. 1-2,

2. यवा मध्यमाचिति अद्गुणस्मृत अवेष्टम्तृते ।
   सप्त मध्यमसहस्यामिकृत घट कप्पियसाम् ॥ BS, Vol. II, p. 663.
ECONOMIC LIFE

Varāhamihira defines a practical digit (karmāṅgula) as the space covered by eight husked barley corns placed breadth-wise touching each other.¹

2. Vitasti (XXVI.9). According to the table given in the Arthaśāstra, 12 āṅgulas = 1 vitasti.²

3. Aratni (LXXI.3). In Kauṭilya’s table, 2 vitastis or 24 āṅgulas = 1 aratni or a Prājāpatya hasta. But Utpala takes it to be a smaller cubit with the fist closed (aratniḥ kṛtamuṣṭi-hastaḥ, kaniṣṭhāsama iti kecit).

4. Hasta (XXIII.2; XXXIII.6, 7; XLIII.3; LII.4 ff., etc.) = 24 āṅgulas. Various kinds of hastas were in use. Kauṭilya informs us that a hasta of 54 āṅgulas was employed in measuring forests and that of 28 āṅgulas in measuring pastures. Utpala mentions three kinds of hasta measure: the hasta constituted by 24 āṅgulas of eight barley grains was called Praśaya; of seven, Śādhāraṇa; and of six, Śama. This last is mentioned in LII.19, but the commentator states that it is used here without any technical sense and that the hasta made up by 24 āṅgulas of eight barley corns is intended.³

5. Daṇḍa (XXIV.9). In the Arthaśāstra table, 1 daṇḍa = 4 aratnis or hastas.⁴ But while commenting on LXXII.3, Utpala equates daṇḍa with six hastas and daṇḍārdha with three (daṇḍam saḍgāraṇa-pramāṇam tad = ardha-visṭṛtam hasta-traya-visṭṛnam).

6. Dhanus (XXXIII.6), the same as daṇḍa.

7. Puruṣa Varāhamihira employs the puruṣa measure to

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1. कर्माङ्गलः यवाष्टकमुदरासकतः तुषः परित्यक्तम्। LXXVIII. 8.
2. Arthaśāstra, II.20, p. 106.
3. इत्यव संदिष्ठते क्रिमाष्टकवेदाङ्गलेन चतुःविंशतियंगलेऽहुस्तः स सम इति। विष्कर्मणा त्रिविंधो हुस्त उच्यते ——तत्राष्टकविंशाङ्गलः प्रश्यास्यः। सप्तविंशाङ्गलः साद्वरः। पञ्चवाङ्गलः शमाश्व इति। अन्यत्र यथा। आचार्यं श्रवणमित्रसामान्येऽऽहुस्तः समोभिषितः। अन्यत्र विष्कर्मणा त्रिविंशायपि हुस्यस्य प्रयोक्तं कर्म प्रदर्शितम्। तत्राष्टकवेदाङ्गलेऽत्र हुस्तस्तेन मूलकम्कं। —BS, Vol. II, p. 663.
4. Cf. तथा च पुराणे चतुःहुस्तो घनुः स्मृतः। घनुःतश्च यथा नाली तुल्यायेयतान्तःवाङ्गलेऽरितिः।

—Utpala on XXIV.9.
denote the length (XXXIII.8) and depth (LIII.6ff.). Kautilya knows the puruṣa measure to be of three kinds:—(i) 84 angulas = 1 vyāma or khāta-puruṣa, meant for measuring ropes or moats; (ii) 96 angulas or 4 aratnis = 1 puruṣa; (iii) 108 angulas = 1 puruṣa, for measuring sacrificial altars.1 Utpala takes the puruṣa measure mentioned in XXXIII.8 as equivalent to the first (hasta-trayamāvāraṃ). He further informs us that in LIII.6 ff. it denotes the height of a man with raised arms, i.e. 120 angulas or 7½ (Puruṣa-sabdā—ātr—ordhavadāhuḥ puruṣo jñeyah sa ca viṁśatī = adhikam = angulaśataḥ bhavaḥ—iti sarvatra paribhāṣā).

8. Yojana (XI.3; XXIII.4; XXX.32-33; XXXII.28). According to the Arthaśāstra, 1000 dhanuś (4000 hastas) = 1 gōrūta × 4 = 16000 hastas or 8000 yards = 1 yojana, corresponding to 4.54 English miles. A bigger yojana is named in a verse from Pulīṣa cited by Utpala: 4000 hastas or 2000 yards 1 kroṣa × 8 = 32000 hastas or 16000 yards = 1 yojana, or 9.99 English miles.2

These measures are given in a tabular form below:—

<table>
<thead>
<tr>
<th>Measure</th>
<th>Equivalent in English miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>A smallest particle of dust</td>
<td>1 Paramāṇu</td>
</tr>
<tr>
<td>8 Paramāṇus</td>
<td>1 Rajas</td>
</tr>
<tr>
<td>8 Rajas</td>
<td>1 Vālāgra</td>
</tr>
<tr>
<td>8 Vālāgras</td>
<td>1 Likṣa</td>
</tr>
<tr>
<td>8 Likṣa</td>
<td>1 Yūkā</td>
</tr>
<tr>
<td>8 Yūkā</td>
<td>1 Yava</td>
</tr>
<tr>
<td>8 Yavas</td>
<td>1 Angula = 3/4</td>
</tr>
<tr>
<td>8 Husked barley grains placed breadthwise</td>
<td>1 Karmāṅgula = 9″</td>
</tr>
<tr>
<td>12 Angulas</td>
<td>1 Vitasti = 9″</td>
</tr>
<tr>
<td>24 Angulas</td>
<td>1 Hasta, Śama, Aratni = 11'</td>
</tr>
<tr>
<td>4 or 6 Hastas</td>
<td>1 Daṇḍa = 6' or 9'</td>
</tr>
<tr>
<td>4 Hastas</td>
<td>1 Dhanuṣ = 6'</td>
</tr>
<tr>
<td>3½ or 5 Hastas</td>
<td>1 Puruṣa = 5½' or 7½'</td>
</tr>
<tr>
<td>16000 or 32000 Hastas</td>
<td>1 Yojana = 9.99</td>
</tr>
</tbody>
</table>

2. योजनमण्डी कोल्या: दोषदत्तवारी करसहास्यानि।
VII

COINAGE

As we have seen above, Varāhamihira refers to the coin denominations, kārsāpana and rūpaka, while giving the tariff of prices of precious stones. A glance at the first table laying down the prices of a pearl of different weights would lead us to conclude that kārsāpana and rūpaka are used by Varāhamihira as two different names of one and the same coin. While the prices of pearls weighing from 4 māṣakas to 3¹⁄₂ rattis (kṛṣṇalas) are specified in terms of kārsāpana, those of pearls weighing 3 and 2¹⁄₂ ratis are given in rūpakas. The prices, like the weights of pearls, are clearly in the descending order. The price of a pearl weighing 3¹⁄₂ kṛṣṇalas is stated to be 70 kārsāpanas; this is immediately followed by the statement that a pearl weighing 3 kṛṣṇalas fetches 50 rūpakas by way of its price, indicating thereby that in Varāhamihira’s time rūpaka and kārsāpana were treated as synonyms. This inference finds support from a comparative study of the tables of prices given by Varāhamihira and Buddhhabhaṭṭa also. Thus, if Utpala is to be relied upon, Varāhamihira gives prices of diamonds of different weights in kārsāpanas, while Buddhhabhaṭṭa states the price in terms of rūpaka; and yet the highest figure in the two lists is identical: 200,000 kārsāpanas according to Varāhamihira, and the same amount of rūpakas according to Buddhhabhaṭṭa. Similarly, prices of a pearl of weights varying from 4 māṣakas to 3¹⁄₂ kṛṣṇalas are given in kārsāpanas by Varāhamihira and in rūpakas by Buddhhabhaṭṭa and yet the first five figures in the two lists are the same. This leaves absolutely no doubt about the synonymity of the words rūpaka and kārsāpana.

What are we to understand by rūpakas and kārsāpanas in the present context? According to an unnamed authority cited by Utpala (on LXXIX. 12-13), 20 cowrie shells = 1 kākiṇi; 4 kākiṇis = 1 pana also known as caturtha; 4 caturthakas

1. Supra, pp. 328 ff.
2. Supra, pp. 332-33.
1. purāṇa also called kārṣāpaṇa. Now, according to Manu, a silver coin, 16 rauṣya-māṣakas or 32 rattis in weight, was known as purāṇa. And there is evidence to believe that the enormous numbers of silver punch-marked coins that were struck to the standard of 32 rattis or about 56 grains were actually known by the names kārṣāpaṇa and purāṇa. Later, in the early centuries of the Christian era when the Śaka Kṣatrapas of Western India issued silver coins on the pattern of the hemidrachms of the Indo-Greek rulers, they were also known as kārṣāpaṇa as has been amply demonstrated by Rapson. After the Śakas were defeated by the Gupta emperor Candragupta II Vikramāditya, the latter and his successors struck silver coins of the same weight as those of the Kṣatrapas for circulation in the newly conquered territory. Afterwards, when the usefulness of silver coins was realised, the successors of Candragupta II struck silver coins of the same weight for circulation in the Middle Country (Madhyadeśa) also. These coins were known as rūpakas as we learn from the Bāgram copper-plate inscription of the Gupta year 128 (=A. D. 448) which gives the ratio between the Gupta gold and silver coins as 1 : 16. The silver coins of the Kalacuri king Kṛṣṇarāja (circa 550-575 A.D.), struck on the pattern of the silver currency of the Guptas, also went by the denomination of rūpaka. This would leave the impression that the older denomination of kārṣāpaṇa was completely replaced by rūpaka, and it has been accordingly suggested that the former denomination gave place to the latter. It is indeed

1. Manusmṛti, VIII.136.
2. Rapson, BMG, Andhras, etc., p. clxxxiii f.
4. V. V. Mirashi, Inscriptions of the Kalacuri-Chedi Era, CII, IV, p. clxxxi.
5. The silver coins of Kṛṣṇarāja were known as Kṛṣṇarāja-rūpakas See ibid, p. 151, lines 38-9.
a fact that the word kārṣāpaṇa in the sense of a silver coin is of rare occurrence in later inscriptions. But the Bṛhat-samhitā evidence leaves no doubt whatsoever that the word kārṣāpaṇa continued to be used for silver coins even in the post-Gupta period. The currency of the word in this sense as late as the 9th century A. D. seems to be indicated by Utpala's commentary.

We have no means to determine the silver currency that Varāhamihira had in view while referring to rūpakas and kārṣaṇaṇas. Most probably he had before him late Gupta silver coins. But there is another possibility also. Varāhamihira was a resident of Avanti, and, according to a statement of Āmarāja, he died in Saka 509 (A. D. 587 – ). After the first quarter of the sixth century A. D. the Avanti region including Ujjayinī had come under the possession of the Early Kalacuris of Māhiṣmati. Of them at least one, Krṣṇarāja, who seems to have flourished in the third quarter of the sixth century, is known to have issued silver coins which came to be known after his own name as Krṣṇarāja-rūpakas. It is not impossible, therefore, that Varāhamihira had the silver coins of the Kalacuris in view.

The great popularity of the silver coins in Western India is evident from the fact that in the tabulation of the prices of diamonds Varāhamihira refers to them (i. e. silver coins) merely by mentioning figures, the coin denomination being left unnamed as it was commonly known to the people. It was a common practice in ancient India to refer to the most common denomination merely by citing amounts, the knowledgability of the denomination being taken for granted. Thus, Pāṇini refers to articles purchased with 100, 1000, 1500 and 2000 without specifying the name of the coins. In all these cases silver kārṣāpaṇa is meant as being the standard coin of his time. Similar references are found in the Jātakas, Kauṭilya's Arthaśāstra and Patañjali's Mahābhāṣya.

1. BJ, XXVIII.9.
3. CIH, p. 151, lines 38-9.
4. JNSI, XV, p. 32.
Incidentally, it may be pointed out that the Brhat-sanhitā contains the earliest datable literary reference to the rūpaka.¹

¹. As we have seen above, the Ratna-parikṣā of Buddhhabhaṭṭa, which appears to have been composed about the same time as the Brhat-samhita, also contains reference to rūpakas.

The word kṛṣṇala occurring in LXXX. 11 is sometimes supposed to refer to the coin of that name (JNSI, XIX, p. 116). But in the verse under consideration it is used as a synonym of guṇḍa and denotes a weight. The relevant portion of the verse (त्वारः कृष्णालं नविमूल्यं:) actually means that a pearl, 4 kṛṣṇalas in weight, is priced at 90 kāśiṭapānas.
CHAPTER VI

ASTROLOGY IN EVERY-DAY LIFE

As the Brhat-saṁhitā is a treatise on natural astrology, a work like ours analysing its contents will remain incomplete without a notice of astrological beliefs current in those days. At the same time, it is neither necessary nor possible to record them in full, for that will mean the reproduction of the whole of the Brhat-saṁhitā which is not the object of the present work. Hence we shall indicate them only briefly.

The history of astrological beliefs in India goes back to a hoary antiquity. The Vedic civilization exhibits belief in the sākunas, prognostications and omens. In the Chāndogya- Upa-niṣad (VII.1.2, 4), daiva and naksatra-vidyā, meaning the knowledge of the utpātas or natural disturbances and āyautiṣa respectively, are included in the list of the sciences studied by Nārada. Pāṇini refers to the belief in divination from bodily signs and to fortune-telling by soothsayers, while the inclusion in the Ṛgayanādīgana of utpāta, saṁvatsara, mūhūrtā and nimitta as subjects of study indicates the study of astronomy and omens in his days.

SAṀVATSARA. The office of the astrologer variously called saṁvatsara,3 saṁvatsarika,4 saṁvatsarpāthin,5 daivajña,6 daivavid,7 and daivacintaka8 was a sine qua non of the state in ancient India. As may be naturally expected, Varāhamihira is the strongest advocate of the astrologer’s cause and devotes one full chapter (Saṁvatsara-sūtrādhyāya, Ch. II) to the description of the qualifications and importance of the saṁvatsara for the state and society. He advises the king to respect and

2. III.2.53; I.4.39; IV.3.73. Cf. V. S. Agrawala, India as Known to Pāṇini, pp. 336-7.
3. II. p. 19; II.8, 9, 10.
4. II.11.
5. II.12.
6. II. p. 84; II.16
7. II.15, 22.
8. II. p. 73; II. 12, 20.
secure the services of a learned sāṃvatsara,\(^1\) who was to appoint four other astrologers to assist him.\(^2\) He observes that a king who does not honour a learned astrologer is destined to destruction and that neither a thousand elephants nor four times that number of horses are able to accomplish so much as a single astrologer who knows well time and clime and likens a king without a sāṃvatsara to the night without a lamp, to the firmament without the sun and to a blind man mistaking his path.\(^3\) He further states that neither parents nor relations and friends are so solicitous of the welfare of the monarch and his retinue as a reliable astrologer seeking fame and exhorts one desirous of prosperity not to live in a country where there is no sāṃvatsarika.\(^4\) The Gautama-dharmasūtra (XI.15-16), the Viṣṇudharmasūtra (III.75), the Yājñavalkya-smṛti (I.307, 333; III. 171-2), the Viṣṇudharmottara (II.4.5-16) and the Kāmandakiya Nitisāra (IV.33) also plead for a king’s dependence on the astrologer.\(^4\) Even Kauṭilya, who is against too much reliance on astrology, mentions kārtāntika, naimittika and mauḥūrtika in the list of royal officers of the sixth category drawing an annual allowance of 1000 panas.\(^5\) It must be remembered, however, that as an unorthodox science the practice of astrology is unequivocally condemned by early Buddhist, Jaina and Brāhmaṇical writers. Thus the Brahmajālasutta\(^6\) includes nimitta, uppādo (utpāta) and angavijjā in the list of condemned sciences. The Jātakas frequently refer to the Brāhmaṇas taking to the profession of foretelling the future by observing the movements of the limbs (aṅga vijjā-pāṭhakas) and auspicious marks on the body (lakkhaṇa-pāṭhakas) and reading dreams (suṇa-pāṭhakas), the diviners (nemittikas) and the nakkhatra-jānanakas and accuse them of resorting to fraudulent practices.\(^7\) The Jaina works like the Thānāṅga-, Samavāyāṅga-and the Uttardhyayana-sūtra, too, include them in the category of sinful sciences and prohibit the Jaina monks to practise them.\(^8\) Manu (VI.50) also enjoins that a

1. II. 10, 19.
2. II. p. 74.
3. II.6, 20, 8.
4. II.22, 11.
4a. Cf. Mahābhārata, II.5.42
5. Arthaśāstra, IX.4; V. 3.
7. Mehta. Pre-Buddhist India, p. 327.
8. Angavijjā, Introduction by Dr. Moti Chandra, p. 35.
Brāhmaṇa should in no case try to procure alms by practising the art of utoṭa, nīmitta, nakṣatra and aṅgavidyā. But this series of strong condemnations only tends to show that these arts enjoyed great popularity with the common folk. And with the increasing belief in the impact of astrological factors on worldly life the attitude of Brāhmaṇical writers underwent a change which is reflected in their advocacy of the king’s reliance on the astrologer, as shown above.

Varāhamihira places a very high ideal before the sāṅvat-sara. The latter was not only required to be well-versed in the three branches of jyotīṣa, viz., mathematics, horoscopy and natural astrology, and to possess necessary intellectual attainments, but was also expected to be physically good-looking, for it was believed that the physical form is an index to one’s merits and defects. The various subjects he was required to study will be mentioned in Chapter VIII. One desirous to be a real sāṅvat-sara was expected to have a sagacious bent of mind. Thus, ‘it is possible for a man trying to cross the ocean to reach the other shore by the force of the wind, but an unsaintly man cannot reach even mentally the end of the great ocean called Kāla-puruṣa, that is, astrology.’ But, as usual, there were astrologers who made forecasts by taking recourse to such objectionable practices as sorcery, possession by deities, and hearsay, who professed to be diviners without studying the science properly (II.16), and who made predi-

1. Also cf. Manu, III.162.
4. Kruṭakavēṣāpinīṭi: kṛṇaṁ prabhūtīhāturmi: ।
   kṛtaṅdevo n sarvān prastuvav i n s devarītv ।

Cf. Utpala—kruṭakaṇeṇāvālēn prāasanādikēn āvāsēn devatāvātdeva-
   āvāsēn pihita: pranajnātājñā्यारी: । kruṭacitāpīhīri bhāyanādi-
   kasmānātāvātājñāṇaḥ prāśānaḥ avāsāh smārāye ।
   एत: कुङ्कावेङ्खणिन्हि: ।
   tē sa kṛṇaprabhūtā kātiṁcitraśvānāṃ upa: kṛṇaṁ yevānt kātyānt
   lōke kṛṇapīṭācchākṛti prāśānaḥ avāsāḥ prāśānaḥ
   yononekapētā: śīta-
   stamāya ātma video ṣirṣu vīśvaḥ teṣāṁ kṛṇaṁ
   pārśahr kṛṣṇaṁkāmētāḥ śeṣaḥ vṛṣṭeadvārānām
tasya bhavata ite āvātāvāmāhā
dhētu nānāsamvaḥ būḍvaḥ ।
ctions only for the sake of material gain (II.18). Varāhamihira brands such people as naksatra-dūṣakas (II.16) and condemns them in unequivocal terms (cf. II.1, 2, 17).

Our author mentions a very wide range of astrological beliefs current in his time. He does not merely record superstitions relating to the sun, the moon, planets, constellations and zodiacal signs but also dilates upon the interpretation of the movements of the limbs and bodily marks, the signs of the great men, the śākunās and the like. Let us now proceed to notice them in brief.

**SUN.** While the natural course of the sun was taken to foreshadow good results, its unnatural course was supposed to be calamitous. It was believed that the sun retraceing its motion without reaching the rāśis Makara (in the northern course) and Karkaṭaka (in the southern course) forebodes destruction to the south and west and to the north and east respectively (III.4). On the other hand, the sun returning after crossing these two rāśis was believed to promote welfare and prosperity of crops (III.5). It was believed that even on non-eclipse days¹ a planet called Tvāṣṭr may darken the solar disc which results in the destruction of seven kings and their subjects by weapons, fire and famine (III.6).² Thirty-two comets (ketus) known as Tāmasakīlakas and regarded as the sons of Rāhu when seen in the sun’s disc were believed to be followed by evil results like famine, thefts, foreign invasion, king’s death, deposition and replacement and the outbreak of various diseases which were predicted by observing the colour, position and shape of the comets (III.7-20). Various auspicious and inauspicious results were also supposed to accrue from the colour and form of the sun, from the rainbow, halo and the clouds surrounding it, and from the position of the mock sun and the meteors, thunderbolt and lightning striking the sun (III.21-39).

**MOON.** The moon passing by the south of the constellations Jyeṣṭhā, Mūla, the two Āśādhās, Viśakhā and Anurādhā was considered to be inauspicious and believed to cause fear from fire and the destruction of seeds, aquatic beings and forests,

¹. I. e., the days other than the 8th and 14th of each fortnight of a lunar month and the full and new moon days.
while that passing through the middle of Viśākhā and Maghā was regarded as auspicious (IV.5-6). The ten unusual appearances of the moon called Nausānsthāna, Lāṅgala, Duṣṭalāṅgala, Sama, Daṇḍa, Kārmuka, Yuga, Pārśvaśāyin, Āvarjita and Kuṇḍa and the good and evil results accruing from them are described in IV.8-15. The various shapes, sizes and colours of the moon were also taken to have their own effects (IV.16-20, 29-32). The moon’s orb being broken by various planets including a comet was believed to forebode evil (IV.21-27). It was believed that if the moon, when eclipsed, is cut by a meteor, it foreshadows death of the king born in the star where the moon is posited for the time being (IV.28).

**ECLIPSE.** Though the fact that the lunar and solar eclipses are caused by the moon entering the shadow of the earth and the disc of the sun respectively was known (V. 8. Also cf. V.4-7, 9-13), it was popularly believed that they are caused by the demon Rāhu, the son of Siṃhikā, a wife of the sage Kaśyapa. His head, even though chopped off by Viṣṇu, was, according to popular belief, not deprived of life as a result of the potency of the amṛta he had tasted, and became a planet (V.1). It was believed that his disc, though similar to that of the moon and the sun, is not visible in the firmament on non-eclipse days owing to a boon of Brahmā (V.2). Some held that only the head and tail of Rāhu can be seen; others thought that he has a serpentine form; still others opined that he is formless and of the nature of pure darkness (V.3). That Rāhu is really the ascending node of the moon is clearly stated in V.15. It was a current belief that an eclipse can be ascertained beforehand by symptoms in the form of portents (ūtpātas), that an eclipse cannot occur when five planets combine, and that the direction of the

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1. The story under reference may be briefly summarised as follows:—

Being angry at the untimely request of Siṃhikā for a son, Kaśyapa gave her a dreadful son who came to be known as Rāhu. Immediately after his birth, he fought a battle in which he was defeated by Aditi’s sons. Enraged at this, he performed severe penance and secured from Brahmā a boon conferring on him the status of a planet, immortality, victory over the gods and the power to devour the sun and the moon. But Viṣṇu chopped off his head by his discus and said, ‘Let Brahmā’s words be true; in your own period you may eclipse the two luminaries and thus indicate good and bad things for the world.’ Cf. Parāśara cited by Utpala on V. 2.
beginning and the end of an eclipse can be guessed by observing the direction of the spread or otherwise of a drop of oil poured on the surface of water on the preceding eighth lunar day. Varāhamihira refutes all these notions (V.16-17, 18. Cf. Parāśara, Garga and Vṛddha Garga, cited by Utpala). Similarly, the possibility of an eclipse taking place shortly prior to or after the calculated time and its calamitous effects was conceded by earlier writers but is ridiculed by our author (V. 24-25). The six-month periods since the creation and the eclipses occurring therein were believed to be presided over by Brahmā, the moon, Indra, Kubera, Varuṇa, Agni and Yama in a descending order. An eclipse taking place in one or other of these periods was believed to forebode various results, good or bad (V.19-23). The belief that both solar and lunar eclipses taking place in one and the same month foreshadow destruction of kings through open rebellion in their army and bloodshed (V.26) is also found in the Mahābhārata. In the Bhīṣmaparvan (3.32-3) both solar and lunar eclipses are said to have taken place shortly prior to the Bhārata war. Similarly, Rāhu eclipsing both the sun and the moon simultaneously is mentioned in the context of the battle between Arjuna and the Saindhavas (Aṣvamedhikaparvan, 77.15. Also cf. Udyogaparvan, 143.11). The occurrence of dust storm, heavy dew, earthquake, meteorors, variegated clouds, thunder and similar other portents within a week of the termination of an eclipse was taken to be inauspicious, while clear rain was taken to foreshadow prosperity to crops (V.92-6). Similarly, while a solar eclipse occurring after a fortnight of the termination of a lunar eclipse was believed to forebode ill, its vice versa was regarded as auspicious (V.97-8).

_**MARS, MERCURY, JUPITER, VENUS, SATURN.** Similar_

1. The effects of an eclipse, which differed from country to country and community to community, were believed to depend on such factors as the sun and the moon rising or setting being eclipsed (V.27), an eclipse taking place or ending in different parts of the day (V.28-31), different directions or ayanas (V.32-4), the various zodiacal signs occupied by the two luminaries at the time of an eclipse (V.35-42), the month in which an eclipse takes place (V.69-80), the form (for different names see V.43-52) and colour (V.53-9) of the eclipse, and the different planets aspecting the sun and the moon when eclipsed (V.60-62). For other details, see V. 63, 81-91. Similar effects were expected from the eclipse of other planets (V.64-8).
results were also attributed to the motion of the five planets, Mars\(^1\), Mercury\(^2\), Jupiter\(^3\), Venus\(^4\) and Saturn. It was believed that the towns besieged when Mercury is eclipsed are freed when it emerges from the sun. Others believed that an invading army gets possession of a town when Mercury is seen in the west (VII.19). While Jupiter passing through two or two and a half constellations in a year was supposed to yield good or mixed results, that going through more than this number of stars was believed to destroy the crops (VIII.16). Venus seen before sunset or for the entire duration of the day was supposed to cause fear, famine and diseases, while its sight at mid-day in conjunction with the moon was believed to inspire dissension in the king’s army and the town (IX.23). Saturn, in whichever nakṣatra it might stay, was believed to bring about calamity to different countries, peoples, professions and communities (X.1-18). The presence at a time of Jupiter in Viśākhā and of Saturn in Kṛttikā, or of both in one and the same constellation was also taken to be calamitous (X.19).

**KETUS.** The *ketu* or comet is defined as the semblance of fire when there is really no fire except in glow-worms, Piśācas, jewels, etc., which have a fire-like appearance (XI.3). That the time of the appearance and setting of a *ketu* cannot be mathematically calculated and that there are three kinds of *ketu*, i.e., celestial, atmospheric and terrestrial, is stated in XI.2. According to different authorities, *ketus* number 101 or 1000. Nārada held that there is only one *ketu* which assumes manifold forms (XI.5).\(^5\) The atmospheric comets are those that are seen on flagstaffs, weapons, houses, horses, elephants and the like; those seen in planets are celestial, and those other than these two are terrestrial (XI.4). The good or bad effects of a *ketu* were determined through its rising and setting, position (the part of the firmament where a *ketu* appears vis-à-vis planets and stars), its contact with planets and stars, smoky

1. For the different names of Mars beginning its retrograde motion in different planets, see VI.1-5.
2. For various names of Mercury’s course through different stars, vide VII.8-13; for different kinds of its motion, see VII.15-16.
3. For various results attributed to the years of Jupiter’s cycle, vide VIII.1-14, 20-52.
4. For the nine *vithis* and six cycles of Venus, vide IX.19, 10-22.
5. For the enumeration of 1000 *ketus*, see XI.10-28.
matter and colour (XI.6). It was believed that the effects of a ketu last for as many months or years as the number of days or months during which it is visible, the effects commencing three weeks after its appearance (XI.7). A ketu that is short, slender, clear, glossy, straight, white, appearing for a short time and is followed by rain was regarded as auspicious, while the one with a form quite reverse of the above was called Dhūmaketu and considered to be inauspicious, especially when it resembles the rainbow or has 2 or 3 crests (XI. 8-9). Similarly, the ketus called Asthiketu (XI.30), Kapālaketu (XI.31), Raudra (XI.32), Calaketu (XI.33-36), Śvetaketu (XI.39), Raśmikutu (XI.40) and Samvarta (XI.51-2) were believed to yield bad results; those called Kumuda (XI.43), Manikutu (XI.44-5), Jalaketu (XI.46); Padmaketu (XI.49) and Āvarta (XI.50) were believed to forebode prosperity; and those known as Vasāketu (XI.29), Ka (XI.37-8), Dhruvaketu (XI.41-2) and Bhavaketu (XI.47-8) were supposed to have mixed effects. The inauspicious ketus dimming or touching various stars were supposed to destroy the kings of different countries (XI.53-60). A ketu with its crest hit by a meteor or the one visible right from its rising was considered generally auspicious but unfavourable to the Colas, Avagānas, white Huns and Činas (XI.61). It was believed that a king, invading the countries belonging to an asterism hit by a ketu or those situated in the direction where ketu’s crest is bent or towards which it is projecting, is sure to obtain victory (XI.62).

CANOPUS. Canopus (Agastya), if rough, russet, smoky, throbbing, madder-coloured or tiny and being struck by a meteor or a comet, was believed to cause drought, fear, famine, wars, siege of the town, pestilence, etc. (XII.21,19), while that which shines like gold or silver was supposed to yield contrary results (XI.20).

According to popular belief, various commodities, castes, professions, peoples and other living beings were assigned to one or the other star of the Great Bear (Saptarṣis, XIII), constellation (Ch. XV), planet (Ch. XVI) and zodiacal sign (Ch. XL) on which depended their prosperity or scarcity.¹ As we have seen

¹. For the assignment of countries and peoples to nakṣatra-triads, see supra, Ch. II, Section. 1.
above, the growth of crops and the fluctuation of prices were also believed to depend on astrological factors.¹

The abundance of fruits and flowers in trees was believed to indicate the availability in abundance of various commodities as also the thriving of certain crops (Ch. XXIX). Thus the prospects of kalama rice were to be determined from the luxuriance of flowers and fruits in the sāla tree; raktaśāli from red aśoka, so on and so forth.

Various results, good and bad, were also attributed to planetary conflicts, the moon’s conjunction with different planets, the years presided over by different planets and planetary triangles (Chs. XVII-XX).

SANDHYĀ. The interval between the half-setting of the sun and the time of the appearance of indistinct stars and that between the indistinct appearance of the stars and the half-rising of the sun was called sandhyā (the juncture). Its effects, good and bad, were ascertained from the movements of wild animals and birds, wind, halo round the sun and the moon, mock sun or moon, parigha (cross bar of clouds on the solar disc), tree-shaped clouds, rainbow Gandharva-nagara (appearance of a town in the sky), sun’s rays, danda² and dust (XXX.1-2). Thus a wild animal dreadfully crying aloud repeatedly during a sandhyā was taken to indicate the destruction of a village, while the same facing the sun, standing to the south of an army and crying aloud, foreboded annihilation of the army (XXX.3). A flock of wild beasts facing the sun or wind to the left of an army foretold war, while that not facing the sun and standing to the right of an army foreboded a meeting of the two armies for peace or truce (XXX.4). The birds and beasts crying with their faces turned to the sun at dawn were supposed to indicate the destruction of the country, while the same standing to the south of a town indicated its capture by enemies (XXX.5). The danda seen in the intermediate and cardinal directions was regarded as unfavourable to kings and the four varṇas respectively (XXX.16); that seen at the dawn, noon and twilight fore-shadowed war and other disturbances (XXX.17). The sudden disappearance of a tree-shaped cloud moving behind a march-

¹. Supra, Ch. V, Section 4.
². The collection of the sun-beams, clouds and wind assuming the form of a staff was called danda (XXX.16).
ing monarch foretold his death, while the same in the shape of a small tree indicated the death of the yuvarāja and the minister (XXX.19).

The conflagration of quarters (digdāha), earthquake, meteor (ulkā), halo (pariveṣa) round the luminaries, rainbow (Indradhanuṣ), Gandharva-nagara, mock sun (pratisūrya) and hurricane (nirghāta) were also believed to affect the worldly life in various ways (Chs. 31-38). Digdāha is a lurid red glow spreading in the sky. A yellow conflagration portended disaster to the king; that having the glow of fire brought ruin to the country (XXXI.1); that which owing to great brilliance creates illumination and reveals shadow like the sun indicated great danger to the king and that having the glow of blood foretold war (XXXI.1). Śriharṣa in his Naiṣadhiyacarita (XII.29) mentions digdāha as calamitous to kings.

**EARTHQUAKE.** The following beliefs about the cause of an earthquake were current: 1. It is caused by the movement of the huge aquatic animals living in the ocean; 2. it is due to the rest (breath) of the elephants of the quarters tired by the weight of the earth; 3. it is occasioned by an atmospheric wind colliding with another and falling on the earth with sound; 4. it is the result of adṛṣṭa (dharma and adharma, i.e., to indicate good and bad results to the people engaged in meritorious and sinful deeds respectively); and 5. in the 1st, 2nd, 3rd and 4th parts of the day and night the earth is shaken by the Wind, Fire, Indra and Varuṇa respectively in order to reveal good and bad effects (XXXII.1-7; for the enumeration of various effects, cf. XXXII.8-27). A second quake taking place on the 3rd, 4th or 7th day, at the end of one month, or one or three fortnights after the previous quake was taken to be fatal to prominent rulers (XXXII.9)).

The ulkās or meteors were believed to be the forms of the people falling down after enjoying heavenly pleasures (XXXIII.1). It is said that the rays of the sun and the moon formed into a circle by the wind and reflected in the sky with slender clouds become haloes or pariveṣas with various colours and forms (XXXIV.1). These were taken to be caused

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1. See also XXX.23, 25, 27-9, 30. For the time of these effects, see XXX.31.
2. See also XXXI.3-5.
by various deities (XXXIV.2-3). The variegated rays of the sun thrown back by the wind in a cloudy sky and assuming the form of a bow are called Indra’s bow, i.e., rainbow (XXXV.1). When a wind struck by another dashes against the earth from the sky with a booming sound, it is called nirghāta or portentous thunder (XXXVIII.1).

**UTPĀTAS.** Anything contrary to a natural phenomenon is termed utpāta (XLV.1). It was believed that the misdeeds of men result in the accumulation of sins leading to natural disturbances, which are foreshadowed by the three kinds of portents, celestial, atmospheric and terrestrial (XLV.2). These utpātas were supposed to be caused by the gods displeased with the wrongful deeds of men, and it was considered to be the duty of a king to perform sāntis to avert their evil consequences (XLV.3). The unnatural behaviour on the part of planets, constellations, meteors, thunder, wind and haloes constitutes celestial portents; Gandharva-nagara, rainbow and the like atmospheric portents; and the moving objects becoming stationary and *vice versa* form the terrestrial portents. The terrestrial portents, it was believed, can be warded off and the atmospheric ones mitigated by sāntis. Some thought that the evil outcome of the celestial portents cannot be averted by any means, while others held that even this can be warded off by certain rites (XLV.4-6). It is not possible to enumerate here all the utpātas and their consequences mentioned by our author. A brief reference to some of them, it is hoped, will suffice for our purpose. The breaking, moving, sweating, shedding tears, falling, speaking and the like of a liṅga, an image or a temple were taken to be fatal to the king and the country. The falling, breaking, twisting and entanglement of the axle, wheel, yoke and flag of a cart during the procession of a god (daivata-yāirā) were also regarded as calamitous to the king and the country (XLV.8-9, 10-17). The presence of flames without fire and *vice versa* were taken to forebode ill to the king and his kingdom (18). The burning of water, flesh and wet objects was taken to foretell the king’s death (19). The burning without fire or by lightning of a temple, house, arches, flags and the like is said to indicate

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1. Cf. Aṅgavijjā, Ch. 53.
foreign invasion after six months (20). The burning, moving, sounding, rushing out of the sheath, trembling or any other unnatural phenomenon of weapons foretold dreadful war (19, 23). The presence of smoke without fire, dust and darkness during the day, the disappearance of stars in cloudless night and their appearance during the day were also regarded as inauspicious (21). A good tree bearing flowers and fruits without season and the presence of smoke and flame on it were considered fatal to the king (29). The branches of a tree breaking down without any cause, its laughing or weeping (25), trees yielding flowers out of season, the flowing therefrom of milk, wine, blood, honey, oil or water (26-27) and the like were also believed to forebode various evil effects (28, 30-32). An overluxuriant growth of crops and numerous varieties of fruits and flowers on one and the same tree (34); the sesame seeds yielding half the usual quantity of oil or no oil at all; food losing its taste (35), drought, excessive rain, rain out of season (38); cold in summer and heat in winter, and the seasons not functioning properly (39); the rain of blood, flesh, bones, marrow, corn, gold, tree-barks, fruits, flowers, burning charcoal, dust, stones (without clouds), unnatural animals, milk, clarified butter, honey, curds and hot water (40-3); trees, etc., casting no shadow even when the sun shines brightly, or casting shadow in the same direction as the sun (43); the appearance of rainbow in cloudless sky (44); the rivers changing their courses, the drying up of undrying streams; the rivers carrying oil, blood and flesh and flowing upwards (46-47); the wells producing flames, smoke, foam, weeping sound, shouting, singing and talking (48); water springing up from the earth without digging and a change in its taste and smell (49); women giving birth to monstrieties or two, three, four or more children at a time and delivering long prior or posterior to the usual period; mares, she-camels, she-buffaloes, cows and she-elephants giving birth to twins (51-2); the quadrupeds mating with animals of different species, cows cohabiting with cows and oxen with oxen; a dog suckling a cow (55); a carriage moving without the yoked animal and vice versa (59); the sounds of songs and musical instruments heard in the sky; moving objects becoming stationary and vice versa; musical instruments producing unnatural sounds (60), or producing sound without being beaten and vice versa, or pro-
ducting multifarious sounds (61); the ox and plough getting entangled; household utensils producing peculiar sounds (62); village-birds roaming in the forest and vice versa; nocturnal birds flying during day and vice versa; birds or beasts forming circles at the dawn and twilight, or howling in groups facing the sun; hawks weeping and jackals crying facing the sun; a pigeon or owl entering a palace; cocks crying in the evening; cuckoos warbling at the commencement of the dewy season; vultures, etc. flying in a circle from right to left in the sky; groups of birds sitting on houses, caityas, arches and gates; bee-hives, ant-hills and lotus growing in houses, etc.; dogs entering houses with bones and other limbs of a corpse; animals and weapons talking like human beings (65-70) and similar other unnatural phenomena were believed to bring about calamities to the king, his country and subjects.¹

АНГАВИДЬЯ. Ангавидья or the science of prognostication through the movements of bodily limbs is, as we have seen above, a very ancient science. It is mentioned in early Buddhist, Brāhmaṇical and Jaina works. A detailed treatment of this science is to be found in Puvvāyariya’s Prakrit work Ангавийя-пайныам, assignable to about the fourth century A.D. The popularity of this science in Varāhamihira’s time is evident from his statement that one well-versed in it is always respected by kings and people (L.44). In prognosticating good or bad results, the prognosticators took note of the direction and the place of the query, the utterances of the questioner, any article brought at the time of the query and the movements of the limbs of the questioner and of others present there (L.1). Proper care was taken to select an auspicious direction, spot and time for the query. A garden or forest abounding in flowers, fruits, shade-giving trees, hermitages of saints, Brāhmaṇas and ponds of clean water was considered to be the most suitable spot for this purpose (L.2; for an unsuitable place see L.3-5). The east, north and north-east were considered favourable for a query, while the north-west, west, south, south-east and south-west were regarded as unfavourable. The forenoon is the best, while the dawn, night and afternoon were thought to be inauspicious

¹. Also see XLV 73-80. For enumeration of natural phenomena not regarded as утпalia, see XLV.81 ff.
(L.6). For the purpose of prognostication the limbs were divided into masculine, feminine and neuter genders (L.8-10). The object of the querist’s thought or the nature of the query was ascertained by observing the movements of his limbs, the articles and persons present there, the articles seen, held or touched by the questioner and the way he puts his question (L.11-24). In questions relating to thefts, the thieves and whether the stolen objects would be recovered or not were also found out from the bodily movements of the questioner (L.25-28). The nature of the food taken by the querist was determined from his behaviour (L.29-35). In a query concerning pregnancy, the sex, the number of children, the time and the naksatra of the birth, abortion and the like were determined from the behaviour of a pregnant woman (L.36-43). Various effects—good and bad—were also believed to accrue from the position of the pimples (pijaka), ulcers (vraṇa), tilakas, moles (maṣaka), auspicious marks (lakṣana) and hairy circles (āvarta) on the different parts of the body.

**SIGNS OF MEN AND WOMEN.** From very ancient times, Indians believed in the efficacy of bodily marks. A special class of the interpreters of bodily signs called sāmudravid and lakṣanajñā (LXVII.89) had come into existence. They are the same as the lakkhana-pāṭhakas of the Buddhist literature. They were highly respected in society (LXVIII.40). They declared one’s past as well as future by carefully observing one’s height, weight, gait, compactness, vital substances (sāra), colour, glossiness, voice, nature, courage, previous birth, parts of the body and shadow (LXVII.1).

1. Utpala regards Chap. 50 on Āṅgavidyā as spurious:—Aṭaḥ param kecid-āṅgavidyān paṭhanti; but as āṅgavidyā is included by Varāhamihira himself in the contents of a Saṁhitā (Ch. II, p. 73), there is nothing to support Utpala’s view.

2. Like the previous chapter, even Ch. 51 on Piṭaka-lakṣana is declared by Utpala to be spurious: Aṭaḥ param-āpi kecit-piṭaka-lakṣāpanāḥ paṭhanti, tad=āpy=asmābhīr=cyākhāyate: but Varāhamihira mentions it as one of the topics dealt with in a Saṁhitā (Ch. II, p. 73).

3. LXVII.1. Samudra seems to have been a standard treatise on this subject. Utpala:—Samudre proktam puruṣa-lakṣāpanāṁ samudram tad=vesti jānāt-īti sāmudravit.

4. Cf. Āṅgavijjā, Ch. 37.
devotes two long chapters to the signs of men (LXVII) and women (LXIX) in general and one to those of the five special types of men and their attendants (LXVIII). We shall indicate here only a few general lines without going into details. It was believed that the mark of a barley-corn in the middle of a man’s thumb indicates his richness and that at the bottom of the thumb, sons (LXVII.42). Broad and slender lines at the root of the thumb indicated sons and daughters. The three lines starting from the wrist and touching the forefingers were taken to ensure 100 years’ life, while the shorter lines indicated proportionate reduction in age. The lines cut in the middle foretold fall from a tree (LXVII.49-50). According to popular belief, the same three lines reaching the palm make one a king; one whose palm is marked with a pair of fish performs sacrifices; those with diamond-shaped lines become rich; with fish-tail figures, scholars; with lines resembling conch-shell, umbrella, palarquin, elephant, horse and lotus, kings; with the figures of a pitcher, lotus-stalk, flag and goad, rich keeping their treasure-troves underground; with those resembling a rope or svastika figure, wealthy; with lines resembling a wheel, sword, axe, tomara, sakti, bow and spear, army-chiefs; with those like a mortar, sacrificers; those with the figures of a crocodile, flag and store room, very wealthy; those with an altar-like figure at Brahmatirtha become performers of agnihotra; and those with triangular lines and with the figure of a quadrangular well (vāpi) and temple, perform meritorious acts (LXVII.44-49). In the case of women, a line rising from the root of the little finger and reaching the space between the fore and middle fingers indicated the maximum span of life (paramāyus, i.e., 120 years) and shorter lines, proportionate reduction (LXIX.13). The lines at the root of the thumb, as those of men, were taken to stand for progeny, broad ones for sons and slender ones for daughters; the lines not broken in the middle indicated long

1. For other beliefs about lines, see LXVII.44-9.
2. LXVV.48. The root of the thumb is called Brahmatirtha. Utpala explains it by ‘maṇi-baṇḍhanaya-opari Brahmatirtham=aṅguṣṭhamūle’. Cf. Vīṣṇudharmāṣṭrā LXII.1-4; Vasistha-dharmāṣṭrā, III.64-8; Baudhāyana-dharmāṣṭrā, I.5.14-8; Yājñavalkya-smrti, I.19. For a detailed account of the various parts of the palm called tirtha, see HDS, II, i, pp. 316, 652-3.
3. LXVII.49. Utpala explains vāpi by ‘vāpi prāsiddhā catus=avrā puṣkarīṇi.’
life for the children and those broken in the middle stood for their short life (LXIX.14). The line on the palm of a woman starting from the wrist and reaching the middle finger or the one running from the heel to the foot of the toes of a man is said to lead them to royalty (LXIX.12). Most of these beliefs are still current. The popular belief that men with feline eyes are sinners and those with round and crooked ones resembling those of a deer, thieves, is also recorded (LXVII.64-5).

The marks of a bhrūgāra, seat, horse, elephant, chariot, bilva tree, sacrificial post, arrow, garland, earring, chowrie, goad, barley-corn, mountain, flag, fish, svastika, altar, fan, parasol and lotus on the soles or palms of women indicate the status of a queen for them (LXIX.10). Similarly, in the case of a man, deep navel, voice and courage; broad breast, forehead and mouth; raised chest, armpits, nails, nose, mouth and the nape of the neck; short genital organ, back, neck and shanks; red eye-corners, feet, hands, palate, lower lip, tongue and nails; thin teeth, fingers, finger-joints, hair, skin and nails; and long jaws, eyes, arms, nose and the space between the paps were believed to stand for kingship (LXVII.84-8).

FIVE GREAT MEN. Varāhamihira, in chapter 68 of his Brhat-samhitā, describes the signs of the Five Great Men (pañca puruṣāḥ praśastāḥ). It was believed that the Five Great Men called Haṁsa, Saśa, Rucaka, Bhadra and Mālavya respectively are born when Jupiter, Saturn, Mars, Mercury and Venus are strong, posited in their own or exaltation signs and in the lagna, 4th, 7th and 10th houses.² We are told that a man’s full strength (sattva) is derived from the sun and physical beauty and mental strength from the moon; that his characteristics depend not only upon the planets with which the two luminaries are conjoined but also upon the rāśis and their various divisions occupied by them; that upon the particular division of a rāsi occupied by the sun and the moon when

1. For other beliefs regarding eyes, see LXVII.64-7.
2. ताराप्रद्वेक्षितेऽरुप्याः स्वभूवश्रेष्ठमेवेच्चरुप्यायं।
रक्षत्सतां जावते तानहि विभे।
वेशवेश स्वर्गपति हस्न: सारेन वश: क्रुष्णेन स्वर्गवच।
भद्रो बुधाय वैलिना मालव्यी देशपूज्येन।


LXVIII.1-2.
strong also depend a man's bodily substances (dhātu), the five elements (mahābhūta), the predominance of one or the other humour of the body (prakṛti), lustre (dyuti), colour (varṇa), the preponderance of one of the three guṇas, viz., sattva, rajas tamas, form and the like; that when these divisions of signs are occupied by the weak sun and the moon, persons of mixed characteristics are born; that good or bad courage (sattva), weight and growth (gurutā), voice, glossiness (sneha) and colour depend upon the excellence or defect of Mars, Mercury, Jupiter, Venus and Saturn respectively; and that persons with mixed characteristics cannot be kings (LXVIII.3-6).

MĀLAVYA. The Mālavya, we are told, has a nose resembling that of an elephant (i.e. long nose), hands touching the knees, limbs and joints full and fleshy, even and handsome body, slender waist, face 13 āṅgulas in height, the earlobes 10 āṅgulās apart from the chin, shining eyes, beautiful cheeks, equal and white teeth and the lower lip not too fleshy. As his name indicates, he is described as the prospective ruler of the Mālavas, Bharukaccha, Lāṭa, Sindhu and the Pāriyātra mountain; his age is fixed at 70 years (LXVIII.10-12).

BHADRĀ. Bhadra is said to have fleshy, even and long arms, cheeks covered with soft, short and dense hair, fine skin, strong semen, broad fleshy breast, excessive courage, gait like that of an elephant, beautiful temples and forehead, well-proportioned belly, feet and hands with the lustre of the interior of a lotus, beautiful nose, equal and well-knit brows, smell like that of the earth sprinkled with first rain, cassia leaf, saffron, ichor of an elephant or aloe, dark and curly hair springing one from each pore, the genital organ hidden like that of a horse or elephant, tiger-like face and marks of a plough, muśala, mace, sword, conch-shell, wheel, elephant, crocodile, lotus and chariot. His height is said to be equal to his outstretched arms. His weight is fixed at one bhāra and the span of life at eighty years. If he is 84 āṅgulas tall and weighs a bhāra, he becomes the ruler of Madhyadēśa, and if 105 āṅgulas, the lord of the entire earth (LXVIII.13-19).

ŚAŚA. Śaśa, who is said to be a border-chief (prātyantika) or vassal (māndalika) and to die at the age of 70, has slightly projecting and thin teeth, thin nails, large eye-balls, fleshy cheeks, too much marrow and slender waist, figures of a shield,
sword, lute, couch, garland, tabor and spike going upwards on the sole or palm, and is not very stout (LXVIII.20-23).

HAMSA. Haṃsa has red face shining like gold, plump cheeks, raised nose, round head, eyes like honey, red nails and marks of garland, goad, conch, a pair of fish, sacrificial implements, pitcher and lotus on the sole or palm; he weighs 1600 palas, rules over Khaśas, Śūrasenas, Gandhāra and Antarvedi, and dies in a forest at the age of ninety (LXVIII. 24-6).

RUCAKA. Rucaka, described as the lord of the Vindhyaś, Sahyagiri and Ujjayinī and meeting his death by a weapon or fire at the age of seventy, has beautiful brows and hair, reddish dark complexion, conch-like neck, oblong face, rich blood and flesh, lean knees and shanks and marks resembling parts of a cot, lute, diamond, sakti (spear), Indra and trident on his palm or sole; the girth of his waist is equal to the length of the face; he weighs 1000 palas LXVIII.27-30).

A few remarks are necessary before leaving this topic. Firstly, regarding the height of the Great Men. We are told that the height and girth of the Haṃsa is 96 angulas, the height and girth of the Šaśa, Rucaka, Bhadra and Mālavya being obtained by adding three angulas successively. Thus the measure for Šaśa should be 99 angulas; for Rucaka, 102; for Bhadra, 105 and for Mālavya, 108 (LXVIII.7, 25).1 It will be remembered here that the height of the best and the middle-most divine images corresponds to that of the Mālavya and Haṃsa respectively. But these height and girth measures are contradicted by subsequent verses of the same chapter. Bhadra, for instance, is said to measure 84 or 105 angulas

1. We shall naturally be asked to explain how the height and girth of the different classes of men can be the same. As pointed out by Utpala, the equality of the height and girth was obtained by measuring the latter from the tip of the middle finger of one hand to that of the other, both arms being fully outstretched (prāśrita-bhuja-dvyayā pramāṇam= iṣṭy=arthaḥ). This is one of the most important Mahāpuruṣa-lakṣaṇas and called Nyagrodha-parimāṇahala type in the following couplet of Parāśara citi by Utpala: तथा च पराशरः ।

उच्छायः परिणाहस्तु यस्य तुल्यं शरीरिणः ।

स नर: पारिव: श्रेयो न्यायोपरिमणकः ॥

Varāhamihira says the same thing while describing the characteristics of the Bhadra (bhuja-yugala-pramitaḥ samucchrayo=ṣya, LXVIII.13).
(LXVIII.18); Śaśa, 92 anāṅgas (LXVIII.21); and Rucaka, 100 anāṅgas (LXVIII.29). Secondly, many of the above characteristics agree with those of a Buddha. But while according to the Buddhists a personage possessing thirty-two lāṅkānas and 82 anuvyañjanas becomes either a cakravartin or a Buddha, according to Brāhmaṇical tradition all the Five Great Men turn kings.

ATTENDANTS OF GREAT MEN. The men with mixed characteristics who, as we have seen above, cannot become kings, are also five in number, viz., Vāmanaka, Jaghanya, Kubja, Maṇḍalaka and Śācīnī. They become attendants of Bṛhadra, Mālavya, Hamśa, Rucaka and Śaśa respectively (LXVIII.31).

VĀMANAKA. Vāmanaka is said to be of full-grown limbs, hunch-backed, slightly undeveloped in thighs, waist and between the armpits, and a devotee of Vāsudeva (LXVIII.32). It is interesting to find the Vāmana (dwarf) holding a parasol over the king’s head on the Chatra type coins of Candragupta II,1 the Elephant-Rider,2 the Elephant-Rider Lion-Slayer3 and Chatra4 types of Kumāragupta, and on the Chatra type of Skandagupta.5 It seems that the Gupta mint-masters intended to portray their emperors as the Bṛhadra Mahāpuruṣa6 who is said to be the king of Madhyadeśa and a universal ruler (sakalāvanināthah), a description which suits well the Gupta rulers. It is quite likely, therefore, that the tradition about the five types of men and their attendants recorded by our author was current long prior to his time and that the art convention of depicting the umbrella-bearer as a dwarf originated in this tradition.

JAGHANTA. Jaghanya, the attendant of Mālavya, has crescent-like ears, good joints, thick semen, rough skin, thick

1. Vāmana and Kubja are mentioned as royal attendants by Kautṣilya (I.21.1) also.
2. Ibid., XII.14-15.
3. Ibid., XIII.1-2.
4. Ibid., XIII.15.
5. Ibid., XIV.14.
6. Cf. R. C. Kar, A New Interpretation of the Gupta Chhatra and Battle-axe coin-types, JNSI, VI (1944), pp. 27-33; The Vāmana—Attendant on Gupta Coins, IHQ, XXIV (1947), pp. 113-22. For an adverse opinion, see Altekar in JNSI, VI, pp. 32-3.
fingers and marks of a sword, sakti, noose and parasvadha on his breast, feet and hands, and is copper-coloured (LXVIII. 33-4).

KUBJA. Kubja, who attends on Hamsa, is said to be free from defects in the lower part of his body but is slightly slender and bent in the upper part (LXVIII.35-6).

MANDALAKA. Mandalaka, the attendant of Rucaka, appears old and his hairs are hard and rough (LXVIII.37-8).

SACIN. The body of Sacin, the attendant of Sasa, is said to be very ugly (LXVIII.39).

WEARING NEW CLOTHES. It was believed that a new cloth put on in one or other nakṣatra yields good or evil results (LXX.1-7). The four corners of a cloth, couch, seat or footwear, it is stated, are inhabited by gods; the two middle parts of the broad sides, by men; and the remaining portions by devils (LXX-9). When a cloth is smeared with collyrium or dung or mud and the like, is cut, burnt or torn in the portions allotted to devils, it bodes disease or death to the wearer; in those allotted to men, power and birth of sons; and of gods, prosperity (LXX.10-11, 12-13). The popularity of these beliefs is indicated by the fact that they are mentioned in the Jaina Uttarādhyayana-sūtra² also.

Particular nakṣatras, tithis, karaṇas and week-days were considered especially auspicious and are, therefore, recommended for different kinds of acts (XCVII-XC, X, CIII.61-3). The nakṣatra and the position of a planet in the different divisions of a rāṣī at the time of one’s birth were believed to mould one’s life, physical and mental constitution, habits, likings, etc. (Chs. C, CIII).

SĀKUNAS. As many as eleven chapters of our work (LXXXV-XCV) are devoted to the sākunas or indications of future events in the life of a human being derived from the

1. The following chart from Utpala explains this division :

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<th>Devāḥ</th>
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<td>Narāḥ</td>
<td>Rākṣasāḥ</td>
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<td>Devāḥ</td>
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movements of birds and animals, especially during a journey. The philosophy behind the belief in the efficacy of omens is that an omen indicates the fruition of one's good and bad deeds done in a previous life. Thus the events revealed by birds and animals were regarded as the outcome of a man's deeds in a previous life, and omens had only an indicator value. During the three-hour periods from sunrise to sunset, different directions were called mukta-sūryā, prāpta-sūryā and esyat-sūryā; these were also known as aṅgārini (sparkling), diptā (burning) and dhūmini (smoking) respectively; the effects of an omen occurring in these quarters were taken to have been already exhausted, to be experienced on the same day and pending up respectively; the remaining quarters were styled sānta (tranquil, LXXXV.12-13). An omen occurring nearby and at a lower level bore fruit shortly, whereas that occurring far off and at a higher level in distant future. The growing or decaying nature of the object wherein an omen is perched was also taken into consideration. The effects of an evil omen on a growing object like a tree, for instance, would be quite negligible, but that of a good omen, very great; on the contrary, an evil omen on a decaying object would be very effective (LXXXV.14). An omen appearing in malefic mukūrtas, tithis, stars, when a strong opposite wind blows, and facing the sun was regarded as blasted by divine agency (deva-dipta), whereas it was considered to be blasted by action (kriyā-dipta) if it had untoward gait (running towards lightning, meteor, sun and wind), position (sitting or standing in an inauspicious place), disposition, voice and bodily movements. Likewise, an omen contrary to the above would be regarded as sānta (tranquil, LXXXV.15-6). The sānta and diptā omens were believed to bode good and evil respectively. The diurnal and nocturnal creatures moving during their own time on mountains (or lofty spots) and water respectively are said to be strong. Of hermaphrodites, female and male creatures, each is stronger than the preceding ones (LXXXV.18). When two omens are seen simultaneously, the one that has superior speed, species, power, position, jovial mood, courage and voice and

1. अन्यजन्मातरकर्तः कर्म पूणां दुमाधिभम् ।
   वत्स्याय श्रद्धा: पाकं निवेदयति गच्छताम् ॥ ॥

LXXXV.5.
is in its own place is strong, whereas one deficient in these respects is weak (LXXXV.19). Rural creatures found in forests and *vice versa*, and diurnal ones at night and *vice versa*, were not taken into account. Similar is the case with the creatures that are in pair, diseased, afraid, desirous for fight or meat and separated by a river or intoxicated (LXXXV.24-5). The movements of creatures in their respective mating seasons were also not taken into consideration (LXXXV.26-8). The omens regarded as auspicious in different quarters and occurring to a traveller's left or right, in front or behind are mentioned (LXXXV.20-23-37-8, 43-7). The space intervening between the eight directions is divided into thirty-two parts and people following various professions are assigned to them. An omen standing and crying in a particular direction and at a particular place, when a person is standing still or going on a journey, is taken to foreshadow his meeting with the individual belonging to that place (LXXXV.29-35, 68 ff.). A bird crying in a tranquil direction was believed to foreshadow the arrival of a person or gain, whereas that crying in a blasted direction indicated meeting with an undesirable person or calamity.\(^1\)

The rules for the interpretation of omens at the time of an act, meeting, battle, seeing a king, entering his palace or forest, dipping into a river and so on are summarised in LXXXV.47 ff. The blasted and tranquil sounds of different birds and animals and their supposed effects are described in Chs. LXXXVII & LXXXIX. While interpreting an omen, the relative strength of the particular quarter, place, movements, sound, weekday, star, *muhūra, horā, karana*, the Ascendant, its division, its being moveable, fixed or dual sign were also taken into consideration.\(^2\) The results accruing from the movements of dogs, wild animals, cows, horses, elephants and crows are also recorded.\(^3\)

A noteworthy feature of Indian life through the ages is the persistency of beliefs and superstitions, and omens are no exception. The idea, for example, that a dog entering a house with a dry bone into its mouth,\(^4\) or barking facing the sun

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1. Ch. LXXXVI.
2. Ch. XCV.
3. Chs. LXXXVIII, XC-XCIV.
4. *Sūkṣena c-āsthā gṛhitena mṛtyuḥ; praviṣatī tu gṛham sauṣk-āsthī-vaktre pradhānasya tasmin vadhaḥ; LXXXVIII.1.*
(LXXX-VIII.2) or during the night (LXXXVIII.5) bodes evil, still persists. The belief that crows assembling in a town or village without any apparent reason foreshadow evil (XCIV.8) is still preserved. Similarly, sneezing was, as now, regarded as inauspicious (XCIV.60).

Our author frequently alludes to the objects the sight of which was regarded as auspicious at the commencement of a journey.¹ According to the Yogāyātra (XIII.10-2), they included such articles as white mustard seeds, mirror, milk, collyrium,² jar filled with flesh, head-gear (uṣṇīṣa), bhrṅgāra, vardhamāna symbol, conveyance, lute, parasol, curds, honey, ghee, rocana, flag, gold, lotus, throne, conch-shell, white bull, flowers, cloths, fish, kindled fire, fruits, aksata, sugarcane, edibles, clay, goad, cāmara, weapons and precious stones. The sight of a virgin, a nicely clad Brāhmaṇa, a prostitute, travellers and elephants was also regarded as auspicious. If these objects were not seen without any effort, they were to be brought and shown to a traveller or a marching king (TY, XIII.13; TY, IX.3).

AGNI-LAKŚANA. In fire-worship, the priest was invariably associated with the sāṅvatsara.³ While the former offered oblations into fire, the latter interpreted omens. The fire that is fragrant, glossy, thick and full of flames, has the shape of auspicious objects such as a banner, pitcher, horse, elephant or mountain, is hued like gold, asoka, kuraṇṭaka and lotus flowers and beryl or blue lily, produces the sound of a chariot, ocean, cloud, elephant or drums, and smells like elephant’s ichor, earth, lotus, fried rice, ghee or honey was regarded as auspicious (XLIII.31, 33-6). It is said that if at the conclusion of fire-worship, the fire blazes forth of its own accord, is glossy and its flames turn to the right (pradaksīna-sikha), it indicates victory to the king (XLIII.32)⁴

1. Prāsthānika-maṅgala XLII.12; LVIII.1.
2. The printed ed. of TY, XIII.10 reads ‘Siddhārthak-ādaria-prayojanaṇi’ which gives no sense. We have therefore preferred ‘Siddhārthak-ādaria-payo= njanani’ given by Utpala on LVIII.1.
3. XXII.30; XLIII.13; XLVII.78, 80.
CHAPTER VII

FINE ARTS

I

RESIDENTIAL ARCHITECTURE

The art of building had reached a high pitch of development in the Gupta age. Two distinctive styles of architecture, to wit, Nāgara and Drāvida, made their appearance precisely during this period. Though several specimens of temple architecture of the period under review are preserved, we know very little, if anything, about residential architecture. As older works dealing with residential architecture are no more extant, great interest attaches to the Vāstuvidyā section of the Bhātāsanhita (Ch. 52) contents whereof are summarised below.

VĀSTU. The word ‘vāstu’ literally means ‘a place of residence’. In Sanskrit lexicons, it denotes a house-site and a house proper.¹ In the Arthaśāstra, it has a wider connotation covering a building-site, gardens, setubandha, a tank and a base.² Vātsyāyana (I.3.16) regards Vāstuvidyā as one of the sixty-four arts and his commentator Yaśodhara states that this science is useful in constructing a house. Varāhamihira uses ‘vāstu’ in the strictly limited sense of a residential building (LII.1, 11, 15, 22, 31, 37; LV.9; CVI.6). In later times the connotation of vāstu was extended so as to include not only a house-site and a house, but also furniture, conveyances and sculpture.³

OVERALL MEASUREMENTS. Varāhamihira first gives overall measurements for five kinds of houses meant for a king, army-chief (senāpati), ministers (saciva), queens

¹. Cf. Astāgīyī IV.3.73; Agrawala, India as Known to Pāṇini, p. 337; Brahmasūtras (Engl. transl. by Rhys Davids), pp. 16-18, fn., Ācalāyana-gīyīśvara, II.7.1; Amśa, II.3.19 (a building-site); Halāyudha, v. 20 (vāstu in masculine denotes a house-site and in neuter a house proper); P.K. Acharya, Dictionary of Indian Architecture, p. 548.
². Gṛhānu kṣetram = śrān = setubandha = tājānam = ādhāro = vāstu.
(mahishi), crown-prince (yuwaraja) and his younger brothers, feudatory chiefs (samanta), state officials (rajapurusa), chamberlain (kauncukin), royal courtesans (vesya) and artistes (kalajna), envoys (duta), astrologers, priests and physicians, persons belonging to the four primary castes and sub-castes, treasury and pleasure-house (rati-bhavana).

The five houses of a king measured 108, 100, 92, 84 and 76 cubits in breadth, the length being greater than the breadth by a quarter (4). The same measures are found prescribed in the Matsya-purana (CCLIV.14-16). An army-chief had five houses, 64, 58, 52, 46 and 40 cubits broad, their length being 1/6th more than the breadth (5). The best house of a minister measured 60 cubits in width, while the remaining four were less by 4 cubits each in a descending order, the length exceeding the breadth by 1/8th (6. Cf. Matsya, CCLIV. 20-21). For a crown-prince are prescribed five houses, 80, 74, 68, 62 and 56 cubits broad, the length being 1/3rd more than their width. The dimensions of the houses of his younger brothers are half of those of the yuwaraja (7. Cf. Matsya, CCLIV. 17-8). The measures for the houses of feudatory chiefs and high state officials (pravara-rajapurusa) are equal to the difference between the houses meant for the king and his minister.

Thus the best house of this class measures 48 hastas x 67 hastas, 12 aṅgulas. The difference between the houses of a king and his crown-prince gives the dimensions for the houses of chamberlains, royal courtesans and artistes. The largest house of this group should thus be 28 h. x 28 h. 8 a. (8). Of the five houses meant for the royal astrologer, priest and physician, the first measured 40 cubits in breadth, the width of the remaining four houses decreasing by 4 cubits each in a descending order and their length being greater than the breadth by 1/6th (10). The residences of the officer-in-charge of work-

1. Figures in brackets refer to the serial number of verses in Ch. LIII.
3. According to the Matsya-purana (CCLIV. 21-2), however, the houses of feudatory chiefs and amātayas should measure 48, 44, 40, 36 and 32 cubits in width, the length exceeding the breadth by 1/4th. It also gives somewhat different proportions for the houses of chamberlains, artistes and prostitutes, the best structure of this class measuring 28 h. x 56 h. (CCLIV.23-4).
shops (karmānlādhyakṣa) and of the envoys corresponded to the
difference between those prescribed for the crown-prince and
the minister (Yuvarāja-mantri-vivaram karmānt-ādhyakṣa-dūlānram, 9). According to another reading (mantri-sāmanta-vivaram) given
by Utpala, they equalled the difference between the houses of
ministers and feudatory chiefs, thus giving 12 cubits for the
width of the best structure of this group whereas we do not get
any satisfactory measure for length; consequently as pointed
out by Utpala himself, this reading was rejected by reputed arc-
chitects (etad = vyddha-sṭhapatibhir = n-ādṛtam = atimānālpatvād = iti). The
difference between the measures of the residences of a king
and his commander gives us the dimensions of treasure-house
and pleasure-house as also for the houses meant for superinten-
dents of state departments (Nṛpa-senāpati-grhayor = antara-mānena
koṣa-rati-bhavane, 14; Adhyakṣ-ādhiṅtānāṁ sarvesāṁ koṣa-rati-tulyam, 9). The best structure of this class is thus 44 h. × 60 h. 8 a.
The antiquity of this architectural tradition is vouchsafed by the
Kauṭiliya according to which the dimensions of vāsa-grha
should be the same as those of koṣa-grha (koṣa-grha-vidhānena
vāsa-grham, I.20). It was often placed on the upper floor of a
house and used as the bed-chamber of the couple. In Bāna’s
Harṣacarita and Kādambari is to be found a beautiful description
of vāsa-grha, and in an Ajanta fresco we see a newly married
couple celebrating their honeymoon.

The five houses of the members of the four varṇas measure
32, 28, 24, 20 and 16 cubits in width. A Brāhmaṇa could
have all the five houses; a Kṣatriya, last four; a Vaiśya, last
three; and a Śūdra, last two. The length of the houses of the
four varṇas exceeds the breadth by 1/10th, 1/8th, 1/6th and
1/4th in a descending order. People from the lowest sections
of society were to have houses with smaller dimensions (12-13).

1. Matsya-parāśa (CCLIV.24-5) also prescribes 12 h. for the width
of the best structure of this group, the remaining four diminishing from each
other by 1 cubit and the length exceeding by 1/6th.
3. V.S. Agrawala, Harṣacarita, A Cultural Study (Hindi), pp. 64, 85, 95, 208.
4. V.S. Agrawala, Kādambari, A Study (Hindi), pp. 74, 81.
5. Ajanta Paintings (Lalit Kala Academy), 1956, Pl. XX.
6. But cf. Matsya, CCLIV.28-30, where the length of a Vaiśya’s house
is said to exceed the width by 1/3rd.
Houses with various measures are prescribed for state officials in accordance with their caste. According to a general rule laid down for the purpose, a royal officer was to have houses with dimensions equal to the difference between those of the houses of an army-chief and those prescribed for the caste to which he belonged (14. Cf. Matsya, CQLIV.31). Thus the first house of a Brāhmaṇa officer would measure 32 ḥ. by 35 ḥ. As for the houses of a Kṣatriya officer, measures could be obtained by subtracting the dimensions prescribed for his caste from those of the 2nd, 3rd, 4th and 5th houses of an army-chief; for those of a Vaiśya, by subtracting from the 3rd, 4th and 5th; and for those of a Śūdra, by subtracting from the 4th and 5th.1

Persons of mixed castes like Pāraśava could have houses with dimensions equal to a half of those prescribed for both of his parents put together (15). Thus the first house of a Pāraśava would be 26 ḥ. wide. According to the Matsya-purāṇa, however, a member of the mixed castes should have houses equal in dimensions to those of his father’s (Antara-prabhavānāṁ ca svāpitur = grham = iṣyate, CQLIV.32).

There was no fixed rule as to the size of the cattle-sheds, residences of ascetics, granary, armoury, a structure for keeping sacrificial fire ablaze and pleasure-house (16). There is a discrepancy between this verse and LII.14 according to which the pleasure-house (rati-bhavana) should be equal in dimensions to the difference between the houses of a monarch and his commander, indicating that deviations from the prescribed dimensions were occasionally allowed.

Besides the proportionate length of individual houses noticed above, it is laid down that the length of a structure consisting of a single room (śālā) should be twice its breadth. Normally, the height of a building was required to be equal to

1. Cf. Utpala on LII.14:—अत्र यदा ब्राह्मणो राजपुरुषो भवति तदा ब्राह्मणवासुतुमानं सेनापतिवासुतुमानादपास्य यद्वसिद्धते तेन मानेन गुद्धपुष्पकं कौयम्। एवं श्रवणियानां विशेषम्। किंतु सेनापतिगृहस्य हितियस्य किंतु सेनापतिगृहस्य हितियस्य कश्तियासुतुमानेन सहात्तरं कल्वा श्रेयं हितियब्राह्मणपुरुषस्य प्रवाहन्तुमुहम्। एवं तृतीयस्य हितियेन चतुर्थस्य तृतीयेन पद्मचमस्य चतुर्था भुक्तेन इति। एवं तृतीयेन सेनापतिगृहस्य क्षत्रियं सहात्तरं वेश्यस्य प्रवाहन्तुमुहं चतुर्थ्यं शुद्धयति।
its width (11). Thus the first royal house should be 108 h. high; but a height of more than 100 h. was not approved of by writers on architecture (N-ecchanti śastraśrārā hasta-śatād = uchritatām paratah, 16) So far about overall measurements.

**PROPORTIONATE MEASUREMENTS—ŚALĀ AND ALINDA.** Proportionate measurements for different parts of a structure are laid down in detail. A peculiar method of obtaining measures for the hall (śalā) and the balcony (alinda) in all the houses except those of the four castes was to add 70 to their width and place the sum total separately at two places and then to divide one by 35 and the other by 14. The two quotients give measures for the śalā and alinda respectively (17). As for the five houses of the four castes, the śalā in a descending order measured 4 h. 17 a., 4 h. 3 a., 3 h. 15 a., 3h. 13 a. and 3 h. 4 a. Measures for the alinda are 3 h. 19 a., 3 h. 8 a., 2 h. 20 a., 2 h. 18 a. and 2 h. 3 a. 2

**VĪTHIKĀ.** Outside the house was to be made a pathway (vīthikā), its width being 1/3rd of the śalā (Śalā-trihbāga-tulyā kartavyā vīthikā bahir = bhavanāt, 20). The Vīvakarma-prakāśīkā lays down the same rule in almost identical words, evidently borrowed from the Bhāt-samhītā (Śalā-trihbāga-tulyā

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1. In lexicons ‘alinda’ denotes a room in the outer gateway of a building for which older words were ‘praghāṇa’ and ‘praghāṇa’, cf. Pāṇini, III.3-79: Amara, II.2.12. According to some, the word ‘alinda’ originated in the Gupta period or a little earlier, cf. Agrawala, Harṣacarita, A study, p. 204. But Utpala takes ‘alinda’ to mean a lattice-covered path beyond the wall of a hall and facing the courtyard: अलिन्दसब्देन शालामंतरवाहिया या गमनिका जालकार्तानाकामस्मृताः क्रियते सा श्रेयेति.

2. हस्तद्वारान्तिरितियु चतुर्वन्तुरस्तीतिनिरिक्रिताः शाला: । सप्तदशशतित्वतित्वयोद्धाकुशलाः गुडळामयिकाः ॥।
ब्रिहिकित्रिकिसमा: क्षत्रमाध्यगुडळानि चतेयम् ।
योक्ता विशालितरं विशालितरस्तद्र विशिष्यम् ॥ LII.18-19.

Utpala interprets ‘kṣaya-krama’ as ‘in accordance with the descending order of the houses the angulas increase’. According to others, as the angulas increase, the hastas decrease in number’. Utpala tells us that this interpretation was rejected by expert architects:—एवं धर्मवाच्यां हस्तानां अयः
क्षमाद् गुडळमेनात्याकुशलामयिकानि कामायिणि...अथे एवं व्याच्याते । यथा
एतान्यगुडळानि क्षयं हानिरेयं हस्तानां कायः । एतद् बृद्धस्यपतिभिर्निःशकृतम् ।
ca kartavyā vīthikā bahīḥ). The location of the vīthikā formed a basis of the classification of dwellings. Thus a structure was called Sos̄niṣa, Sāyāṣraya,1 Sāvaṣṭambha and Sūsthita according as there was a pathway to its east, west, south or north, and on all sides respectively (20-21).2 According to the Śukraniti (I.267), the vīthi was placed behind the house and used as a passage for sewage (Grha-प्रष्ठे sadā vithir=mala-nirharanā-sthalam).

BHUṬMIS. In a house consisting of more than one storey, the height of the ground-floor should be 1/16th of the width with an addition of four cubits, and the height of each of the following upper storeys (bhūmi) should be diminished by 1/12th of the preceding one (22).

WALLS. Much stress was laid on the strength and stability of a house, and it is laid down that in thickness walls should be equal to a 16th of the total breadth (23).3 Thus the walls of the first royal house would be 6 h. 18 a. thick. According to the Śukraniti, however, the thickness of the wall should be equal to a 6th of the width of a room (Kos̄ṭha-vistāra-śaṣṭh-ānśa-sthūla sā ca prakīrtitā, I.229).

DOOR-WAY. The breadth of the houses of the king, army-chief and others (except those of the four castes) increased by an 11th and with an addition of 70, when turned into añgulas gives the height of the door-way, and a half of that its width (24). For the four-caste houses, the width of the doorway could be obtained by adding 18 digits to a 5th of their breadth taken as añgulas and then again adding to it 1/8th of itself; three times this would be its height (25).4 The thickness of the two side-frames (śākhā) of a door is as many añgulas as its altitude numbers in cubits; 1½ that measure gives the thickness of the threshold and the upper block (udumbara, 26).5 1/80th of seven times the height gives the breadth of all the four pieces (27).

1. Śreyocchraya of Matsya-puṭāya, CCLIV-37.
4. Cf. Matsya, CCLIV-42-3, which gives no clear sense:—
   गुण्यासरस्य पं-वा-शाखादशा-भिंगामः।
   संयुतो द्वारविक्रमो ह्रिगुणश्रेष्ठो भवेत् ॥
5. Utpala informs us that the threshold and upper block were commonly known as 'dehali' and 'nīṭāla' respectively—Udumbarau śākhayor = upary=
The door was normally placed in the middle of the front wall and faced a cardinal point and never an intermediate direction (LV.10). This is also clear from the fact that in the plans of both 81 and 64 squares architects are often asked to place the door in the central plots of outer bands and not on corners (69-73). With a view to prevent obstructions (vedha) to light and air and to provide hygienic conditions it is laid down that the door should not face a road, tree, corner, well, pillar, mud, god (temple), a Brāhmaṇa’s house and a watersluice.¹ But in view of the difficulty of avoiding all these obstructions in densely populated towns and villages, it is recommended that the minimum distance between the door and the obstructing object should be twice the height of the door (74-76). Further, the door should not be such as opens or closes by itself, is larger or smaller than the prescribed dimensions, one above another, too narrow or broad, bent, pressed hard by the upper block, bent inward or outward, and stands in a haphazard direction. All these defects were believed to augur evil to the landlord or family members (77-79).² The main door (mūla-dvāra) was embellished by auspicious decorative designs like a pitcher, a bīleva fruit, foliage and boughs, and the Pramathas.³ It was seen that in beauty the main door is not outdone by side doors (80). According to the Matsya-purāṇa (CCLV.18-19), the main door was to be wor-

¹ athaḥ sthite kāśthe dehali-niśālākhye. T. Bhattacharya points out that the natural depth of the lintel ought to be the same as that of the jamb, otherwise the frame cannot be well joined and suggests that the word ‘śārddhām’ should be taken to mean ‘with’ and not 1½ as done by Utpala, vide his Study on Vāstuvidyā, p. 237.

² The Matsya-purāṇa (CCLV.10-14) list of vedhās also includes a peg, a house, a house of an outcaste, and refuge. Some of these rules appear to have been meant to secure privacy and peace. The Gobhila-gṛhyaśāstra, IV.7.17-9, speaks of a back door with disapproval and states that the main door of a house should not face that of another house and that the door should be such that through it the inmates or valuables of the house are not visible to outsiders—Na pratyag = dvāram kurvita, anudvāram ca gṛha-dvāram, yatā na samlaki syāt.


² Utpala adds figures of lions, tigers, swans and birds like jīva-jīveka.
shipped daily by offerings, aksata and water. The practice of
drawing auspicious figures on door-jambs is even now followed.

**COLUMNS.** We also get proportionate dimensions and
mouldings of the column. Its width at the bottom should be
equal to 1/80th part of nine times its height, and the same
decreased by 1/10th is its width at the top (27). These
measures are meant for the columns supporting the upper storey
or roof and not for free-standing columns to which also they
can be applied with some minor changes. We are asked to
divide the entire height of a pillar into nine parts, the pedestal
(Vahana) being the lowest. The second part immediately
above the Vahana was Ghaṭa, evidently because it was shaped
like a pitcher. The eighth part at the top resembled a
lotus flower and was consequently known as Padma or Kamala,
the ninth part immediately above the Padma being called
Uttarāṣṭha or the Upper Lip. Between the two lower and two
upper parts was the shaft which occupied five of the nine
divisions. Utpala informs us that according to another interpreta-
tion, Uttarāṣṭha formed the eighth part and Padma the ninth.
He also tells us that Uttarāṣṭha was carved with various deco-
orative figures (ṛūpaka-viśesa) and that the lower parts were
sometimes worked in gold. Pillars were given various names

1. Cf. Matyā. CCLV.1-2, according to which the column should be

2. In some early inscriptions pillar-base is called Kumbhaka, cf.

3. Cf. Utpala—mahatā bāhuyā saṃjñā pārthajīvām

4. Cf. Utpala—uṣṭhā prāthā bāhuyā tadbhavām...
in accordance with the shape of the shaft. Thus a column was known as Rucaka, Vajra, Devajraka, Pralinaka and Vṛttā according as its shaft was rectangular, octagonal, 16-sided, 32-sided and circular (28. Cf. Matsya, CCLV.2-3). The Matsya-purāṇa calls these five columns mahāstambhas and informs us that they were decorated with the design of lotuses, creepers, pitchers, foliage, mirrors, etc. (Ete pañca mahāstambhāḥ praśastāḥ sarva-vāstusu, Padma-valli-latā-kumbha-patra-darpaṇa-rūpitaḥ; CCLV.4).

Above these columns were horizontally placed the architraves known as Bhārātulās whose number depended on that of the columns. Their thickness was the same as that of the pillars. Above these were placed cross-beams called Tulopatulā the thickness of which is lessened by a quarter. According to another interpretation, cross-beams were known as Upatulā and above them were placed minor beams or rafters called Tulopatulā and their thickness was lessened by a quarter of the immediately preceding one. The Matsya-purāṇa (CCLV.5-6) knows only two beams, Tulā and Upatulā, probably standing for the Bhāra-tulā and Tulopatulā of our work, the Upatulā diminishing in width by 1/3rd or 1/4th of the thickness of the pillar. This shows the correctness of the former interpretation.

There is, however, much controversy about the interpretation of these verses. Kern characterised them as ‘exceedingly vague’. According to Dr. P.K. Acharya, eight components of a pillar are referred to here, to wit, 1. Vahana, 2. Ghaṭa,

1. स्तम्भसम बाहृल्य भारतुलानामपूर्णययासाम्।
   भवति तुष्यपुत्रालानामानं पादेन पादेन ॥
   LIII.30.
   Cf. Utpala—स्तम्भस्यपरिच्याक्त्वा कारण्डै दीयते तद्भारतुलासंस्करम्। प्रासादाधिष्ठानस्मां भारतुलाः इति बहुवचननिर्देशः कृतः। भारतुलाः उपरि यदन्त्व कारण्डै दीयते ततुत्तुष्यपुत्रालासंस्करम्।... वीण्कारणात्कृतिक्रिययती इति वर्णयति। भारतुलाः उपत्रकारणाको दीयति। आसां भारतुलाः पादेन पादेनानं बाहृल्य कार्यम्। तत्स्तथापरिच्यात्तद्यान्ते इति।

2. स्तम्भस्य नवमाक्षेण पद्मकुमारात्तरणि तु।
   स्तम्भतुलाः तुल्या प्रोक्ता हिमं चोपतुलाः ततः।
   विभवानें स्वरूप चाँदमागन वा पुनः।
   हींम हींम चतुष्पादात् तथा स्वरूपसु भूमिष्य।
   Matsya, CCLV.5-6.

Acharya has definitely erred in taking ‘bāhulya’ to be a moulding. Utpala (on 30) rightly takes it to mean thickness or depth and Varāhamihira himself has used the word in this sense (I.II.26). Had bāhulya been a moulding, it must have been referred to in a similar verse from the Kirānākkhyatantra quoted by Utpala and in the relevant verses of the Matsya-purāṇa which is not the case. Bhāra and Tulā are not separate names, but form parts of one word—Bhāratulā, which, as we have seen, is the same as the Tulā of the Matsya-purāṇa. Dr. T. Bhattacharya is also wrong in regarding Bhāratulā, Tulā and Upatulā as mouldings of pillars. It is evident from Bhāṭṭotpala’s commentary that Bhāratulās were placed above the column horizontally (tiryaṅ), not vertically. Tulopatulā or Upatulā and Tulopatulā were placed above the Bhāratulās. Thus Bhāratulā and Tulopatulā did not form parts of a column. Kern appears to be right in taking the three words to mean architrave, superior cross-beams and upper rafters which are even now used. Bhāratulās were meant to support a heavy roof (bhāraṁ tolayarantī bhāratulāḥ). Thus only five mouldings of columns are referred to in our work, viz., 1. Vahana or Udvaḥana, 2. Ghaṭa, 3. Shaft, 4. Padma and 5. Uttaroṣṭha. Roughly speaking, they correspond to the base, pedestal, shaft, capital and abacus or crowning figures.

These details possess an unusual interest inasmuch as they throw welcome light on the evolution of the ‘Gupta order’. Generally speaking, the free-standing Aṣokan columns consist of two parts, viz., monolithic, circular and slightly tapering shaft and the capital. The shaft arises abruptly from the ground without any suggestion of the base, and the capital with inverted longitudinal lotus petals is often described as a Persepolitan bell and is crowned by animal sculpture in the round. In the 2nd-1st century B.C., the pillar-making technique undergoes a marked change in that ‘more attention was paid to the

2. विभच्य नवचा स्तम्भं कुयांदुहनं घटम्।
कमलं चोतरोष्ठं च भागं भागं प्रकल्पयेत्॥
embellishment of the bases of the pillars than to the capitals’. Thus at Bedsa, we come across the vase-shaped base, corresponding to our Ghaṭa, from which rises an octagonal shaft which very well answers our Vajra type. At Karli (2nd century B.C.) and Nasik (2nd century A.D.) are found vase-shaped pedestals above stepped bases, answering very well our Ghaṭa and Vahana (or Udvaḥana), from which rise square or octagonal shafts ending in capitals consisting of topsyturvey vase surmounted by crowning figures. At Karli again there are two lion-pillars with 16-sided shafts, the Dwivajraka of our author. Among the specific characteristics of the Gupta buildings is included the shape of the pillars and capitals. Though the capital with longitudinal inverted lotus petals which corresponds to our padma is present at the Buddhist temple at Sanchi assigned to the first half of the fifth century A.D., the prevailing order of the day was ‘the bowl of plenty’ (pūrṇa-kalasa) which gave rise to the ‘vase and flower’ motif which we find at Udayagiri and elsewhere. The Gupta pedestals are mainly square. In spite of this change names like Ghaṭa, Kamala and Uttarāṣṭha were allowed to continue, presumably because they had a history and tradition behind them. That the names of the mouldings of pillars are older than Varāhamihira is evident from their mention in the Kīranākhyatantra.

The first attempt at the ornamentation of the shaft can be traced to the Besnagar Gauḍa Pillar erected by Heliodorus (cir. 140 B.C.) the lower part of which is octagonal and the upper 16-sided with a band of 32 facets above. Thus the circular Aśokan shaft was replaced by many-sided ones of which the octagonal seems to have been the most popular. It is this evolved form of the shaft that is referred to by Varāhamihira.

CATUŚŚĀLAKA The general plan of a residential house in the Gupta period seems to have been based on a courtyard surrounded by chambers (śāla) on one (ekāśāla), two (dvāśāla), three (triśāla) and four sides (catusśāla). Five kinds of catusśāla houses are mentioned—(i) Sarvato bhadra (31), an edifice with uninterrupted terraces (alinda) on all the four sides

1. Percy Brown, Indian Architecture, I, Pl. XXIV.
2. Ibid., Pl. XXIX.
3. Ibid., Pl. XIX.
4. Ibid., p. 59, XLII.
and broken by four doorways (Fig. 19), especially recommended for a royal residence and temples. Sarvatobhadra is a comprehensive term denoting not only a four-doored structure, but also a quadruple image, one being carved on each side of a four-faced column, and other structures, villages and towns broken by four entrances. Thus two Kuśāṇā inscriptions from Mathurā record the installation of sarvatobhadrikā images. In the architectural traditions of south India, however, Sarvatobhadra denotes an eight-faced śālā. (ii) Nandyāvarta (LIII.32) is a structure with verandahs starting from the wall of the hall and going to its extremity from left to right and with a door on each side except in the west (Fig 20). (iii) Vardhamāna (LII.33) has the front terrace of the main building (dvārālīnda) extending from the left hall to the right hall, thence another terrace from left to right and thereon again another; it has a door on each side except in the south (Fig 21). (iv) Svastika (34) has an entrance in the east, and a continual western verandah at the ends whereof begin two other verandahs (southern and northern) going from west to east and between the extremities of the latter is the fourth terrace (eastern). (Fig 22) (v) Rucaka (35) has two terraces touching the ends in the west and east, and touching these two internally two more and one door on each side except in the north (Fig 23). Nandyāvarta and Vardhamāna are said to be the best for all and Svastika and Rucaka mode-

2. El, II, p. 203, No. XVI; p. 209, No. XXXVII. In a Mathura inscr. of Vikrama 1080, 'caturbimba' is used in place of 'sarvatobhadrikā', cf. El, II, p. 211, No. XXXIX.
5. Cf. Matsya-purāṇa, CCLIV.3. In S. Indian works this term was applied to a class of joinery, phallus and śālā, cf. Mānasāra, XVII.84; XXXV.4; LII.4; Kāmikāgama, XXXV.88.
6. According to the Matsya-purāṇa (CCLIV.3), on the contrary, Vardhamāna is a catusāla house without a door on the eastern side—Pūrva-dvāra-vihinām tat svastikam nāma uśnopanam. All the printed editions of BS give the reading 'prāg=deśrama svastikam subhadam' (LII.34). The discrepancy between the Matsya-purāṇa and our text could be easily resolved by assuming that this reading is an error for 'svastik=ubhadam'. But the following extract from Garga cited by Utpala conclusively shows that the printed reading is correct:—Pacīcema=ntagato=lingah prāg=antau deśram uttitaṇuĀṇaya=taṇu=mādhyā-viṣṭṭhaḥ prāg=deśrama svastikām ubhadam.
rate. Sarvatobhadra was suitable for kings and other persons of eminence (36). The *catuṣṭāla* houses seem to have been very popular in the Gupta age\(^1\) and they are known as *causālā* in Hindi.

**TRIṢĀLĀKA.** Of the *triṣālakas*, we have references to

(i) **Hiranyanābha**, a three-halled house without a northern hall; (ii) **Sukṣetra**, a house without an eastern hall; (iii) **Cullī**, lacking a southern hall; and (iv) **Pakṣaghna**, without a hall in the west. While Hiranyanābha and Sukṣetra are spoken of with approval, the last two were regarded as inauspicious (37-8).

**DVIṢĀLĀKA.** As for the *doṣālakas*, a structure was known as

(i) **Siddhārtha**, (ii) **Yamasūrya**, (iii) **Danda**, (iv) **Vāta**, (v) **Grha-cullī**, and (vi) **Kāca**, according as it had chambers in the (i) west and south, (ii) west and north, (iii) north and east, (iv) east and south, (v) east and west, and (vi) south and north. Of these only Siddhārtha was considered to be auspicious and the rest inauspicious (39-41).

**SELECTION OF THE SITE.** Generally speaking, the soil that is soft, even and of sweet odour and taste, is not hollow from inside, and abounds in commendable herbs, trees and creepers\(^5\) is recommended for building a house (86). The advice that a house should not be constructed close to a minister’s or a rogue’s residence, a temple, a caitya tree and a cremation ground, facing a cross-road, and on a site shaped like a tortoise and abounding in anthills and holes (87-8) is prompted by the desire of providing an hygienic and peaceful environment and ensuring the durability of the structure. Further, the presence of water to the east, south-east, south, south-west, west and north-west of a house is disapproved, while that to the north and north-east is recommended (117). We get three modes of testing the soil:—(i) In the centre of the site was dug out a circular pit, one cubit in diameter and

\(^{1}\) Cf. *Mṛcchakatika*, Act III (Cārudatta had a *catuṣṭāla* house); *Amarakoṣa*, II.2, 10-11 (mentions Scastka, Sarvatobhadra, Nandyācārya and Vīcchanda). For an epigraphic reference to *catuṣṭāla* structures, cf. ASWI, IV, p. 99, Nasik No. 5, l.1.

\(^{2}\) Cf. *Matsya-parāṇa*, CCLIV.4, where it is styled ‘Dhānyaka’.

\(^{3}\) Viṣāla of *Matsya*, CCLIV.6.

\(^{4}\) Dhana of *Matsya*, CCLIV.11.

\(^{5}\) For trees whose presence near a house was approved or proscribed, see supra, p. 273.
depth; it was filled again with the same earth; according as the pit is insufficiently filled, just filled and overfilled the site in question is the worst, moderate and the best respectively. ¹
(ii) The pit was filled with water which was allowed to remain for the time required for a hundred steps; if the water is not diminished, the site is best suited for erecting a structure.²
(iii) If an ādhaka-full of earth dug out of the pit weighs 64 palas, the site is fit for construction (90-1). These instructions which aim at avoiding a porous and loose soil for building a house are inspired by practical considerations. The main object of examining the soil appears to have been to ensure the stability of the structure and to ascertain the quantity of water available. Even modern architects approve these principles.

CASTES AND SITE. In ancient Indian town-planning different parts of a settlement were allotted to members of different castes. Thus the houses of the four castes in their descending order were located in the north, east, south and west (67-8). The intermediate directions, which were supposed to be presided over by the demonesses Carakī (northeast), Vidāri (north-west), Pūtanā (south-east) and Rākṣasī (south-west), were relegated to the out-castes such as the Svapacās (81-2). A piece of land possessing certain properties was thought to be specially suited to a particular caste. In this connection, declivity of a site towards a particular direction, colour, odour and taste of the soil, and the variety of the grass growing over it were taken into consideration. Thus a plot declining towards the north, east, south and west, white, red, yellow and black in colour, smelling like clarified butter, blood, food and wine, sweet, astringent, sour and pungent in taste, and covered by kuśa, āra, dūrvā and kāśa is recommended for the four castes in a descending order.³ According to another

¹. Cf. Matsya-purāṇa, CCLIII.16-17; Mānasāra, V. 34-37; Samarāṅgana-sūtradhāra, VIII.67-68; Vīsokarma-prākāśa, I.61.
². Cf. Ibid, I.62. The Mānasāra shows a strict attitude in the matter. According to it, the pit was filled with water, if there remained some water after 24 hours, the selected site was considered to be fit for receiving a building, cf. P.K. Acharya, Dictionary, p. 453.
³. But cf. Matsya-purāṇa, CCLIII.11-13, which assigns the pungent taste to the Kṣatriyas and astringent one to the Śudras. These rules were much elaborated in later times and the earth was examined with regard to its touch and sound also, cf. Samarāṅgana-sūtradhāra, VIII.48-51.
view, the Brāhmaṇas could have their houses on plots declining in any direction; a Kṣatriya on those declining towards the east, south and west; a Vaiśya on sites sloping in the south or west; and a Śūdra on a site declivous in the west (89, 94-5). In case these signs were not quite clear, some superstitious methods were resorted to. Thus in a pit in the plot was kept an unbaked earthen lamp containing four wicks in the four quarters; the plot is recommended for the caste in whose quarter the wick burns longest.¹ According to another method, flowers of the colours assigned to the four castes were mixed together and kept for a night in a pit specially dug out for the purpose. The site was regarded as auspicious to the caste the flower of whose colour does not fade away on the next day² (92-3).

These methods of testing the soil and the practice of relegating it to a particular caste on the basis of its declivity, colour, odour and taste were prevalent from very early times as is evident from their mention in the Gṛhyaśūtras.³ They are mentioned in almost all the works of both the northern⁴ and southern⁵ architectural traditions, indicating their widespread popularity and universal operation throughout India. After the examination of the soil, the site was ploughed and seeds were sown, evidently to test its fertility.⁶ Then followed purificatory rites consisting of the stay of the Brāhmaṇas and cows there for a night.⁷ Next, the landlord went to the site at an auspicious moment prescribed by an astrologer, worshipped deities and honoured the architect and the Brāhmaṇas. Lastly, touching his head, breast, thighs and feet according as he was a Brāhmaṇa, Kṣatriya, Vaiśya and Śūdra,

1. According to the Matsya-pana, CCLIII.13-5, if all the four wicks burn equally long, the site was called ‘śāmūhika’ (collective) and was fit for the houses and temples of the four castes. Also cf. Viśvakarma-prakāśa, I.62-64a.
4. Cf. Matsya, Ch. CCLIII; Bhaviya, Ch. CXXX; Samarāṅgaṇa, Ch. VIII. Cf. D.N. Shukla, Hindu Science of Architecture, pp. 139-145.
5. Cf. Mānasāra, Chs. IV-V.
6. Cf. Matsya, CCLIII. 17-19, which mentions ploughing and sowing as a test.
7. Cf. Manu, V. 124, where the stay of cows for a day and night is mentioned as one of the five ways of purifying the soil.
he drew a demarcating line which marked the commencement of construction (96-8).\(^1\)

**SITE-PLAN (PADA-VINYĀSA).** Varāhamihira mentions two site-plans consisting of eighty-one (ekāṣitipada) and sixty-four squares (catuṣsaṣṭipada) which were believed to be presided over by forty-five deities, thirty-two external and thirteen internal (42-50). The plan of sixty-four squares was specially meant for temples and will be discussed in its proper place. As for the plan of eighty-one plots, Brahmā occupies nine squares (navakoṣṭhakādhīpa) in the centre (Brahma-sthāna). Of the remaining deities, twenty occupy one square each (padika); twenty others known as dvipada preside over two compartments each; and four deities occupying three squares each are called tripada (Fig. 24). This plan was applicable to all kinds of secular structures, towns and villages (67).\(^2\) These plans were greatly elaborated in later times. The *Samarāṅgaṇa-sūtrakṛtī* (XIII.1) mentions three kinds of ground-plan, viz., (i) Paramaśayika, of 81 squares, (ii) Caṇḍita, of 64 plots, (iii) Asana, of 100 squares. The *Mānasāra* (Ch. VII) describes as many as thirty-two plans.\(^3\) But only two comprising 81 and 64 plots appear to have been in use during our period.\(^4\) This system of dividing the site into squares immensely helped the architect in calculating relative proportions of the various parts of a building. Thus if in the plan of 81 plots construction of the door at Jayanta and Indra is approved (70), it only means that the eastern door in question may be placed in the third or fourth square in the outer band.\(^5\) Though our author

1. The line was to be drawn with the thumb, middle finger or forefinger and with gold, a precious stone, silver, pearl, curd, fruit, flowers or coloured rice (*aṅkata*). A line drawn by a weapon, iron, ashes, straw, wood, feet, hide, charcoal, bone or tooth and in an anti-clock-wise order was regarded as inauspicious and so were harsh speech, spitting and sneezing (99-102). Cf. *Matsya*, CCLIII.19-20, according to which the demarcating line may be drawn with flour.

2. Cf. *Matsya*, CLIII.21; *Samarāṅgaṇa*, XIII.3. But contra *Samarāṅgaṇa*, XIII.5, which says that royal camps, villages, towns, etc. should be laid in accordance with the plan of 64 squares.

3. The plans of 64 and 81 squares are 8th and 9th in the *Mānasāra*, VII.9-10.

4. *Matsya*, CCLIII.19 ff. also mentions only these two plans.

5. Stella Kramrisch observes that ‘the relation of the Vāstu-Puruṣa
refers to only square plans, they could as well be applied to circular, hexagonal and sixteen-sided structures which are mentioned by him. Utpala is aware of this omission on the part of Varāhamihira and supplies necessary information about circular (Fig. 25) and triangular (Fig. 26) plans from a work of one Bharatamuni.¹ Triangular structures, if any, of the Gupta period are not known; they might have been
to the site-plan, ground-plan and vertical section of any building is similar to that of the tonic and any musical composition. The Vāstu-Puruṣaṣamaṇḍala gives the principle of all planned architectural forms and the prototype of its various rymbhs', vide her Hindu Temple, I. p. 22.

¹. Utpala on LII.55-6:— अनाचायः चतुर्स्ये क्षेरेष् वासनुगः
 प्रकटिः: न वृत्तपद्धत्तद्वरसङ्गमवोषाध्यक्षीयः। लोके च गृहप्राप्यसत्तीयः
 दृष्टयंते। तथा अनेनाचायाणेनकः:—तत्र पद्धरमं:। वृत्त: समुद्गानामां
 इत्यादि। तथा भरतमुनिना वृत्तसं वृत्त गृहमुक्तम्। तस्माद्वात्स्यवातः
 युज्ञद्वद्वावाभिंगामिः प्रदश्यंते। तथावो:—

एकाशीतिपदे क्षेरे करंतथ वृत्तपद्धकम्। वाळे वृत्तपद्धे गृहपद्धत्रिभिः गृहमुक्तम्।
 तृतीयी द्वादशापदे च तर्ययः च चतुर्तुपम्। केवले पर्वमे कार्य ब्रह्मा पर्ववस्तिः।
 शिल्लादयस्तु: हिमपता वहिकविस्फोक्तमवस्थिताः। अयमापो: सुरण: सर्वो पदिका:
 परिलिखिताः।

इति वृत्तश्चे एकाशीतिपदे।

बुद्धानि चतवारि समानि हृवत्वा वास्तोँशतु: परिश्लेष्य सम्यक्।
 अपस्वदेण च सूर्यवेदैव भिन्नायं वृत्तचतुर्तयं च ॥
 शिल्लादयश्रेष्ठकदे निलिखित: पदयते चार्यमकार्यस्य।
 आपादयश्रेष्ठ निपद: प्रतिशतः पत्तुपदचार निपदमहृ: स्वात्॥

इति वृत्तश्चे चतुःपदयाद्। एवमेव पदयप्रभृतीयानां विन्यासः कार्यः।

वृत्तश्रेष्ठ क्षेरेष् च:—

बुद्धानि पद्धच क्षेराणि नित्रिको निगम्ययते ॥
 प्राची धर्मश्च चार्या कौण्यस्य ततः परे।
 रविवातिरिहले तेसा वास्तुवार्ताः तानि तु॥
 दिति बायुः जलपति कौण्यव ज्ञि विन्यासेत्।
 तत: शिल्लादयकानु सवानु सवेनु दयनेवविच्येत्।
 दितिये पूर्ववाद्याणां: पोष्णो हिमः विलयन्।
 तताणि कौण्यनित्रिये पूर्वोंकानु विन्यासः व्यस्तेत्॥
 शेषे पूर्वकांस्यायु सर्वाणि विन्यासेत्।
 शेषे तृतीये चतवारि संवेशायामु कार्येत् ॥
popular in Utpala's time. As we shall see below, the site was believed to be identical with the body of Vāstupuruṣa. A diagonal \( (vānśa, 57, 61, 63) \) is said to be as many digits in breadth as a square measures in terms of cubits and the straight lines running east-west and north-south \( (śīrā) \) were in breadth one and a half times the diagonals \( (63) \).¹ Utpala criticises Varāhamihira for not distinguishing the \( vānśas \) and \( rajaśus \) and extracts two and a half verses from his own work on \( Vāstuvidyā \) to the effect that the two diagonals from Roga to Vāyu and Pitṛ to Śikhin were called \( vānśa \), others being known as \( rajaśu \).² The nine meeting points of the diagonals and the exact middle points of the squares \( (1/8 \text{th of a square}) \) were considered to be the most vulnerable points and these together with \( Brahmasthāna \), when hurt by impure articles, nails, pegs, pillars, etc., were believed to trouble the landlord in the corresponding limbs of his body \( (57-8, 60-64) \).³

**VĀSTUNARA.** The building-site constituted the body of Vāstunara. As for his descent, we are told that once there

1. Cf. Utpala—रोगादायुमित्यादिकं सुत्रपतः वंशवन्दनोऽध्ये।

2. अग्राभार्यं वंशानां रज्जुनां ज विभायो नोक्त्रं समासेन रोगादायु-

3. Scratching a limb or limbs or an ill omen at the time of a query and a defect in the fire while offering an oblation to a constituent deity of Vāstunara was supposed to indicate the presence of a peg in the corresponding limb of the House-God \( (LII-59) \). P.K. Acharya takes it to imply 'that certain parts of the ground-plan should be reserved as sacred places', cf. \( Mānasāra \), Engl. tr., p. 55, fn. 3.
was some being undefined by name and form; it obstructed the
heaven and the earth by its body and was therefore suddenly
seized and laid topsy-turvy by the host of gods who became
the presiding deities of its different limbs touched by them; the
Creator made the being House-God (Vastunara) of the nature of
gods (2-3). This story is greatly amplified in the Matsya-
paranā (Ch. 252). Vastunara is male and his image should
be carved in the likeness of man. He should be represented
in such a way as to cover the entire site. His head is turned
to the north-east and face hung down. Different parts of his
body are occupied by several gods in the following manner:

Right Side:—Head-Sikhin; face-Āpaḥ; pap-Aryaman;
chest-Āpavatsa, Indra; eye-Parjanya; ear-Jayanta; shoulder-
Śūrya; arm-Satya, Bhṛṣa, Antarikṣa, Anila, Pūṣan; hand-
Savitā and Sāvitra; side-Vitatha, Bhṛhatkṣata; stomach-
Vivasvat; thigh-Yama; knee-Gandharva; shank-Bhṛṅgarāja;
buttock-Mṛga;

Left Side:—Pap-Prthvīdharā; eye-Diti; chest-Bhujaga;
shoulder-Soma; arm-Bhallāta, Mukhya, Ahi, Roga, Pāpaya-
kṣmā; hand-Rudra, Rājayakṣmā; side-Śoṣa, Asura; thigh-
Varuṇa; knee-Kusumadanta; shank-Sugrīva; buttock-
Dauvārika; genital organ-Śakra, Jayanta; heart-Brahmā; feet-
Pitṛ (51-4).

As regards other arrangements of a house, it is laid
down that in a catussāla house, the chamber of worship (deva-
grha) should be located in the north-east, kitchen in the south-
east, store-room in the south-west, and granary and treasury
in the north-west (116). A bed-chamber along the diagonals
was disapproved (122). It is further laid down that a
house should be so constructed that when one enters the cour-
yard, it should lie to one’s right. According to Utpala, it
means that according as a house faces the east, south, west
and north, the entrance of the courtyard should face north, east,
south and west respectively (68 comm.). As a general rule it
is enjoined that a house should be equally elevated on all sides.
In case it is not possible to avoid an unsymmetrical elevation,
it may be either in the east or north (113-115). Buildings
were also required to be straight and face a cardinal point, and
those violating this rule were believed to anticipate certain
disasters (113).
STONE-LAYING CEREMONY. The next operation following the selection of the site and the preparation of the ground-plan was to lay blocks of stones first in the south-east and then in the south, south-west, west, north-west, north, north-east and east in order, or according to another interpretation beginning with the north-east in a clock-wise manner (pradaksīna), which marked the commencement of building and resembled the modern stone-laying ceremony. Columns and doors were also erected in a similar manner. Utpala informs us that the latter interpretation was followed by architects in his time (110-11).

VAJRALEPA, VAJRATALA, VAJRASANĞHĀTA. Besides mentioning burnt bricks (pakvaśtakā, 23), wood (110-111) as building materials, Varāhamihira in Ch. 56 of the Brhat Saṃhitā describes four kinds of plaster—two Vajralepas, Vajratala, and Vajrasangha. Vajralepa was composed of the precipitate of unripe tinduka and kapithaka fruits, blossoms of the silk-cotton tree, seeds of sallaki, skin of dhanava and vacā boiled in a droṇa of water and reduced to 1/8th of its original volume and finally mixed with śrīvasaka (resin of a tree), rasa, guggulu, bhallātaka, kunduṣuka (resin of devādaru), resin of sarja, linseed and bilva fruit (LVI.1-3). Another plaster of the same name was prepared in the above manner from lac, resin of devādaru, guggulu, grhadosa, kernel of the kapithha and bilva fruits, fruits of nāga, nimba, tinduka and madana, resin of sarja and myrobolan fruit (LVI.5-6). A paste called Vajaratala was prepared in the above manner from the horns of cows, buffaloes and goats, hair of donkeys, skins of buffaloes and cows, nimba and kapithha fruits and rasa (LVI.7). A plaster composed of eight parts of lead, two of bell-metal,

1. Cf. Utpala—एतदुःक्तं भवति। प्रागुद्धिस्यस्या दिशित शिलान्यासं कृत्यं ततो दद्धिस्यस्य ततो नेत्रेऽन्त्यं तत। पवित्रस्यमम्। ततो वायुस्यं तत। उत्तरस्यं तत। ऐसाः। तत। पूर्वस्य। दिशित शिलान्यासं कुर्वदिति। केचिदुत्तरस्य कोणेष। कृत्यं पूजां शिलां न्यस्तं प्रयोगिता पद्धति। उत्तरस्य। वेशानकोणे शिलान्यासं कृत्यं तत। शेष: प्रक्षणेण न्यस्या इत्येतोलकेष स्वपतित्यु दृश्यत्इ।

2. The use of dhava, eebhitaka, nimba and arangi, of the trees that are thorny, milky, laden with fruits, broken, withered or burnt, and of those that abound in birds' nests and grow at cremation ground or near a temple was disapproved, cf. LIII. 84, 118.

and one of iron-rust was known as Vajrasaṅghāta. These pastes were applied hot to temples, mansions, windows, lingas, images, walls and wells and are said to adhere for ‘a crore of years’ (LVI.4).

It was held by M. M. Ganguli that the red paint seen on some temples at Bhuvaneshwar and a few sculptures in the Koṅārka temple is really the Vajralepa mentioned by our author. But a chemical analysis of a sample of the red paint from the Mukteshwara temple at Bhuvaneshwar renders the conjecture improbable.

CEREMONIALS AND BELIEFS. Religion has played a vital role in all walks of Hindu life and architecture is not an exception. A number of rituals was performed in course of construction. Oblations were offered to Vāstu Purāṇa and deities of squares and omens interpreted from the appearance of fire. The site-plan is inspired to a great extent by religious considerations. Worship was offered to deities while demarcating a building-site (97). Every constituent of a structure was looked upon with a feeling of sanctity and columns and doors were erected being decked with parasols, wreaths, cloths, incenses and ornaments (111). Before cutting down a tree for timber, offerings were made to it in the previous night and only a tree that fell to the north or east was to be used (121). After a building was ready, the entrance ceremony was performed as now with great pomp and show. The house was decorated with an abundance of flowers, leafed arches and pitchers filled with water. The Brāhmaṇas recited Vedic hymns and gods were worshipped with incenses, perfumes and oblations (123).

Besides, there were certain beliefs which may be recorded here. When the landlord entered a finished or unfinished house, the place where he stood and the particular limb he touched were carefully observed and these in association with the birds and animals crying harshly or warbling sweet were

1. LVI.8. This plaster is attributed to Māya.
2. M.M. Ganguli, Orissa and Her Remains, pp. 135 ff.
3. Ancient India, No. 6 (January, 1950), pp. 103-104.
5. Utpala says that only the internal gods of Vāstu Purāṇa-maṇḍala were worshipped—Atra sāmnaye-ōktaṁ pūjit-ōmarāṁ tathāpi vástumadhyagataṁ anāllā pājānyād na báhyasthāṁ Sikhi-Parjanya—ōdayaś-ryom-ādyā vā.
supposed to indicate the presence of a bone or wealth inside the earth (103-105, 107). The braying of an ass at the time of measuring the site and a dog or jackal crossing the measuring string were also taken to indicate the presence of a bone (106). Similarly, the snapping of the measuring string, a peg driven upside down, the architect and the landlord forgetting something, the falling from shoulder, draining away or breaking of a water-jar, birds sticking to columns and doors, and the shaking, fall or misplacement of pillars or doors were believed to foreshadow certain calamities (108-109, 112).

STHAPATI. We may conclude this section with a few words about the architect. In later works various classes of architects are mentioned. The Samarāṅgaṇa-sūtradhāra (Ch. 44) refers to four classes of architects, viz., Sthapati, Sūratgrāhin, Vardhakin and Taksaka, and describes their qualifications with meticulous details, while the Mānasāra (Ch. 2) narrates their legendary origin. These categories are conspicuous by their absence in the Matsya-purāṇa, which refers to the architect by the common name sthapati. Sthapati combined in him the functions of both the engineer and the mason. He was responsible for preparing the ground-plan and for the successful completion of the undertaking. As a result of the high qualifications and the useful service he rendered to the society, he enjoyed a high status. In the various stages of construction, the landlord showed respect to him and at the commencement of building, honour was accorded to the sthapati even before the Brāhmaṇas.
II

TEMPLE ARCHITECTURE

Temple-architecture is dealt with in Ch. LV entitled 'Prāśādalakṣaṇādhyāya`. It will be worth-while to analyse the contents of this chapter with special reference to the actual specimens that have come down to us.

PRĀŚĀDA. Prāśāda is the most common word used to denote a temple. It occurs in this sense in the Amarakośa (II.2.9), Matsya-purāṇa (Chs. CCLXIX-CCLXX), the Eran inscr. of the time of Toramança, Mandasor inscr. of Kumāragupta and Bandhuvarman, Gwalior inscr. of Mihirakula, Bodh-Gaya inscr. of Mahānāmanā and a large number of other literary and epigraphic records. Surālaya, surabhavan, devālaya, devatāyatana, devakula, devagāra, āyatana and vibudhabhavana are other words used in the same sense. It is curious to note that the word mandira which is so very popular now-a-days does occur; but as observed by Utpala, it denoted a residential building and not a temple.

The construction of temples was considered to enhance one's reputation and religious merit and to lead the builder to the worlds attainable by the observance of īṣṭa (sacrifices) and pūṣṭa (charitable acts, LV.1-2; LXVII.49). Shrines are known to have existed much earlier; but being built of

1. LV.19, 31; LV.4; LXXXV.17; LXXXVIII.6; XCIV.5, 34.
2. CH. III, p. 160, II.6-7; p. 81, 1.7; p. 162, 1.6; p. 276, 1.11.
3. IX.42; LVIII.2; XCIV.4.
4. LXXVIII.4.
5. LII.118. Cf. devānāṃ ālayathā in LV.2.
6. LV.1, 9, 10.
8. LII.116.
9. LVII.3.
10. L.4; LIX.16.
11. CH. II.62.
12. IV.2; LXXXVIII.8; XCIV.4; B7, V.13, 19; XXV.4; PS, XIII.26; TT, II.5.
13. Cf. Śāṅkhāyana-śrautasūtra XVI.18-19-17 (prāśāda on all sides of āhavanāya fire); Patanjali's Mahābhāṣya II.2.34 (prāśādā Dhaneṣuṣṭi-Rūmā-Kelavāṇa); Bhilsa Garuda pillar inscr. of about 2nd century B.C. (uṭṭama prāśāda of Bhagavat); Vaiṣṇava-prāśāda represented in a relief panel from Bharhat, Coomaraswamy, History of Indian and Indonesian Art, Fig. 43.
impermanent and perishable materials, they could not survive the millennia that have since elapsed. The use of brick and stone for religious structures gave a new power in the hands of the architect. The idea of the religious merit accruing from the construction of temples provided another incentive. Though very few temples of the Gupta period are now extant, contemporary epigraphic and literary evidence leaves no room for doubt that the country was literally covered with shrines belonging to various sects.

**THE SITE.** Detailed instructions are given regarding the selection of the site a temple is to stand upon. Generally speaking, the site should have plenty of water, trees and groves. Thus the spots best suited to receive temples were those skirted by forests, rivers, mountains and cataracts. But in the densely populated cities and towns where natural scenery in the form of rivers and forests was conspicuous by its absence the selected site had to be beautified by excavating tanks and laying out gardens and parks, for the presence of gods was considered to be easy of access in those places alone which are furnished with water and gardens, natural or artificial. ‘Deities’, says Varāhamihira, ‘come near the spots furnished with water and groves, natural or artificial. They always sport in places rendered charming on account of ponds which have a parasol of lotuses warding off the beams of the sun, clear water with the avenues of white lotuses agitated by swans with their shoulders, resound with the notes of swans, kāraṇḍava, krauṇca and cākravāka and have the aquatic animals in the shade of nicula trees standing on their banks; or near the rivers having krauṇca birds for their elaborate girdles, melodious notes of rājahamsas for their voice, beautiful garments in the shape of a vast sheet of water, belts in the form of fishes, floral ear-ornaments in the form of blooming trees on their banks, buttocks formed by confluences, lofty spots on the banks forming their breasts, and hanṣas for laughter. The gods are delighted to dwell in places skirted by forests, rivers, mountains and cataracts as also in towns furnished with parks.’ (LV.3-8). Utpala quotes some verses of similar import from

1. Cf. Āpastamba-grhyaśūtra, vii.20, which refers to the carrying of images by the householder and placing them in huts built for the purpose.
Kāśyapa. That these injunctions were followed in practice is evident from the fact that almost all ancient temples are found to have ponds, lakes or rivers nearby. Skirted by hills on the south, west and north, the Daśāvatāra temple at Deogadh lay in close proximity of the river Betwa; the temples at Bhuvañesvara, Purī and Koñārka had tanks close by; and the cave temples at Ellora and the rock-hewn monasteries and caitya-halls at Ajanta, Karle and Kanheri were all located in a beautiful natural setting.¹

SITE-PLAN. The temple-site was usually divided into sixty-four plots by drawing nine lines across and nine vertically as also diagonals from corner to corner (Fig. 27). In this scheme, Brahmā occupies four central plots which are consequently known as Brahma-sthāna. The four squares in the corners along the circumference of Brahmā and the four outermost corner squares are shared by two deities each, while the gods located on both sides of the outermost corners are allotted one and a half square each. The remaining twenty gods preside over two squares each and are, therefore, called dvipada.² Like the plan of eighty-one squares, it could also be applied to circular structures (Fig. 28).

These presiding deities constituting Vāstupuruṣa were worshipped throughout the different stages of construction with various offerings which are amplified in the Matsya-purāṇa Ch. CCLXVIII. That this division of the site selected to receive a structure was no innovation of astrologers and was actually followed by architects is clear from the surviving examples of contemporary temple architecture. It is accepted by archaeologists that Hindu temples were usually laid on the

¹ For caste-wise selection of the site, see LIII.89, 92-93; LV.9.
² अष्टाण्विकोष दगड़ महान रूपासव कृतृवेद साधनात्मकम्।
ब्रह्मा चतुष्यविशेषमिवहर्ष्यदा ब्रह्माकोणस्वः॥
अष्टी च बहुकोणोष्ठवस्मादतद्विनायस्वितः सार्वः॥
उक्तेमयो ये श्रेष्ठाः द्विपद विशालते हिः॥
चतुष्यमतिपदं कारं देवतायतं सदा।
LII.55-6; LV.10.

For the enumeration of the deities, see LIII.43-48.
plan of squares. Thus Cunningham and, following him, M.S. Vats have pointed out that the terrace over the basement of the Gupta temple at Deogadh was divided into nine equal squares, the central one being occupied by the garbhagṛha. It is, however, interesting to note that this plan is in agreement not with the scheme of 64 squares detailed above but with that of 81 squares (ekāśīti-pada) in which Brahmā occupies nine central squares.

**Measurements.** The one purely architectural module of proportionate measurement elaborated by Varāhamihira is the width of the prāśāda measured externally. In some respects the proportionate dimensions of the various parts of a shrine differ radically from those prescribed for a residential building. Thus while a residential house is required to be equal in height and width, the height of a temple should be double its width and the terrace (kaṭi) above the basement over which the shrine is to be erected should be one-third of this height. This accords fairly well with the Viṣṇudharmottara (III. LXXXVI.4) according to which the jagati (base) is to be 1/3rd of the height. The internal breadth of the garbhagṛha is half of its external width, the remaining portion being occupied by thick walls. These rules appear to have been followed in some of the extant temples. Thus the relative proportions between the width and the height are approximately applicable to the Daśāvatāra temple at Deogadh which is a plain square 18' 6" × 18' 6" side and ‘its height when entire could not have been less than 40 feet’. As pointed out by Cunningham,

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2. *The Gupta Temple at Deogadh, MASI*, No. 70, p. 5, Pl. II.
3. See *supra*, p. 387.
4. यो बिकारी भवेदुः यस्य द्विगुणा ततस्मुन्नतिः ।
उच्छ्वादत् यस्तुर्यांशस्तेन तुक्तं कटिः स्मृता ॥
LV.11.

According to Utpala, kaṭi is the starting point of the temple above the steps—sopān = upari yato devagṛhyā prārambhāḥ sā kaṭirī=ucyate.
Utpala tells us that a circumambulatory path should be left between the garbhagṛha and the walls—Hasatrayam bhramanāya sarrāsu dikṣa=anāśtaṁ sthāpyateṣāṁ bhittī=avastabdham kuryat.
the height of the temple at the foot of the Godoni hill at Pathari, 50 miles to the north-north-east of Vidiśā, is exactly twice its width, which is strictly in accordance with the dimensions given by our author. As to the proportion between the external and internal width, the Deogadā temple externally measures 18' 6" × 18' 6", while the square sanctum it leads to is 9' 9", deviating very slightly from the dimensions mentioned above. But the exact corroboration of the proportions under consideration is to be met with in the Munḍesvarī temple which externally measures 40' in diameter, while the internal diameter of the garbhagrha is exactly 20 feet, the walls being 10 feet thick. Similarly a later temple at Paraolī in Kanpur is 13' 4" in external diameter, the cella measuring internally 6' 8".2

Next are given rules about the dimensions of the doorway. In width it is ¾ of the garbhagrha, thus covering only 1/8th of an entire side-wall. In contradistinction to the doors of the residential buildings (of the members of four castes) which should be in height three times their width, the height of the temple-door is only twice the width, the difference being apparently inspired by the practical consideration that a door with a height only two times its width would be too low for residential purposes. The jamb (śākhā) and the lintel and sill (udumbara) should each be in width equal to a quarter of the height, the depth of the former (śākhā) being a quarter of the width of the door, i.e., half its own width (LV.12-13).

Some of the extant examples show that these dimensions were more or less followed in constructing temples. Thus the height of the doorways of the caves 1, 4 and 5 at Ajantā is about twice the width. The doorway leading to the sanctum of the Gupta temple at Deogadā measures 6' 11" × 3' 4½", which approximates to the dimensions laid down in our text.

About the general position of the door it is laid down that it should face an exact cardinal point and not an intermediate direction and should be so placed in the middle of the side wall that equal parts of a wall are left on both the sides (LV.10).

2. CASR, XI, p. 46.
3. MASI, No. 70, p. 12, Pl. XI (a).
It is interesting to note in this connection that from his survey of the Gupta temples Cunningham concluded that 'deviation in plan from the cardinal point' was one of the characteristics of the Gupta style and suggested that 'it may have been an intentional deviation of one Nakṣatra or lunar mansion amounting to 13° 12'.

Another set of proportionate measurements which is not elaborated but implied is the height of the main cult-object, whether linga or image, housed in the shrine. It is, thus, stated that the total height of the image-cum-pedestal should be less by 1/8th than that of the doorway, the ratio between the height of the image and the pedestal being 2/3 and 1/3 respectively. It would follow from the above that Varāhamihira is very clear on the relation between the different parts of the edifice and that between the edifice and the height of the main cult object.

It is interesting to note that the canons laid down by Maya and Viśvakarmā about the height of a bhūmi (storey) are reiterated by Varāhamihira. According to Maya, a storey's altitude is 108 aṅgulas (6' 9''), whereas Viśvakarmā pronounced it to be three cubits and a half or 84 aṅgulas (5' 3''). But as pointed out by Varāhamihira, in reality no difference exists between the two, for if we add the height of the crownwork called kapotapālī the smaller figure would equal the larger.

**DECORATIVE FEATURES.** The usual plainness of the early Gupta temple was relieved by its delicately ornamented doorway. We get reference to the following decorative features: the door-jamb comprising 3, 5, 7 or 9 vertical mouldings, the lower one-fourth portion of the door-jamb occupied by an

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1. CASR, IX, pp. 43-4.
2. द्वारामानाहा्तभाषोता प्रतिष्मा स्थात समिष्ठिका।
   दी भागी प्रतिष्मा तव तुतीयांश्च शिष्ठिका॥
   LV. 16.
3. भूमिकाहुलमानेन मयस्थायित्वं शतम्।
   सादुर्ध्व हस्तनुप: चेव कहित विनवविभण।॥
   प्राहु: स्थपत्यश्वाह मतेकं सििषिषित:।
   कपोतपालिसंयंका स्त्रेया गच्छन्ति तुल्यताम्॥
   LV. 29-30.
attendant figure (pratihāra) on each side, auspicious birds such as haṁsa, jīvaka, kāraṇḍāva and cakravāka, śrīvṛṣa, svastika, auspicious pitchers, amorous couples, foliated scrolls, and the dwarfish figures called Pramathas.1

To give only a few examples, the door-jambs of the Śiva temple at Bhumara and the Viṣṇu temple at Eran each consist of three distinct vertical bands of carving.1a Similar is the case with the Bina cave (No. 3) at Udayagiri where ‘the plain frame is surrounded by three lines of rich mouldings,2 and the doorway on the south end of the verandah of the Chandragupta cave ‘is divided into sculptured panels, two to left and three to right.’3 The door-frames of the Deogadha4 and the Śiva temple at Dah Parbatia in Assam,5 however, comprise four vertical mouldings of carving on each side which does not agree with the prescribed rule. The door-keepers are to be seen at Deogad, Udayagiri,6 Nachna,7 etc. All these motifs except the auspicious birds may be recognised in the Gupta temple at Deogad and the lucky birds at Dah Parbatiya. The presence of the river goddesses Gaṅgā and Yamunā on makara and tortoise respectively usually on the proper right and left sides of the door-jamb alongside the lintel and sometimes below, which is regarded as one of the characteristics of the Gupta style,8 is conspicuous by its absence not

1. त्रिकोणमित्रसम्मितिः: शाखामित्रसम्मितिः।
अव शाखामित्रसम्मितिः प्रतीहारी निनिवेशितं।
शीघ्र मकरविचारं: श्रीश्री: स्वस्थिकथितं।
भिन्नतेः: पत्रवल्लिमिः: प्रस्तरश्चोपज्ञित।

LV.14-5.

1a. R. D. Banerji, The Temple of Śiva at Bhumara, MASI, No. 16, p. 45, Pl. IIIa; CASR, X, p. 86.
2. Ibid., p. 47.
3. Ibid., p. 50, Pl. XVII.
4. MASI, No. 70, pp. 12-3, Pl. IXa.
5. ASI, AR, 1924-25, p. 98, Pl. XXXII c.
6. CASR, X, pp. 50-51.
7. Classical Age, Pl. XII, fig. 23.
8. The characteristics of the Gupta style, according to Cunningham, are as follows:—1. flat roofs, without spires of any kind, as in cave temples; 2. prolongation of the head of the door-way beyond the jambs; 3. statues of the river goddesses Gaṅgā and Yamunā guarding the entrance door; 4. pillars with massive square capitals, ornamented with two lions back to
only in our text but also in other early texts. In early temples they stand usually higher up alongside the lintel, e.g., at Deogadh, Nachna Kuthara, Tigava; but occasionally they have their position below as at Bhumara, Eran and Dah Parbatiya temples. Another decorative feature which remains unnoticed in our work is the miniature figure of the cult deity enshrined in the cella in the centre of the lintel (dvāra-lalāṭa-bimba) as at Deogadh,1 Bhumara,2 Dah Parbatiya3 and other places.

**TEMPLE-TYPES.** Varāhamihira mentions the following twenty types of temples differing from one another in regard to dimensions, arrangements and plan:—1. Meru, 2. Mandara, 3. Kailāsa, 4. Vīmānacchanda, 5. Nandana, 6. Samudga, 7. Padma, 8. Garuḍa, 9. Nandivardhana, 10. Kuṇjara, 11. Guharāja, 12. Vṛṣa, 13. Harāsa, 14. Sarvatobhadra, 15. Ghaṭa, 16. Simha, 17. Vṛttā, 18. Catuṣkoṇa, 19. Soḍaśaśri and 20. Aṣṭaśri (BS, LV.17-9). This classification is based on the number of storeys and spires, divergent dimensions and plan and the position of doors variously designed with a view to provide a desired volume of light or darkness. Roughly speaking, they conform to 16-angled, octagonal, hexagonal, dodecagonal, square and round plans. The first three names denoting the largest temples then known are evidently derived from mountains on account of their imposing height. Differences between these types are so great that Stella Kramrisch4 has been constrained to suggest that 'they were due partly to the integration of sanctuaries of heterogeneous origins in Hindu temple.'

1. **Meru**, the largest temple described in our text, is hexagonal in shape, has twelve storeys, variegated windows and four entrances facing cardinal points, and is 32 cubits (48") back, with a tree between them; 5. bosses on the capitals and friezes of a very peculiar form like Buddhist Stūpas, or bee-hives, with projecting horns; 6. continuation of the architrave of the portico as a moulding all round the building; 7. deviation in plan from the cardinal points. The Tigava temple possesses all the seven characteristics (CASN, IX, pp. 42-4).

1. **Masi**, No. 70, p. 12, Pls. IV, IXa.
wide.¹ As observed by Bühler,² Meru is originally the name of the fabulous golden mountain in the centre of Jambudvīpa on which gods reside and it is only figuratively that it denotes a temple-type and is applied in geographic names to any hill covered with splendid temples and palaces, e.g., Jaisalmer, Komalmer, Ajmer. A detailed account of Meru is found in Bhoja’s Samarāṇgana-sūtradhāra (LV.5) according to which its width ranges from 33 to 50 cubits; it is the lord of the prāsādas and is built by a Kṣatriya alone, its sthapati or architect being a Vaiṣya or a Brāhmaṇa (Ib. LV.36, 39). Some references to Meru are to be found in mediaeval inscriptions. The Kalacuri ruler Yaśaṅkarna is said to have built at Kaśi the temple Karṇameru proclaiming his great fame, resembling ‘the circle of waves of the milk-ocean’ and being so lofty as to lessen ‘the fatigue of the multitudes of the celestial damsels playing in the sky, with the breezes of the flags waving from

¹  तत्र पडःश्रीसंब्रह्मविजयो विचित्रपुत्रकुद्रव ।
   द्रार्युतकशचतुर्मिश्रसिद्धस्तवस्तवस्तीणः ।

LV.20.

Kaśyapa as quoted by Utpala adds that Meru should be crowned by round finials:—

²  भूमिकात्मक कल्वमा विचित्रपुत्रकुद्रवै: ।
   द्रार्युतकशचतुर्मिश्रसिद्धस्तवस्तवस्तीणः: ।
   प्रासादो मेसंजां: स्वातन्त्रंदिदितो विचक्षरणः ।

According to Utpala kūhara denotes internal windows on the walls of the garbhagṛha:—vicitṛa nāniprakārā abhyantaragavakṣasī= tatra bhavaṇiti. In the Gupta temples provided with processional path the larger covered chambers are lighted by a trellis or trellises in each of the three side walls, but in the Nachna example the garbhagṛha is also lighted by two trellises in two side walls (Classical Age, p. 502). Though Gupta temples with only one upper storey, e.g., Parvati temple at Nachna (Classical Age, Pl. XI, fig. 22) and Lad Khan temple at Aihole (Ib. Pl. XII, fig. 24), are known to us, there is no reason to doubt the existence of 12-storeyed structures described in our work.

Stella Kramrisch (op. cit., pp. 271-72) thinks that aṣṭa means here ‘a side or face and not an angle’, and that the ground-plan of Meru and the next four structures is not hexagonal but it has six faces, for each of their three sides has a central buttress which is set off from the wall, its face running parallel to that of the wall. According to her, this six-faced form was evolved only recently, and consequently it had the greatest importance at the time when the BS was composed.

². IA, XXVI (1897), p. 164, fn. 11.
its golden spires.' Gângeyadeva is stated to have 'made this earth,...though situated below, soar higher than heaven which is an abode of gods, by constructing a matchless Meru.' A temple called Karñameru Prâsâda at Anhilwad built by the Caulukya king Karna of Gujarat is mentioned by Merutuṅga in his Prabandha-cintâmaṇi. The Prabhâvaka-carita also refers to a Śiva temple called Siddhameru.²

2. Mandara is a six-faced temple 30 cubits (45 feet) in width, having 10 storeys and cupolas (Trimśaddhast-āyāmo dasabhaumo Mandanah sikhara-yuktah, LV.21).

3. Kailāsa is the name given to a temple hexagonal in shape, twenty-eight cubits (42 feet) wide and having eight storeys and turrets (Kailāsā = pī sikhara-vān aṣṭāvinsā = śabhaumaś = ca).³

4. Vimāna, besides being one of the most common words denoting a temple, signifies a special class of six-sided temples 21 cubits in width and provided with latticed windows (Jāla-gavākṣaka-yuktah Vimānasahjñās = tri-saptak-āyāmah, LV. 22.). Varāhamihira is silent about the number of storeys, but Kāśyapa gives it as eight.⁴

5. Nandana, like Meru, is six-sided and 32 cubits wide and has six storeys and sixteen cupolas (Nandana iti ād-bhaumo dvātrimśah sodas-āṇḍa-yuktah). This is the last in the series of six-sided temples.

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1. Kaṇakatīrtha, Vaiṣṇavīsmi, Sākṣatkarā, Rājvrata-vilāsa, 12, 6, p. 212; Ci, IV, pp. 293, 303-304.
2. Nâga-pratîyogita, Avadāna-kathā, 13, 6, 9, 12, p. 412.

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1. El, XII, p. 212; CII, IV, pp. 293, 303-304.
2. IA, 1897, p. 164, fn. 11.
4. Gāyaścānakṣetra, Tāntrikā-vyākhyāna, 1, 11.
6. **Samudga**, as indicated by the name, is circular in shape and resembles green gram and, like the next type, is provided with a single storey and spire (śṛṅga) and is only eight cubits wide. Śṛṅga is the same as śīkhara but has no storeyed super-structure.

7. **Padma** is a suggestive name connoting a temple shaped like eight lotus petals. In all other details it resembles Samudga (vṛttah Samudganāmā Padmaḥ padm-ākṛtiḥ sayā aṣṭau, Śṛṅgen-aikena bhaved = ek-aiva ca bhūmikā tasya, LV.23. Cf. Utpala: Padmaḥ padm-ākṛtiḥ kamal-ākāraḥ aṣṭabhir = dalaṅgaj = yuktah).

8. **Garuḍa** is a meaningful name which denotes a structure resembling a garuḍa bird, i.e., provided with architectural members very similar in appearance to the wings and tail of this bird. It is twenty-four cubits in width, has seven storeys and twenty aṇḍas or āmalakas (LV.24). According to the Vīṣṇudharmottara, it is a rectangular building.\(^1\)

9. **Nandivardhana** is shaped like Garuḍa, but is devoid of wings and tail. Like Garuḍa, it is twenty-four cubits wide and has seven storeys and twenty aṇḍas.\(^2\)

10. **Kuṇjara** is shaped like an elephant's back, 16 cubits all round at the bottom, and has only one storey and a roof with three candraśālās.\(^3\) It refers to the apsidal plan and barrel-vaulted structure which is very rare in the galaxy of Hindu devotional buildings. However, it is illustrated by the Durgā temple at Aihole and the brick temples of Kapoteśvara

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2. ग़हड्क्रितिवश ग़हड्क नातीति च पत्थरकुष्कविस्तीर्णः | काप्रस्तु सप्तमौमो विब्रूहित्वौश्रावस्त्रु विशध्यः ||

Cf. Utpala: ग़हड्क्रितिर्ग़हड़कारः पश्चिम पक्षपुच्छयूक्तः ||...नन्दिवर्तनसंश्रश ग़हड़कार एव किंतु पक्षपुच्छचरिणः ||

and Kāśyapa cited by Utpala:—

ग़हड्क ग़हड़कारः पक्षपुच्छविभूषितः ||

नाती तवाहित्वः पश्चादिरहितः पुषः ||

कराणां पत्थरकुष्कां विस्तरिन्तै सप्तमौमिकै ||

व्यावधिगुणोपिन्यूष्पितानि कारित्वत् तु तौ ||

3. *Candraśālā* is a gabled chamber on or above the *kapota* or the gable window itself, in the latter case *candraśālā* being an abbreviation of *candraśālā-*
at Chezerla¹ and of Trivikrama at Ter which were adjusted for the purpose of Brähmanical worship by introducing certain devices. A beautiful illustration of the Gaja-prṣṭha or elephant-back-shaped structure is to be seen in the rathas of Nakula and Sahadeva at Māmallapuram.²

11. Guharāja, as indicated by the name and pointed out by the commentator, is shaped like a cave (Guharaṇo guh-ākāraḥ). It measures 16 cubits and its roof is provided with three candrasālās.³

12. Vṛṣa is circular all round and twelve cubits wide and has only one storey and one turret (Vṛṣa ekabhūmi-ṛṇgo dvādaśa-hastaḥ samantato vṛttah, LV.26).

13. Haṁsa is shaped like a swan, i.e., with beak, wings and tail (Haṁso haṁs-ākāraḥ, ib. Cf. Utpala :—haṁsa-sadrśaḥ caṇe-cakṣa-puṣa-puṣa-yuktaḥ). It has one storey and one turret, its breadth being 16 cubits.

14. Ghaṭa is shaped like a pitcher, is 8 cubits wide, and has one storey and one turret (Ghaṭa = sṭa-hastaḥ kalaṣa-rūpaḥ, ib.).

15. Saratobhadra is 26 cubits wide and has four entrances (one in each quarter), many spires, candrasālās and five storeys.⁴ Utpala tells us that it is square (caturasra) in plan. It is clearly stated in a verse of Kāśyapa quoted by him.⁵

vātāyana. Coomaraswamy points out that gacāṭśa in the Raghuvamsa VII.11 & XIX.7 is synonymous with it and is the same as modern jharokkā, Coomaraswamy, Indian Architectural Terms, JAOS, XLVIII (1928), pp. 253-54. Utpala takes it to be synonymous with kuhara meaning window:—anayor=devyor=api valabhi kuharnī=candrasālā bhavet.

1. Classical Age, p. 497, fig. 19.
2. JAOS, 1928, p. 259 and plate facing it.
3. कुर्त्त्वर इति गजपृस्तः पौड़कृत्: समंतौ मूलात्।

गुहराजः पौड़करित्वनद्रशः भवेदलभी।

4. द्वारैतुष्थकृत्वमित्रुद्दितरो भवति सब्तोमद्रः।

बहुचिरचन्द्रशः पद्विंश: पद्मभिमतः।

5. तथा च काश्यपः

शिलर-बंड्युभिक्तचन्द्रलिपिबिभृतः।

चन्द्रचिरचन्द्रशालेद्व: भहिभः परिबारितः।

सब्तोमद्र इत्युतः प्राचादो दशणमः।
Very few Brähmanical temples are provided with entrances in the four quarters,\(^1\) whereas Jaina shrines as a rule have openings on all the four sides. In the Karkala inscr. of Bhairava II, a Tribhuvana Jina Caityālaya having four faces is styled Sarvatobhadra.\(^2\) It has been suggested by K.N. Dikshit that a four-faced (\textit{caturmukha}) Jaina temple on the spot or in the immediate vicinity might have furnished the barest outline of the main temple at Paharpur in Bengal.\(^3\) S.K. Saraswati thinks that this imposing structure, measuring 356' 6" from north to south and 314' 3" from east to west, agrees in general with the Sarvatobhadra of Varāhamihira.\(^4\) But the temple, as it is, does not agree either with the description given in our text or with that in the \textit{Matsya-purāṇa}, according to which it should have five storeys, 16 corners with various shapes and art-galleries (\textit{citra-śālā}) and should be 30 cubits in width.\(^5\)

16. \textit{Simha}, single-storeyed, 8 cubits in width and dudecagonal in plan, is decorated with the figures of lions.\(^6\)

17-20. As indicated by their names, \textit{Vṛtta} is circular; \textit{Catuṣkoṇa}, square; \textit{Sodasaśātri}, 16-sided; and \textit{Aṣṭātri}, octagonal. They are all single-storeyed and with the exception of Caturasra (which has 5 crowning \textit{aṇḍas}, one in the middle and one each on four corners), are provided with one \textit{aṇḍa} each. They are dark in the interior.\(^7\) We are told by the commentator that walls should be built all round so as to leave a dark passage between them and the \textit{garbhagṛha} and that the door should be placed on the west so that when one enters the \textit{praśāda}, it should be to one's left. The image should be of jewels so that it may

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1. Kramrisch thinks that the niches or \textit{rathikābimbas} on the side walls serve the purpose behind the doors.  
6. \textit{सिहः: सिहस्राकान्तो द्राक्षाकोणोयूस्तस्तविष्टियोऽ:} LV.28.  
Cf. Kāśyapa: —\textit{सिहः सिहस्राकान्तः कोणेकिदिशमित्युः}।  
\textit{विक्रमभाद्रपत्तः: स्मादेका तस्य च नूमिका}।  
illuminé the garbhagṛha. The outer walls should be so cut as to look as originating from the main building (prāśāda) and not detached from it, i.e., outer walls end at a lower level than those of the prāśāda and are connected with it by means of a roof. The Śiva temple at Bhumara illustrates the Catuṣkoṇa shrines of this type; the Lad Khan, Konti-Gudi and Meguti temples at Aihole and the temple at Nachna which could also serve as examples, however, have a storeeyed superstructure. The Muṇḍesvari temple on the summit of a hill, about 600 feet high, close to Ramgarh in Orissa, is a fine example of an octagonal temple both inside and outside, but without an ambulatory passage. Soḍaśāśri or 16-faced temples are extremely rare.

It would appear from what has been said so far that many of the temple-types described above cannot be properly illustrated from the extant remains. Many structures illustrating these types must have perished. As these types are also mentioned in some other works, e.g., Mātysya-purāṇa, Viśvakarma-prakāśa, Bhaūsiṣya-purāṇa, it seems very likely that Varāhamihira based his account on the monuments existing in his time.

1. एते अर्जुनहेता अथवाकल्प: सान्यकाराहै इत्यवः। वाहयानाकाश्य तेषु न प्रविष्टानं यथः। देव प्रासादस्य सनन्नत्स्वयमुपि दिन्यु भित्ती: क्षत्र प्रासादस्य पर्चिमभागे ढारं कार्यम्। तात्त्व भित्तियो अच्छभागे तथा चेदनिर्णये यथा प्रासादोपना एव लक्ष्यन्ते न प्रत्यक्षः। तत्र वहिह्नारितु प्रविष्ट यथा प्रासादस्य बामभागेनागताय पुरत: प्रासादस्य ढारं कार्यम्। तत्र मणिमयी प्रतिमा तत्काये यथा प्रासादयमुस्त्यते।


3. However, externally the plan of the small temple at Paraoli in Kanpur and at Kurari in Fatehpur District of Uttar Pradesh must have been a 16-sided polygon, the cella being circular in shape, see *ASI, AR*, 1908-09, pp. 17, 20, fig. 6.
III

SCULPTURE, MUSIC, PAINTING

I. Sculpture

Like architecture, sculpture had reached a highly advanced state by the time of our author. The popularity of the practice of image-worship provided a great stimulus to the image-making activities of the sculptor. Varāhamihira furnishes us with valuable information regarding sculptural material and iconometric proportions.

MATERIALS. Special reference must be made in this connection to the Vanasampravesādhyāya (Ch. LVIII), which contains details about procuring timber for fashioning various images. First, at an auspicious moment the sculptor went to the forest. Forbidden was the timber of the trees that grow on a cremation ground, by the road-side, near a temple, on anthills, in parks and penance groves, of cāitya-vṛkṣas, of those growing at the confluences of rivers, and nurtured with great care (literally irrigated by jars full of water), bent ones, growing very close to other trees, overgrown with creepers, of those that are damaged by lightning, storm or an elephant, of those that have fallen by themselves or are dried and burnt by fire, and of those that contain bee-hives (LVIII.1-4). Next we are told what trees were to be used in fashioning images or a līṅga by the members of the different castes. Thus devadāru, sandalwood, śamī and madhūka are recommended for the images made by a Brāhmaṇa; ariṣta, aśvattha, khadira and bitvā for those installed by a Kṣatriya; jīvaka, khadira, sindhuka and syandana for those set up by a Vaiśya; and tīnduka, kesara, sarja, arjuna, āmra and sāla for those established by a Śūdra.¹ Before a tree thus selected was cut down, certain rites were to be performed. The sculptor marked off the various sections, top and bottom of the trunk so that the sections, top and bottom of an image or līṅga

¹. LVIII.5-6. An identical list is supplied by Kaśyapa as cited by Utpala.
might correspond to those of the tree. A verse of Kāśyapa as quoted by Utpala contains the same direction. That this direction was followed in practice would appear from its mention in the Visphudharmottara (BK. III, Ch. 89) and other works. Next at night the sculptor propitiated the tree, gods, manes, Piśācas, Rākṣasas, Nāgas, Asuras, Gaṇas, Vināyakas and others (Utpala adds Bhūtas, Pretas, Siddhas, Vidyādharas and Gandharvas), and touching the tree recited a mantra asking the spirits haunting the tree to leave it and change their habitation (LVIII.8-11). Next morning he sprinkled the tree with water and cut it with an axe greased with honey and clarified butter beginning on the north-eastern side and keeping it to his right (LVIII.12).

CLASSIFICATION. Varāhamihira divides images and liṅgas into seven categories on the basis of the materials from which they were fashioned:—1. dāruṇayī (wooden), 2. mṛgaṇayī (clay), 3. maṇimayī (from precious stones), 4. saurarṇī (golden), 5. rajatamayī (silver), 6. tāmrāmayī (copper), and 7. sāḷī

1. लिङ्ग वा प्रतिमा वा त्रूम्बत् स्वायत्या यथाविविधं वर्माल ।
तस्मात्वेंचतन्यित्वम् यद्यो त्रूसम्बोधयेवथासाय ॥
LVIII.7.

Cf. Utpala—अयमार्थं । त्रूस्मथ यः पूवभिभूभागः स एव प्रतिमायां । परिच्छ: परिच्छ: । उत्तरभाग: । उत्तरभाग: । दक्षिण: । पूवभाग: । एव: 
2. तथा च काश्यपः

2. तथा च काश्यपः

3. Some omens were inferred from the direction in which a tree fell. Thus, while a tree falling in the east, north-east or north was taken to augur prosperity, that falling in the south-east, south, south-west, west or north-west foretold outbreak of fire, disease and ruin to the horses, cf. LVIII. 13; XLII.19-20; LII.120.
With slight modifications this classification is found in the Matsya-purāṇa, Śukra-nītisāra (IV.4.72) and Samarāṅgaṇa-sūtradāra also. It is noteworthy that in the above list wooden images come first and it is this material to which one full chapter is devoted. The procedure of selecting wood for images is also described in the Matsya-purāṇa (Ch. 257), Viṣṇudharmottara (Bk. III, Ch. LXXXIX) and Bhaviṣya-purāṇa (Brahmaparvan, Ch.131) also. This indicates that at an early period perishable materials like wood and clay were principally employed in fabricating images which could not survive the long passage of time, particularly in the tropical weather of India. As suggested by Dr. J.N. Banerjea, like early architectural remains, extant early stone sculptures in the round and relief-carvings may have been influenced by their wooden prototypes with regard to the form and technique.

It is interesting to note that from very early times different materials were considered to be especially appropriate for the images of certain divinities. Thus copper, crystal, sandalwood, shell or iron, gold, silver, iron, nāga (?) and bronze are prescribed for the images of the Sun, Moon, Mars,

1. अयः श्रीवल्लभाय दाशमधी मुण्डकर्ष्ट्वा तथा प्रतिमा।
लोकहिताय मणिमयी सौवर्णी गुप्तेदार भविता।
रजतमयी कौतिकरी प्रजावृक्षदेव करोति ताश्रयती।
मलामयं तु महानं शैली प्रतिमास्थव विलम्बं।

LIX. 4-5.

3. DHI, pp. 211-12; Proceedings of Indian History Congress, 3rd Session, pp. 176-184.
4. YY, VI.4; BY, XVIII.3-5.
5. BY, XVIII.6-8.
6. BY, XVIII.9-10. According to YY, VI.9, however, it should be made of rudhirākhyā-mañi.
7. BY, XVIII.11-13. According to YY, VI.17, it should be fashioned from gold.
8. BY, XVIII.14-15. YY, VI.18 prescribes vimalaka-mañi for Bṛhaspati’s image.
10. BY, XVIII.18-20. YY, VI.13 prescribes blue glass (nīla-kāca).
11. BY, XVIII.21-22. The meaning of ‘nāga’ is not clear. According to YY, VI.11, Rāhu should be fashioned from decadāryu wood.
12. BY, XVIII.23-4.
Mercury, Jupiter, Venus, Saturn, Rāhu and, Ketu respectively. Similarly, wood or gold, iron, silver, white clay, gold and cow’s skin were regarded as particularly suited to the figures of Indra, Yama, Varuṇa, Vāyu, Kubera and Śiva respectively.

II. Iconometry

Ancient Indian writers on sculpture insisted on a strict adherence to the prescribed proportions in representing a deity, whether anthropomorphically or symbolically. Our author devotes a major portion of the Pratimālakṣaṇādhyāya (Ch. 57) to this topic. Before we give a table of proportions and quote and annotate the original, it is necessary to make some preliminary remarks.

The unit of measurement adopted by Varāhamihira in giving various proportions is aṅgula. Besides the absolute aṅgula based on the thickness of certain natural objects noticed above, aṅgula as a relative unit was also known and used mainly in measuring images. The latter was obtained by dividing the entire height of a given image into 120, 108, etc., equal parts, each being called an aṅgula. This is the same as the dehalabdhaṅgula or dehaṅgula described in the later Āgamaic works. Referring to an image measuring 108 aṅgulas in height, Varāhamihira lays down that the length and width of the face of an image should be 12 aṅgulas of its own (Svair = aṅgula-pramāṇair = dvādaśa vistīrṇam = āyatam ca mukham, LVII. 4). Commenting on this line, Utpala says that the whole height of the block of timber or stone from which an image is to be fashioned, leaving aside the portion of pedestal, should be divided into twelve equal parts, each of which should again be subdivided into nine equal parts known as aṅgulas; thus an image consists of 108 aṅgulas of its own. It is significant that another relative aṅgula

1. Cf. Tājñavalkya-smṛti, I.296-298. Also BJ, II.12, which ascribes copper, precious stones, gold, alloy of metals, silver, pearls and iron to the seven planets beginning with the sun.
2. IT, VI.4, 8, 12, 14, 16, 18.
3. See supra p. 342.
4. T.A. Gopinatha Rao, Tālamāna or Iconometry, MASI, No. 3, p.38.
5. यस्मात् काण्ठात् पायाणमाणिकदा प्रतिमा क्रियते तदृशं पीठामण-
called मात्रंगुला, which is taken to be equal to the length of the middle digit of the middle finger either of the sculptor, or of the architect, or of the rich devotee who causes an image to be set up,¹ is unknown to Varāhamihira.

The exception made by him in the case of Rāma, the son of Daśaratha, and Bali, the son of Virocana, the height of whose images is fixed at 120 अंगुलास, shows that the images measuring 108 अंगुलास of their own height were most common in the Gupta period. He classifies images (other than those 120 अंगुलास in height) as the best (प्रवरा), medium (सामा) and inferior (न्युना), each being twelve अंगुलास less in height than the preceding one. Thus images measuring 108, 96 and 84 अंगुलास are grouped as the highest, middlemost and lowest respectively.² They correspond to नवताला, अष्टताला and सप्तताला images respectively described in such late texts as the Vaikhānasāgama, Karanāgama and others. But curiously enough, the word ताला is mentioned neither by Varāhamihira nor by Utpala, who measure the entire height in terms of the unit अंगुला. This shows that अंगुलास was the prevailing unit of measure and although a larger unit consisting of 12 अंगुलास was known, it was not called ताला and that ताला as the name of a larger unit was unknown. It further shows that the ताला measure along with the images of fluctuating heights, e.g., Uttama-daśa-tāla (124 अंगुलास), Madhyama-daśa-tāla (120 अंगुलास) in the works of Bṛhatāṃśita, 1. MASI, No. 3, p. 38. The Śukranit śāra gives another manner of obtaining मात्रंगुला. It is one-fourth of one’s own fist (स्त्रामुष्टीकल्याण् caturthaḥ ślo hya-अंगुलाम parikṛtteram, IV.4.82.

¹. द्वारकानाथस्वामी रामो बलिष्ठ वैरोचनि: शतः विषाम्।

². द्वारकानाथस्वामिः शेष: भवति: च ब्रह्मसम्यूनपरिमाणः।

Cf. Utpala—शेष: अन्यः प्रतिमा द्वारकानाथस्वामिः द्वारकाकालस्वामकालीनस्वेतम् प्रवरसम्यूनपरिमाणः भवति। विशाल्यविश्वासांगुलासः द्वारकाकालस्वामपापण्यांविशाल्यांगुलासांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांविशाल्यांवि...
aṅgulas), Adhama-dāsa-tāla (116 aṅgulas) was a late introduction in the iconometric art of India.

As gods were usually conceived in human form, it is quite natural that their images should correspond to the height of men. We are not disappointed in our enquiry: The heights ascribed to the first two varieties of images (best and medium measuring 108 and 96 aṅgulas) are actually borrowed from the same of the Mālavya and Harṣa, two of the five great men in whose existence Indians believed from very ancient times.

A higher unit of measure employed in measuring the height of an image was hasta. Thus our author states that an image 1 hasta high is auspicious; that 2 hastas in height bestows wealth; and those 3 or 4 hastas high tend to ensure welfare and affluence. These dimensions appear to have been meant only for the images installed in temples, those enshrined in a household chapel being much smaller.

The height of an image intended to be installed in a temple depended on that of the shrine-door. According to Varāhamihira, the height of the shrine-door less by 1/8th should be divided into three parts, one part giving the height of the

मित्यन्ति न्यायेन या प्रतिमोऽक्रा सास्त्राङ्कुः शतमधिकं भवति यट्ट्वालं ददशक्तत्त्वो रामो बलिडस्त वराभजनः शतं विषालित्समि। भ्रात्राणाम। महागुला-नामधिकाः वैरवकेन परिमाणः कायः सर्वविद्वानांम । एवं हीन्दुव्य-नुपात एवेयनुक्तं जायम् इति।

1. The tāla and its variations are typically late and South Indian in origin. If this is taken as a criterion of relative chronology of iconometric texts, sections of the Mātṛya-purāṇa (CXLV. 10; CCLIX. 1-2) and Śukranītīsāra (IV. 4. 85 ff) dealing with sculpture and architecture must be later than B.S.

2. LXVIII.7. See supra pp. 365, 366.

3. सौम्या तु हस्तमात्रा बसुद वस्तवोऽच्छिन्ता प्रतिमा। क्रेमसमिधाय भवेत् तिच्छुहस्तप्रमाणा या। LVII.49.

4. According to the Mātṛya-purāṇa, an image installed in a house should measure between a digit of the thumb and a vitasti (a span, 12 aṅgulas)—

Aṅgus̄ṭhasāvareṇaḥ = āraḥhya vitastih yāvad = eca tu,
Gṛhe vai pratimā kāryā n = adhikā śasyate buhaiḥ.

CCLVIII.22.
pedestal (pindikā) and the remaining two, that of the image.¹

In the art tradition of India, the same ornaments and
dress were shown on divine images as on human figures. Varāha-
mihira simply voices this fact when he says that an image
should be provided with the equipment, apparel, ornaments
and form corresponding to the same of the country (to which
the image belongs) and that an image possessing required
characteristics bestows opulence by its very presence.² Much
stress was laid on giving the image a beautiful appearance.
Thus an image endowed with excessive or undersized limbs,
thin belly and lean body, an abrasion, and the eyes turned
upward or downward was believed to have disastrous effects.
That the frontal pose of representing a deity was considered to
be the best would appear from the statement that an image
leaning to the left or right destroys its maker’s wife or life.³

¹. द्वारभानार्यभागोला प्रतिमा स्थाल सपिण्डिका।
ढौ भागी प्रतिमा तत्र तुल्यीयांश्च पिण्डिका॥

Devaśāmṛtānyāśahosayam yastuśāryaḥ॥
तत्त्विण्डिकायप्रभाण प्रतिमा तद्विदिगुपपरिमाण॥

LV.16.

². Cf. Kāśyapa quoted by Utpala on LV.16 (p. 759) :
—
देविसपिण्डिकं स्थाकं द्वाराण्डं शोभितं शुभम्।
ढौ भागी प्रतिमा कार्या तुल्यीयस्चेव पिण्डिका॥


³. नूपभयमत्याङ्गां हीनाङ्गायामक्लयता करतः॥
शातोदयां शुद्धभयमार्थविनासः कृष्णाङ्गायाम॥
मरणं तु सक्तताय आर्थनिपातेन निद्रित्वकरः॥
वामाक्लयता प्रज्ञेन दक्षिणविनाता हिन्द्वसः॥
अन्वितमवधुद्ध्वया करोदित्व चिन्तामधोमुलो कृष्णायाम॥
सर्वप्रतिमास्वदेवं शुभावश भाषकरोक्तसमम्॥

LVII.50-52.

Cf. last three verses of Kāśyapa quoted on p. 786.
Cf. also LIX.6: —image containing wedge or hole...and Kāśyapa
quoted on it.
A table of measurements based on verses 4-28 of Ch. 57 is given below:

<table>
<thead>
<tr>
<th>The limb measured</th>
<th>Measurements in its own aṅgulas</th>
</tr>
</thead>
<tbody>
<tr>
<td>The breadth and length of the face</td>
<td>... 12</td>
</tr>
<tr>
<td>But according to the Drāviḍa measurement given by Nagnajít, the length should be 14 aṅgulas.¹</td>
<td></td>
</tr>
<tr>
<td>The length of the nose, forehead (vertical), chin (cibuka) and neck, each</td>
<td>... 4</td>
</tr>
<tr>
<td>The breadth of the two jaws (hanu)² and the chin (cibuka)³</td>
<td>... ... 2</td>
</tr>
<tr>
<td>The breadth of the forehead (horizontally)</td>
<td>... 8</td>
</tr>
<tr>
<td>The temples to be shown 2 aṅgulas further off from the forehead, their downward length being</td>
<td>... ... 4</td>
</tr>
<tr>
<td>The breadth of the ears⁴</td>
<td>... ... 2</td>
</tr>
</tbody>
</table>

1. स्वेरङ्गुलप्रसारणंदाश विस्तीर्णमातं च मूलम्।
   नग्नजिता तु चतुर्दश द्राघ्वेण द्रविंद्र कित्तम्।
   Utpala quotes Magnajít: तथा च नग्नजित्:—
   विस्तीर्ण द्राघ्व मूल द्राघ्वेण च चतुर्दश।
   अङ्गुलालि तथा कार्य तन्मान्त्र द्राघ्विंदं र्शृङ्गम्।²

2. LVII.5. Utpala understands hanu as 'the two joints of the face and the neck'—mukha-gala-sandhi hanuni. T.A.G. Rao (Tālomāna or Iconometry, MASJ, No. 3, p. 77, Col. 3) renders hanu by 'chin', which is unwarranted. Similarly, he gives 'the distance between the tip of the chin from the neck' as 2 aṅgulas (ibid), which is not mentioned in the text or commentary.

3. Utpala's explanation of the word cibuka is not clear. First, he says that 'the portion of the nose measuring four aṅgulas is known as cibuka, and next that 'the portion below the mouth is indicated by the word cibuka':—
   cibuka-graḥapena nāśāyāḥ = catur = aṅgulo bhāga ucyate....cibuka-sabhden-ātra mukhasyā-dībhāghā ucyate.

4. अर्द्धङ्गुले ललटे विस्ताराद्वृयङ्गुलात्परे शक्ली।
   चतुरङ्गुली तु शक्ली कणो तू द्वृयङ्गुली पुङ्गुलो।²
   Cf. Utpala—शक्ली चतुरङ्गुलाधारायं विष्णुसः कार्यं यत: शक्लाभो
   गण्डभाग उच्चयते।²

LVII.6.
<table>
<thead>
<tr>
<th>The limb measured</th>
<th>Measurements in its own anāgulas</th>
</tr>
</thead>
<tbody>
<tr>
<td>The upper margin of the ear should be done on the same level with the eye-brow, the distance between the extreme corner of the eye and the top end of the ears being 4(\frac{1}{2})</td>
<td></td>
</tr>
<tr>
<td>But according to Vāsiṣṭha, the distance between the outside end of the eye and the ear should be 4 anāgulas.²</td>
<td></td>
</tr>
</tbody>
</table>

The ear-hole and the raised tip of the flesh near it called sukumāraka should be made in the same line with the rheum of the eye, their extent being each ³ |

---

1. This is based on the joint authority of Vāraṇāsi and Utpala :—

   \[\text{कर्णपालनं कार्योघर्निमो भूसमेन सुमेन सुमेन} \text{। LVII.7.}\]

   Utpala—सार्वभावं चतुर्ध्वृक्षालिनि नेन्त्रशंदार्यस्त तत्समिन् भूसमेन सुमेन सुमेन नेत्रसम्बन्धः कर्णपालनं कार्यः। कर्णस्योपालनं समीपः।

2. चतुर्ध्वृक्षकुशी: कवयित: नेन्त्राद्यन्त्योपविवरम् | LVII.8.

   Utpala quotes Vāsiṣṭha :— तथा च विशाल:। कर्णस्य मन्त्रं यवं तत्तवाच्च चतुर्ध्वृक्षकुशिः। There is a slip in T.A.G. Rao’s table—he mentions Vāsiṣṭha, but not the figure 4. There is also a slip in Kern’s translation, the space between the extreme eye-corner and eyes, at 4 digits, (\text{JRAS, 1873, p. 324}). J.N. Banerjea (\text{DHI, p. 583}) renders this line as follows: ‘Vāsiṣṭha says that (the space) between the extreme corner of the eye and ear-hole (near it) is 4 anāgulas’. It is defective: he seems to take ‘vicaram’ as qualifying ‘karnayoh’, both these words giving him the meaning ‘ear-hole’. But ‘vicaram’ here is actually an adjective of ‘catur=anāgulas’ and denotes ‘the distance’ or ‘intervening space’. Had it been properly understood, the phrase ‘the space’ would not have been bracketed. Similarly ‘(near it)’ gives no sense. The correct translation then should be, ‘Vāsiṣṭha says 4 anāgulas to be the space between the extreme outside end of the eye and the ears.’³

3. कर्णस्योत मुक्तमारकं च नेत्रप्रबन्धसमम् | LVII.7.

   Cf. Utpala—...मुक्तमारकं च कर्णस्योतसमीपः उनतो माणस्यन्त्रप्रवन्ध...
The limb measured | Measurements in its own angulas
---|---
The width of the lower lip | 1
The width of the upper lip | \( \frac{1}{3} \)
The width of the dimple above the upper lip | \( \frac{1}{3} \)
The length of the mouth | 4
The width of the mouth when closed | 1\( \frac{1}{2} \)
The width of the mouth when opened | 3
The extent of the nostrils | 2
The height of the nose at the end of the nostrils | 2
The distance between (the pupils of) the two eyes | 4
The length of the sockets of eyes and eyes, each | 2
The diameter of the ball of the eye | 1/3rd of the above.
The diameter of the vision of the pupil | 1/5th of the eyes.
The width of the eye | 1

समम् | नेत्रगृहणावर्धितो दूरविकृत्यते | तल्सम तत्तयों कार्यम् | अंगुलिप्रमाण-मित्रयथः।

Kern's quotation of the last part of the second sentence, viz., pramūṇi-
koṣaṭe (JRAS, 1873, p. 324, fn. 1) is faulty. T.A.G. Rao's table omits these proportions.

1. अचरोइंगुलिप्रमाणस्तस्ताएवोत्तररोष्टर | LVII.8.
2. अर्था इंगुला नू गोच्छा वर्गः नचरोइंगुलायतो कार्यम्।
निपुलं तु सार्योइंगुलिप्रमाणं गोयस्मु व्यात्तम्। | LVII.9.
3. गोयस्मि गतिकोशिकोशी कृ नेवे तत्त्वभागिका तारा।
वृक्षेऽर्था पत्त्वऽवशी नेत्रगृहकाशोदोइं भवति | LVII.11.

Utpala clearly says that the black-ball of the eye and the vision of the pupil should be 1/3rd and 1/5th of the eye (i.e. of 2 angulas) respectively: tattvabhāgikā tārā, anguladeva-tribhāga-pramāṇā tārā netramadhye kṛṇo bhāgaḥ, dṛkārā medhyavartini kumārī anguladeva-paścātmanāḥ pañcāmśa-bhāgaḥ. In face of this express statement, it is difficult to agree with T.A.G. Rao (op. cit. p. 78) who states that the diameter of the pupil should be one-fifth of the black ball, and with Dr. J.N. Banerjea (DHI, p. 384) who says that 'the vision of the pupil is 1/3rd (of the ball)."
<table>
<thead>
<tr>
<th>The limb measured</th>
<th>Measurements in its own anūgas</th>
</tr>
</thead>
<tbody>
<tr>
<td>The length of the line of the eye-brows</td>
<td></td>
</tr>
<tr>
<td>from one end to another</td>
<td>10</td>
</tr>
<tr>
<td>The width of the brow</td>
<td>1/2</td>
</tr>
<tr>
<td>The intervening space between the two brows</td>
<td>2</td>
</tr>
<tr>
<td>The length of each brow</td>
<td>4</td>
</tr>
<tr>
<td>The extent of the hair-line on the forehead</td>
<td>10</td>
</tr>
<tr>
<td>The width of</td>
<td></td>
</tr>
<tr>
<td>&quot;&quot; &quot;&quot; &quot;&quot; &quot;&quot;</td>
<td>1/3</td>
</tr>
<tr>
<td>The measure of the karaviraka (inner corner) of the</td>
<td></td>
</tr>
<tr>
<td>eye</td>
<td></td>
</tr>
<tr>
<td>The periphery of the head</td>
<td>32</td>
</tr>
<tr>
<td>The width of the head</td>
<td>14</td>
</tr>
<tr>
<td>But it is stated that in a picture only 12 anūgas are</td>
<td></td>
</tr>
<tr>
<td>visible, the remaining 20 anūgas being invisible.</td>
<td>20 anūgas long.</td>
</tr>
<tr>
<td>The width of the neck</td>
<td></td>
</tr>
<tr>
<td>The girth of the neck</td>
<td></td>
</tr>
</tbody>
</table>

1. *पर्वतशत्रूप* यां दश *भूमिकां भूमिकां भूमिकां लेख।
   *भर भर भर भर भर भर भर भर भर भर भर* II LVII.12.

1a. *कीर्तिकेरिका भर बन्धसमाधिकां विषयविषयविषयविषयः*
    *नेत्रास्ते कर्वन्त्रमुपयोग्यसंबंधप्रमुखसमुत्तमम्* II LVII.13.

Cf. Utpala—कर्वन्त्रमुपयोग्यसंबंधप्रमुखसमुत्तमम्

Kern (*JRAS*, 1873, p. 324, fn. 2) observes that 'the inner corner, karaviraka, is also called mūṣikā in a quotation from Kāśyapa, but S. Dvivedi's edition (p. 777) gives the reading dūṣikā and not mūṣikā.

2. *दृविषयम् परिणामात्मुदयामतोलंकुणां निर्*.
   *दृविषयम् परिणामात्मुदयामतोलंकुणां निर्* II LVII.14.

3. *आस्पं सहकासिनं योद्धा दशं वेणं नमनज्ञोप्यक्षम्* II LVII.15.

Cf. Utpala—मूलं दौष्ट्रं चूचिष्टाकुणां केशरक्षा वृं अनुसारे एवं
   योद्धां। तथा च नमनित। *दृविषयम् केशरक्षां मूलं स्पष्टं योद्धाकुणां*.

4. *प्रीतवा दश विषयम् परिणामात्मुदयामतः सैकः* LVII.15
<table>
<thead>
<tr>
<th>Measurements in its own angulas</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The limb measured</strong></td>
</tr>
<tr>
<td>The interstice between the lowermost part of the throat and the heart, between the heart and the navel, and between the centre of the navel and the penis,—each$^1$</td>
</tr>
<tr>
<td>The length of the thighs</td>
</tr>
<tr>
<td>The length of the shanks</td>
</tr>
<tr>
<td>The length of the patella</td>
</tr>
<tr>
<td>The height of the feet$^2$</td>
</tr>
<tr>
<td>The length of the feet</td>
</tr>
<tr>
<td>The width of the feet</td>
</tr>
<tr>
<td>The length of the great toe</td>
</tr>
<tr>
<td>The periphery of the great toe</td>
</tr>
<tr>
<td>The length of the second toe (pradesint)$^3$</td>
</tr>
<tr>
<td>The length of the remaining toes should be 1/8th less in succession</td>
</tr>
<tr>
<td>The height of the great toe$^4$</td>
</tr>
<tr>
<td>The measure of the nail of the great-toe...</td>
</tr>
<tr>
<td>The measure of the nails of the rest of the toes$^5$</td>
</tr>
</tbody>
</table>

---

$^1$ कष्टहार छादत हृदय ह्रदयानाश्व म तत्रभाजन।
नाभोभागांमीदिग्रंत च तत्तुल्लभेवोक्तम्॥ LVII.16.

$^2$ उष्णाङ्गुलस्तुप्त्र। विशालित्वम् जल्लेः।
जानुकपिन्दे मुखङ्गुले न पादः च तत्तुल्लयो॥ LVII.17.

$^3$ उपाला तस्य जालुकापिच्छा। केलकले।
जालुकापिच्छा। या च केलकले इति प्रसिद्धे, पादूः।
पुज्या पुज्या पुज्या पुज्या पुज्या पुज्या।
तत्तुल्लये तत्तुल्लये तत्तुल्लये तत्तुल्लये तत्तुल्लये।
तत्तुल्लये तत्तुल्लये।

dr. j.n. banerjea (dhi, p. 585) leaves the middle half of the verse untranslated.

$^4$ अष्टांशानांप्राप्तम्। श्रद्धागुणः। केल्ले कर्तव्या। ।
सतस्यांमभागाण्युगुलस्तुप्त्रेण हस्तमिष्टं।॥ LVII.19.

$^5$ अष्टांशानांप्राप्तम्। केल्ले कर्तव्यांभागाण्युगुलस्तुप्त्रेण हस्तमिष्टं।
योगक्षामानाक्षामां क्रमां किचिदेन वा।॥ LVII.20.
<table>
<thead>
<tr>
<th>The limb measured</th>
<th>Measurements in its own</th>
<th>aṅgulas</th>
</tr>
</thead>
<tbody>
<tr>
<td>The circuit of the shanks at the top-end...</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>The breadth of the same at the same place</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>The breadth of the shanks in the middle...</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>The circuit of the shanks in the middle.¹</td>
<td>7 × 3 = 21</td>
<td></td>
</tr>
<tr>
<td>The width of the knees in the middle...</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>The circumference of the same at the same place</td>
<td>8 × 3 = 24</td>
<td></td>
</tr>
<tr>
<td>The width of the thighs in the middle...</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>The circumference of the thighs in the middle²</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>The width of the pelvis</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>The circuit of the same</td>
<td>44</td>
<td></td>
</tr>
<tr>
<td>The depth of the navel</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>The diameter of the same³</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>The periphery of the middle part of the body at the centre of the navel</td>
<td>42</td>
<td></td>
</tr>
<tr>
<td>The interstice between the nipples</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>The distance between the paps and the arm-pits above them in an oblique direction⁴</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>The interstice between the neck and the end of the shoulder</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>The length of the arms</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>The length of the fore-arms</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>The breadth of the arm</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

¹. जश्वांशेप परिणाऽहस्ततयुक्तस्तु बिस्तरात् पत्रः
   मध्ये तु सस्त बिपुला परिणाऽहस्त बिपुलिता: सस्त || LVII.21.

Dr. J.N. Banerjea's rendering of the first line, 'The circumference of the extreme top of the shanks is said to be 14 aṅgulas long and 5 broad' (DHI, p. 595), is very ambiguous and gives no sense.

². अद्यो तु जानुमयेः ब्रूयृय्यम् ब्रह्मद्वर्तक तु परिणाहः
   बिपुली चतुर्दशोऽऽ मध्ये हनुमस्वत्स तत्परिचि: || LVII.22.

³. कपिराटादश बिपुला चतुर्दशवंदुप्तात रिहाः
   अंगुलमेकं नामो वेशेऽ तथा प्रमाणेत || LVII.23.

⁴. चतुर्दशवंदुपता नामोऽम्बवेन मध्यपरिणाहः
   स्तनयोऽऽ वोडश चाँतरस्यं कथेऽ पहंगुलिकक || LVII.24.

Cf. Utpala: स्तनयोऽऽ तिरंकु कुल्य पहंगुलिकक पहंगुलप्रमाणं कथेऽ कायः
The limb measured | Measurements in its own angulas
---|---
The breadth of the fore arm | 4
The circumference of the arms at the top end | 16
The breadth of the wrist | 12
The width of the palm | 6
The length of the palm | 7
The length of the middle finger | 5
The length of the forefinger | Less than the middle finger by half a digit of the latter.
The length of the ring finger | The same as that of the forefinger.
The length of the little finger | Less than the ringfinger by a digit of the latter.

The thumb consists of two digits, while other fingers have 3 digits.
The length and breadth of a nail should be a half of the joint of the finger concerned.

III. Music and Painting

**VOCAL AND INSTRUMENTAL MUSIC.** Varāhamihira shows acquaintance with both vocal (gīta, geya) and instrumental (vādya, B.J, XVIII.1; vādita, XXXIII.23; vāditra, XLIII.

1. अष्टाकांसी छाद बाहु कायिन् तथा प्रवाहू ।
2. बाहु पद्विस्तौरो ग्रंथणे त्वं गुरुर्चनकम ॥ LVII.25.
3. पोडवाहु मूले परिधानादे छादार्थस्ते ।
4. विस्तारितं कार्तवं पद्घुले सुन दंधे य । LVII.26.
5. उत्पला रंगदाता ग्रंथं प्रकोष्ठदेशस् ॥
6. It is not mentioned by T.A.G. Rao.
7. पवाञ्जुगस्वी मध्याक्षरणर्णी मध्यपात्तिकाः ।
8. अनंत तुल्या चालामिका कानव्या तु पविभ्ना ॥ LVII.27.
9. पवाञ्जुगस्वीव: शेवाणuş्वय्यस्तृतिमित्रिम्: कायिः ।
10. नल्लविमाण कायिः संवेषिसं पर्विन्द्रायेन ॥ LVII.28.
11. XXXIII.23; XLV.60; LXXXV.22, 39; C. 12; B.J, XIV.45;
12. XVI.12; XVII.3.
13. V.39; 74; X.3; XIX.6; B.J, XVIII.1.
16; LXXXV.22) music and refers to persons favourably inclined towards vocal music (gitapriya, C.12; B?, XIV.4; XVI.12; XVII.3; geyasakta, V.39, 74), expert musicians (gándharva, XXXII.11; XV.12; gándharvacid, XVI.17; XIX.10), vocalists (geyajña, X.3; XIX.6) and instrumentalists (vādaka, X.3). Songs were sung to the accompaniment of musical instruments as the lute, flute and pānava (XIX.18; YY, II.19). Sounds produced by singing and musical instruments are contrasted (XXXIII.23; XLV.60; LXXXV.22, 39). We read of the futility of a good lyre for a man with defective voice (Vyarthā sadośaya guṇ-anvīt-āpi vin-enā śabd-āśraya-varjiṣṭaya, YY, II.15). Music, instrumental and vocal, played a definite role in religious ceremonials (XLII.24, 26; XLIII.7, 16; XLVII.49; LIX.10, 16). A band of musical instruments accompanied a military march (XLIII.23; YY, XIII.4).

**SVARAS AND GRĀMAS.** The use of the word svara in the sense of ‘seven’ (XII.14; PS, I.15) shows that the standard number of musical notes was recognised to be seven, the first four of which are mentioned by name, viz., Sadja, Madhyama, Gándhāra, Rśabha.1 Indian music is traditionally based on the three grāmas. It is held by some that only two of them are named in earlier literature, while the g- grāma is mentioned only by mediaeval writers. H.A. Popley, for example, states that ś (Śāda) and m (Madhyama) grāmas are found in the Nātyaśāstra of Bharata, while the g- (Gándhāra) grāma is not mentioned until Ratnākara (c. 1247 A.D.). This statement is not quite correct, for Varāhamihira names all the three grāmas (grāmau madhyama-śadjau ca gándhāraś-cateti sūbhanaḥ LXXXV. 40).

**MUSICAL INSTRUMENTS.** Varāhamihira alludes vaguely to the beaten instruments in XLV.61 which mentions

1. पढ़मध्यमगानवारा क्षमक्षिव स्वरा हिति: ।

LXXXV.40; BY, XXIII.36.

गान्वाराङ्ग्रजमुखम: खल मध्यमगान यांने क्षिव: शुमकरा न तु वेंज्येहय:।

YY, XIV.20.

This is the reading given by J.L. Shastri. It contains many mistakes which should be corrected in the light of the following extract quoted by Utpala on LXXXV.40—उक्तम् च।

गान्वाराङ्ग्रजमुखम: खल मध्यमक्षिव यांने स्वरा: शुमकरा न तु वेंज्येहय:।

प्रामी शुभाविपि हि मध्यमविद्वस्ती गान्वारीत्तमपिष मद्रमपतिनिदेवा:।
the sounding of the tūryas without their being struck and the absence of sound even when they are struck as a portent (Anabhihata tūrya-nādaḥ śabdo vā tādīteṣu yadi na syāt). Among musical instruments we find mention of the lute (śīnā, vallaki), flute (śeṇu), panava, trumpet (tūrya, tabour (mṛdaṅga, muraṣa), conchshell (śaṅkha), gong (ghanta) and various kinds of drums such as paṭaha, bheri, and dundubhi. The word tūrya sometimes appears to have been used in the sense of musical instruments in general. For libidinous people the music of vallaki inspiring tender feelings was verily the food of love (LXXV.2).

DIŅḌIḤĀNDA (LXXXVI.12). The term diṃḍiḥānda conveys the idea of a kind of musical concert wherein instrumentalists played on paṭaha, mṛdaṅga and karaṭa (diṃḍiḥāndāṇī vādītra-viṣesāḥ, paṭaha-mṛdaṅga-karaṭāḥ samavetā yatra vādyante tāni diṃḍiḥāndāṇī, Utpala).

PAINTING. Painting is referred to as citra-karma (LVII.14) and painters as citra-kara (V.74; IX.30), citraṅgi (X.10) and aḷekhaṃyaṇa (XVI.17). Cloth is mentioned as a painting material (TT, VI.10). Perfumed colouring substances were used for painting (XLVII.27). Drawing the figures of monsters, ghosts or house-owner with charcoal, red chalk, etc., in a house was regarded as inauspicious (XLV.77). In sculpture, the head was shown 32 angulas in circumference and 14 angulas in length, while in a picture only 12 angulas (of circumference) were to be visible and the remaining 20 invisible (LVII.14).

1. XIX.18; LXVIII.22, 29; TT, II. 15, 19.
2. LXXV.2.
3. XIX.18; TT, II.19.
4. TT, II.19.
5. XLII.24; XLIII.7; XLVII.49; LI.6; LXXXV.39, TT, II.19.
6. LV.19; XLII.59; XLIII.23; XLVII.49, 95.
7. LXVIII.22.
8. XLII.24, 59; XLIII.7, 16; XLVII.49; LI.16, etc.
10. XLII.59.
11. XLII.59; LXVII.95.
12. XLII.34; TT, VIII.16.
CHAPTER VIII

LITERATURE

Varāhamihira was an encyclopaedic writer and naturally he refers to a host of earlier or contemporary authors not only on astronomy and astrology but on various other subjects also. His equally learned scholiast Bhaṭṭotpala persistently styled him as ‘the redactor of entire Jyotiḥśāstra’ (jyotiḥśāstra-saṅgraha-kṛt), and the author himself makes his position clear in IX.7. He declares, ‘Astronomy and astrology are the sciences based on āgama; should there be any difference of opinion (among ancient writers), it would not be proper on my part to put forward my view only; I shall, however, state the majority view’. The result is excellent, and his works form a valuable treasure-house of information about works and authors he consulted. His works assume still greater importance from the fact that they are the sole source of our knowledge about many works and their authors who, but for these references, might have irrecoverably been lost to us. We shall detail below, under different heads, the data bearing on the subject.

I. Jyotīṣa

Our author states that the science of Jyotīṣa is divisible into three departments (skandhas); the first branch called Tantra deals with the determination by mathematical calculation of the heavenly bodies; the second known as Horā treats of horoscopy or the casting of the horoscope; and the last is natural astrology called Aṅgaviniścaya or Sākhā and that the treatment of the whole course of Jyotīṣa is named Saṁhitā. The word

1. ज्योतिषमामशास्त्रं विप्रतिपत्ती न योऽमभरमाकम्।
   स्वयमिय विकल्पयितं किलु बूढ़ाना मतं कस्ये॥ 11. 7.
2. ज्योतिषशास्त्रमेकम् विविधं स्कन्धवाचित्तिं
   तत्वार्थस्यापनयस्य नाम मूल्यमि: संकीर्त्यं सहिता॥
   स्कन्धवेदिन्य समिति या भ्राम्यत्तत्वार्थवाचित्तिः
   होराव्योजणमिनिर्वयनपरश्रव: किलित: स्कन्धस्लुतीयोगः॥ 9. 1
sanhitā, it would appear, is used here in a comprehensive sense to connote the treatment of the whole. Utpala quotes a distich of Garga in which the word Sanhitā is employed in its wider sense: Thus ‘only one who knows Jyotiṣa in its three sections, viz., Gaṇīta, Jātaka and Śākhā, is considered to be well-versed in Sanhitā.’

When Alberuni (I.157) states that ‘Sanhitā means that which is collected, books containing something of everything’, he uses the word in its broader connotation. But there are a number of passages wherein it stands in the narrow meaning of the third branch of Jyotiṣa: it is synonymous with Aṅga, Śākhā or Phalagrantha. Thus Varāhamihira tells us that a real astrologer is one who ‘knows both text and meaning of the works on mathematical astronomy, natural astrology and horoscopy (graḥa-gaṇīta-horā-saṃhitā-artha-vētā-eti)’ and the commentator explains Samhita as Phalagrantha. It is said in another place that only a person fully accomplished in natural astrology can be an efficient diviner (saṃhitā-pārāgaś ca daiva-cintakō bhavatī). He counsels a monarch desirous of victory to honour and secure the services of an astrologer who properly knows horoscopy, astronomy and natural astrology (Samhitā).

Varāhamihira’s work on natural astrology is called Sanhitā and he so names it in PS, XV.10. Thus he says, ‘In the Śāhītā in the beginning of the chapter on Rāhu’s course, I have fully explained to what causes, apart from Rāhu, solar and lunar eclipses are due.’ This is evidently a reference to Chapter V of BS. Utpala invariably uses the word sanhitā in its narrow connotation. Thus sanhitā has a two-fold meaning: in its comprehensive sense it stands for the treatment of the entire science of Jyotiṣa which is otherwise called jyotiṣa-saṅgraha, while in the limited sense it denotes natural astrology. As

1. गणितं जातकं शाखां यो तत्त्वं द्रिज्जयंगवः।
   बिन्सकत्वमो विनिद्वसी: सप्तिगपरस्य सः॥

2. Aṅga is used for the third branch in BS, I.8; Bṛ, II.9.
5. यस्तु सप्तिगाताति होरागणितसंहिता:।
   अभ्यं स नारसेष स्वीकर्त्वमो जयेनेन॥ II.19.
6. स्कन्धस्वर्गियोतिसिद्धास्यं मया कुलो देवबिदां हिताय।

Bṛ, XXVIII.6.
we have seen above, Varāhamihira defines the word as having a wider connotation but employs it more often in the narrower sense. The only satisfactory way to resolve this inner contradiction is to assume that the early astronomical works of Garga and others dealt with the whole of Jyotiṣa-śāstra as known in those days and were naturally called Saṁhitā; but with the growth of astronomical and astrological knowledge a threefold classification set in and then the word saṁhitā came to be used as synonymous with sākhā or phalagrantha denoting only one of its branches. But at the same time it continued to be used in its broader etymological connotation. Hence the use of the word *saṁhitā* in a two-fold meaning.¹

We may now proceed to enumerate the contents of works belonging to different branches of the science as laid down by our author. To begin with astronomy. Indian astronomical works are usually classified under three heads: 1. Siddhāntas, 2. Tantras and 3. Karaṇas. A clear-cut distinction between them cannot be drawn. According to the popular definition, however, such works as start their calculations from the beginning of the kalpa are known as Siddhāntas; the Tantras reckon their time from the beginning of Kali and the Karaṇas from any given Śaka date.² Alberuni (1.155) considers Karaṇas to be inferior to Siddhāntas. ‘Such books’, says he, ‘as do not reach the standard of a Siddhānta are mostly called Tantra or Karaṇa.’ That there can be no hard and fast rule limiting the contents of any class of works is proved by the fact that Varāhamihira names his only known astronomical treatise, i.e., Pañcasiddhāntikā, as a Karaṇa, which, as pointed out by Thibaut,³ decidedly distinguishes itself from other ordinary

1. Kern finds it difficult to solve this problem and has to assume (BS, Introduction, p. 23) that it was through the Greeks that Indians were ‘acquainted with two separate branches of the knowledge of stars’ (the one really scientific, the other quasi-scientific). No final word has yet been said as to whether Indians really borrowed much from the Greeks and if so at what time. Moreover, in dealing with semasiological history of the word saṁhitā we need not go into the question of Greek influence. This problem is discussed subsequently. As is evident from the distich cited on p. 425 fn. 1, this three-fold classification was well-known as early as the time of Garga and may be still earlier.

works of this class by containing certain contents lying outside the domain of a Karana, e.g., constitution of the universe (Trailokyasaṃsthāna, Ch. XIII) and secrets of astronomy (Jyotisopaniṣad, Ch. XV), and by not being based on a Siddhānta.

Although the traditional number of the allegedly revealed or semi-revealed Siddhāntas is stated to be eighteen,1 only five of them were known to our author, viz., 1. Pauliśa, 2. Romaka, 3. Vāsiṣṭha, 4. Saurā and 5. Paitāmaha.2 Of these, the first two were commented upon by Lāṭadeva,3 one of the direct pupils of Āryabhaṭa.4 Our author declares that the Siddhānta composed by Pauliśa is accurate, that proclaimed by Romaka is close to it (in accuracy), and still more accurate is the Śāvitra (Saurā) Siddhānta, while the remaining two, i.e., Vāsiṣṭha and Paitāmaha, are far from the truth.5 He allots varying amount of space to individual Siddhāntas in accordance with his assessment of their relative value. These Siddhāntas represent different stages in the evolution of Hindu astronomical systems. The Paitāmaha as known to Varāhamihira is very close to the Vedāṅga Jyotisa, the earliest astronomical work that India has bequeathed to us, and represents amorphous state of Indian astronomy. The Vāsiṣṭha Siddhānta is evidently comparatively

1. सूर्यः पितामहो यासो वसिष्ठोंत्रि: पराशरः।
कस्यपो नारदो गमो मरीचिमैत्रिरङ्गिः॥
लोक्याः पौलिशश्रेष्ठ व्यवस्यो यथोऽभूमः।
शौनकोऽण्टाद्वाश्चेति व्योतिःशास्त्राप्रवंशको॥

(quoted in Sudhākara Dvivedī’s Gaṇaka-tārāṅgini, p. 1).

2. तत्र ग्रहणिते पौलिश्रोमक-वासिष्ठस्तौरः-पालम्र्गः पचः-स्त्रेषु पिदानेषु... BS, II, p. 22.

3. पौलिश्रोमक-वासिष्ठस्तौर-पालम्र्गः पचः सिद्धान्तः। PS, I. 3a.


5. पौलिश्रोमक-स्फुटोऽऽ तथायसन्नस्तु होक्रप्रोक्तः। PS, I.4.

6. छायम्: सावित्र: परिशोषो हूर्वविभ्रष्टः।
more advanced and forms a transitional phase between the earlier quasi-scientific astronomical works and the later perfected astronomical systems. The *Pauliśa* and *Romaka* are most probably responsible for introducing Greek astronomy in India. The *Saura* is the most perfect record of the early Indian scientific astronomy.

The Siddhāntas are said to incorporate the treatment of the divisions of the ecliptic and of time in terms of ages (*yuga*), years, half-years (*ayana*), seasons, months, fortnights, days (*ahorātra*), watches (*yāma*), hours (*muhūrta*), *nādiḥ*, *prāṇa*, *truṭi*, subdivisions of *truṭi*, etc., the four kinds of time-measure—solar, civil, stellar and lunar, intercalary months and subtractive days; the beginning and end of the Jovian cycle of sixty years, of the lustrums, years, days, hours (*horā*), and their respective lords; similarity or difference, adaptation to use or not of the different reckonings of time, viz., solar, civil, stellar and lunar; the use of shadow and clepsydra, observation and calculation to find out the moment when the sun reaches the solstitial point and the time of the sun’s entrance in the prime vertical; the cause of the swift and slow motion, the northern and southern course, and the moving in an epicycle of the sun and other planets; the method of predicting the moment of the commencement and cessation, the direction, magnitude, duration, amount of obscuration, colour and place of visibility of solar and lunar eclipses as also planetary conjunctions and hostile encounters; ascertainment of the distance in terms of *yojanas* of each planet from the earth, the dimension of their orbits, and the distance of the places on earth also expressed in *yojanas*; geometrical operations and calculation of time in order to determine the form of the earth, the circuit of the circle of asterisms, etc; the depression of the pole, the diameter of the day-circle, the ascensional differences in time, the rising of zodiacal signs, the *nādiḥ* corresponding to the shadow of the gnomon, etc.¹

Next comes horoscopy. It includes the following topics: the strength or weakness of zodiacal signs (*rāsi*), half-signs (*horā*), third parts (*dṛṣṭikāṇa*), ninth parts (*navāṃśaka*), twelfth parts and degrees; determination of various kinds of power of

¹. *BS*, II, pp. 22-36.
the seven planets due to the direction, the place occupied, the moment and the contention; the temperaments (prakṛti), bodily elements (dhatu), substances (draṣṭā), caste (jāti), and sphere of activity, etc. belonging to the department of each planet; conception, time of birth, prognostication of prodigious accessories, instant death of the child, span of life, destiny and intervening changes of it, the most favourable combinations of planetary positions as may exist in theory (aṣṭakavarga), the constellations in which kings are born (rājayoga), the lunar constellations (candrayoga), the constellations formed by only two planets and so on, the celestal constellations, etc. and the effects of all these; descent and character, the planetary aspects (avalokana), manner of death (nirvikṣa-gati), state in a former birth and after death (anuṣka), good and bad symptoms at the time of queries, the calculations of lucky periods for nuptial and other ceremonies.¹

At present, Varāhamihira’s are the earliest available works on Jātaka and Vīvāha, both coming within the jurisdiction of Horā. But abounding references in his works to older authors whom he consulted indicate the existence in his time of a large number of works dealing with these topics.

According to Utpala, the determination by means of lagna and planetary positions of auspicious or inauspicious fruits resulting from the consecration, travelling, marriage and such like matters is the function of Horā;² but this definition does not appear to have been in common acception at the time of our author, for while incorporating Vīvāha in the constants of Horā-śāstra he enumerates the contents of the Yātrā separately. It may be suggested that the Yātrā fell within the dominion of the Samhitā. In support of our view, we may point out that certain topics, e.g., foretokens of fire, prognostics from horses and elephants, bath for victory and sākuna, are common to both the Yātrā and Samhitā and consecration (pratisthā) is included in the latter.

The contents of the Yātrā are as follows: auspicious or inauspicious dates (tithi), week-days, karaṇas, asterisms,

1. BS, II, p.68.
muhūrtas (48-minute periods), horoscopes, constellations, throbbing of the limbs, dreams, bath for victory, sacrifice to the planets, offerings to the goblins (gaṇayāga), foretokens of fire (agnilaksana), gestures of elephants and horses, the talk and acts of the troops, the pursuance of any one of the six-fold statecraft (śādguna) in conformity with the forebodings of the planets, good and bad auguries, the camping ground for army, the colour of the fire, the use, according to circumstances, of ministers, spies, messengers, and forest people (āṭavika) and the expedients for capturing enemy’s strongholds.¹

Varāhamihira does not claim for himself the credit of prescribing the above contents of the Yātrā; on the contrary, he frankly confesses that they were laid down by the ācāryas, i. e., learned authors of Yātrā works (ity = uktag = ācāryaiḥ), and in LXXXV.3 he refers to Garga and other Yātrā-writers and to works in Sanskrit and Prakrit². The Bṛhadyātrā abounds in references to earlier authorities.³ The combined evidence of all these references proves beyond doubt the existence of a large number of works dealing with the prognostics for travels.

Natural astrology known as Saṁhitā, Śākhā, Āṅga or Phalagrantha treats of the following matters: the course of the sun and other planets and, during it, their natural and unnatural symptoms, magnitude, colour, brilliance of the rays, appearance, risings and settings, their routes and deviations therefrom, retrograde and post-retrograde motions, the conjunctions of planets with asterisms, etc. as also their consequences; the division of asterisms into nine triads and assigning different countries to them; the course of Canopus and of the Great Bear, assigning things, countries, and peoples to different planets and asterisms, the conjunction of the five planets in the figure of a triangle (graha-śrīgāṭaka), planetary conflicts, the conjunction of planets with the moon, the effects produced by planets on the years presided over by them, the symptoms of pregnancy of clouds, the moon’s conjunction with Rohiṇī, Svāti, Pūrvāṣāḍhā and Uttarāṣāḍhā, the foretokens of imme-

1. BS, II, p. 71.
2. संतपीणाः मनः जयच संस्कृत प्राकृतं च यत् ।
   यानि चोक्तानि गर्भिखितवाकारः भूतिमि: || LXXXV.3.
3. Cf. IT, I.2. सायुग्याच्यविनिमित्तशते: पूुतः: ।
diates rain, prognostics from the growth of flowers and creepers, the mock sun, the halo, the line of clouds piercing the sun’s disc at sun-rise or sun-set, the wind, the meteors, burning of quarters (digdāha), the earthquake, the glowing red of twilight (sandhyārāga), city-like appearance of clouds (gandharvānagara), haze, hurricane (nirghāta), fluctuation of prices (arghakāṇḍa) in accordance with the sun’s movement in various signs of the zodiac, prognostics for the growth of crops (sasyajanma), Indra’s banner, the rainbow, residential architecture (vāstuvidyā), palmistry (aṅgavidyā), auguries from crows (vāyasa-vidyā), the augural circle (antaracakra), the circle of wild beasts (mṛgacakra), the circle of dogs (svacakra), the circle of winds (vātacakra), temple-architecture, iconometry and iconography (pratimā-laksana), installation of images (pratiṣṭhāpana), horticulture (vrksāyurveda), exploration of sub-soil water-veins (udagārgala), the lustration (nirājana), the signs of and omens from wagtails, allaying the influence of portents (utpāta-sānti), miscellaneous matters (mayūra-citraka), the signs of swords, of tiaras, of cocks, of tortoises, of cows, of goats, of horses, of elephants, and of men and women; reflections on the harem (antarāpura-cintā, including appreciation of women’s virtues—LXXIII, winning the affection—LXXIV, erotic remedies—LXXV, cosmetics and perfumery—LXXVI, and the union of man and woman—LXXVII), the prognostics of boils, slits of shoes and garments, prognostics of chowries, of umbrella-sticks, of bed-steads and seats, examination of jewels, omens from lamps, tooth-sticks, etc. occurring in the life of a common man as also of kings.¹

The contents of the Saṃhitā were divided into two classes: aṅga and upāṅga (Cf. II.6, where the word aṅgopāṅga occurs). According to Garga, as cited by the commentator (on II.6), that which is based on planets, asterisms and twelve signs of the zodiac is called aṅga and everything else upāṅga.² Thus the sections on fauna, signs of men and women, slits of clothes and

¹ BS, II, pp. 73-4.
² तथा च भगवान् गर्गः

अधिकृत्य श्रृङ्खलादि जगतो येन निश्चयः

तद्रथामूलम् विन्यायिनां श्रेयमुच्चते-इति II

Cf. Utpala—... तथोपायनानि तत्राव पदितानि पुरुषलक्षणस्मीलक्षणवचनोऽथ-
shoes, reflections on mankind, examination of jewels, signs of lamps, tooth-sticks, tiaras, swords, chowries, umbrellas, couches and seats, etc. which are of greater value for cultural history come under the category of minor subjects, i.e., upāngas.

It seems likely that our author was responsible for extending the scope of the Samhitā so as to cover a somewhat wider field. To illustrate it, the whole section concerning the harem (antahpuracintā) covering Chs. LXXIII-LXXVIII is for the first time brought to bear on the contents of the Samhitā by our author. It is noteworthy that on none of the verses of these chapters except a few verses dealing with the signs of loving and disaffected women (LXXVII.4—11 where Kāśyapa is cited) does Utpala quote from earlier Samhitās. Āyurvedic works must have been the source of this new material. The Kāmasūtra of Vātsyāyana, the Purāṇas and the Śruti literature also cannot be ignored in this connection. Ch. LXXVIII on couches and seats is evidently based on earlier Vāstuśāstra works of Viśvakarman and others and not on the Samhitās of Garga, Kāśyapa, etc. Varāhamihira was the first to incorporate the sections on the examination of jewels (Chs. LXXIX-LXXXII), and the signs of lamps and tooth-sticks (Chs. LXXXIII, LXXXIV) in the Samhitā. On none of these topics does the commentator quote from any of the older Samhitās. Thus the major portion of what is called upānga of a Samhitā is an innovation of Varāhamihira and he may well lay a claim to originality in this respect.

Some verses of the Bhāshaskaracintā and Bhāṭotpalacintā’s commentary thereon enable us to form a rough idea of the nature and contents of the older Samhitās. ‘Simply because a particular ancient work is’, says our author, ‘composed by a sage, it should be good, while that written by a human author of our time could not be so; this being a non-Vedic science why should there be any distinction between the two only because of difference in words, while the sense conveyed in both the cases is the same?’ In the next verse he mentions an ins-
tance of one and the same statement being made in different words in a work attributed to Pitāmaha on the one hand and in that of human authorship on the other and asks the reader to see if there is any material difference between the two (I.4). That Varāhamihira had to defend himself indicates the presence of astrological works attributed to divine or legendary personages and an unwillingness on the part of the people to grant recognition to new works of human authorship.

In ancient India, it was customary for human authors in all the branches of study not to lay any claim to originality and to treat their own works as merely abridged versions or restatements of old writings and astrology was no exception. Varāhamihira, accordingly, tells us that the voluminous works emanated from Brahmā and others were undergoing a gradual process of being epitomised.¹ The work ascribed to Prathama Muni or Pitāmaha is styled grantha-vistara or an extensive treatise in I.2, 5 and its redundant character is illustrated in I.4.

We may have some idea of the legendary character of the matters contained in earlier works of this class from I.11. We are promised that Varāhamihira would pass over queries and their answers, stories and the origin of planets, etc., which have no place in a science.² While illustrating these points, Utpala quotes extensively from Garga and Parāśara the legends and myths purporting to explain the origin of planets, etc. In Ch. V on the course of Rāhu, we are informed of the beliefs current about solar and lunar eclipses and Utpala quotes the authors responsible for the same. The unscientific and legendary character of older writings is also obvious from the fact that in a number of places where Varāhamihira’s statements are at variance with the canons of mathematical astronomy, Utpala observes that they are based on earlier works (pūrvaśāstras). To give only a few instances, V.25³

1. अत्राधारितविनिषुतमालोक्य ग्रन्थविस्तरं कथा: ।
क्रियमाणकमेवैतसमासालोषो ममौत्सहः ॥ I.5.  
2. प्रश्नप्रतिप्रश्नकथाप्रसंगानु स्वल्पोपयोगानु ग्रहसम्बंवास्च ।
सत्यच फलमूलिः च सारमूलं भूतार्थमयं: सक्ति: प्रवक्षे ॥ ।.11.  
3. हृदिातितितकले फलमूलकं पूवस्त्रस्वतःस्तवत् ।
स्फुटगणितविद्यां कालं कवचिदपि नात्यया भवति ॥ V.25.
states that the author has in the preceding stanza (V.24) described the fruits resulting from the occurrence of the solar and lunar eclipses before or after the calculated moment only because they were to be found in the pūrvaśāstras and that the time fixed by an expert astronomer can by no means be wrong. Utpala quotes Garga and Kāśyapa as declaring the effects of such eclipses. In V. 84-85 are mentioned the results accruing from an eclipse ending on the southern or northern side of the moon’s orb, and Utpala states that this is opposed to the rules of mathematical astronomy and that Varāhamihira is here merely reproducing the views of earlier writers¹ and then quotes Kāśyapa. Similar remarks are made by the commentator on V.89-90 which describe the results of the cessations of eclipses called Madhyavidarāṇa and Antyavidarāṇa.² VI.1 states that if Mars should begin its retrograde motion in the ninth, eighth or seventh constellation reckoned from the asterism in which he is posited at the time of his emergence after the last conjunction with the sun, it is named Uṣṇavaktra, and according to Utpala even this statement is based on the pūrvaśāstras³ and he actually quotes Vṛddha-Garga and Kāśyapa as holding such a view. It is said in VII.2 that when Mercury transits through Śravaṇa, Dhaniṣṭhā, Rohini, Mrgeośiras and Uttarāṣāḍhā cutting through any one of them, it leads to the absence of rain and outbreak of diseases,⁴ and the commentator would have us believe that this statement is made by Varāhamihira following earlier works⁵ and he cites a verse from Kāśyapa to that effect. VII.8-13 name and define seven courses of Mercury, namely, Prākṛta, Vimiśra, Saṅkṣipta, Tikṣṇa, Yogānta, Ghora, and Pāpa, and give measures in

¹. एवदौत्यातिकम्। यतो गणितगोचवायनया दिशनद्वितयमादिशोग्रीसमयो मोक्षम न भवति। करार्यविद्यायां पूर्वशास्त्रानुसारोद्योगिक्तम्।
². एवदौत्यातिकम्। यतो गणितगोचविविन्दम्।
³. अव यथप्यस्मभवत्यापि पूर्वशास्त्रानुसारोद्योगिक्तम्।
⁴. विचारतेन अवचनधिम्भाराप्रज्ञयेनवृस्तोद्योगिक्तम्।
⁵. मद्वेदनम् अवचनमाङ्कश्चापितसम्भवति। केराचिन्न सम्भवति।

आचार्यणोऽत्य पूर्वशास्त्रानुसारोद्योगिक्तम्।
days for the rising and setting of Mercury in its seven courses. Utpala in this case makes the important statement that these do not agree with mathematical calculations, that Varāhamihira does not concur in this view, and that he merely restates here the views of earlier authorities such as Parāśara, Vṛddha-Garga and Kāśyapa1 from whom he actually quotes passages. On IX.4 dealing with the paths (vithis) of the course of Venus, Utpala adduces as authority verses from Garga and a prose-passage from Parāśara and explicitly states that in this case Varāhamihira differed from them. The statement that the Canopus (Agastya) rises and sets when the sun is posited in the asterisms Hasta and Rohini respectively2 is also regarded by the scholiast as inaccurate and based on earlier writings and not as Varāhamihira’s own opinion.3 XXXII.1-7 acquaint us with the prevalent beliefs as to the causes of an earthquake,4 and Utpala represents Kāśyapa, Garga, Vasistha, Vṛddha-Garga, Parāśara and others as holding such views.

This brief survey leaves no room for doubt that our author improved upon the older Samhitās by bringing in much new material and leaving out of account certain legendary and unscientific topics.

A passing reference may now be made to the much discussed question of foreign, particularly Greek, influence on Indian astronomy and astrology. Three of the Siddhántas mentioned above betray very close acquaintance with Greek astronomy. The Romaka and Pauliṣa bear non-Indian names. About astrology, Varāhamihira says, ‘Yavanas are Mlecchas; this science (Jyotiṣa) is well-established among them; (therefore) even they are worshipped like sages; how much more then would a twice-born proficient in astrology be?’5 More...

1. यथापि गणितवासनविन्यासनोपचते तथापि पराशरसङ्कीर्तयाचार्यः प्रात्मो। न केवल पराशरसङ्कीर्तकं यावद् गणितविधिरपि। तथा च क्षययो। आचार्यविन्यासनाभिमतम्। यत्र समासंहितायामन्त्रयथक्तम्।
2. दृष्टं स किं हस्तगतेऽकं रोहिणीमुग्धगतेजस्तमुः पति। XII.21.
3. यथापि गणितसाप्तं न भवति तथा लाब्धायां पूर्वाश्वास्त्रोद्धात् विश्वसन्ति। एव पूर्वाश्वास्त्रोद्धात् आचार्यशास्त्रोद्धात्।
4. See supra Ch. VI.
5. महेश्वर हि यवानस्य सम्मक्ष शास्त्रमिदं स्यतम्।
6. अण्वितेवेपि पूज्यते कि पुनः विद्वत् दिजः। II. II.14...
over, Varāhamihira uses as many as thirty-four Sanskritised Greek words¹ and among his authorities on Jātaka is one Yavana (BJ, VII.1 ; XI.1 ; XXI.3 ; XXVII.19-21). In some cases the name Yavana occurs in plural, indicating that the references are not to a Yavana author but to Greek authors in general or a school of the Yavanas. The name Romaka and the alleged identity of Pulīṣa, the supposed author of the Pauliṣa, Maya (the modern Sūryasiddhānta is believed to have been revealed to him) and Maniṭṭha (BJ, VII.1 ; BJ, X.21 ; XI.9) with Polus Alexandrinus,² Ptolemy, the author of the astrological treatise Almagest,³ and Manetho, the author of the Apotelesmata,⁴ respectively are also indicative of Indians' deep knowledge of Greek astronomy and astrology. Regarding the extent of the Greek impact, however, widely divergent views are held by competent authorities.⁵ In our humble opinion, the Romaka and Pauliṣa are direct Sanskritised importations from the West, while the evidences set forth above merely indicate Indians' acquaintance with Greek astronomy and astrology and at best an exchange between the two.

Next, we shall mention, in an alphabetical order, the names of authors and works referred to in the Brhadāṣṭamhitā and append what little information we have been able to gather from various sources.

1. Atri. Ch. XLV on utpātas is said to be a summary of the portentous phenomena which Garga expounded follow-

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1. The Sanskritised loan-words from Greek astrology are-kriya, tāṣṭa, jītuma, leya, pāṭhena, dyūka or jūka, kauryya, tawksiya, dōkoker, ḍhrdoqa, iṣṭham, heli, hinnu, ara, jyo, kōṇa, asphujit, horā, kendra, dreykāṇa or dreykko, liptā, anepah, sunahā, durudhara, kemadruna, vesi, āpoklima, panaphara, hibaka, jāmītra, mēsuraṇa, dyumām, dyutam, rihphha, kulira and trikoṇa, cf. Weber, History of Indian Literature, pp. 254-255. Kern, Introd. to BS, pp. 28-29, fn. 1) excludes kendra and kulira from the list and adds one new word, viz., harija.


5. Kern, Introd. to BS, pp. 23, 28-29, 48-50, 52; Weber, History of Indian Literature, pp. 251 ff.; Whitney and Burgess, Appendix to Sūryasid-
ing Atri. This admits of two inferences: that Atri wrote a work on utpātas which was followed as an authority by Garga, or that Garga received instructions from Atri. He is also mentioned as an authority on Yātrā (BY, XXIX.3).

2. Asita. XI.1 names him as a writer on Kṛtucāra. According to the commentator (on XXI.2), Asita also wrote on the pregnancy of clouds (garbha-lakṣāṇā). In BY, XIX.1, he is referred to along with Devala and Kāśyapa in connection with the signs of fire.

3. Bādarāyaṇa. XXXIX.1 tells us that the good and bad yogas for the growth of summer and autumnal crops at the time of the sun’s entry into Scorpion (Vṛṣčika) and Taurus (Vṛṣa) are narrated on the authority of Bādarāyaṇa and Utpala cites from him one verse each on XXXIX.2, 4, 8, 10 and 12. Utpala (on XXI.2) again informs us that Bādarāyaṇa was an authority on garbha-lakṣāṇa. Bādarāyaṇa is quoted several times by Utpala in his commentary on YV, IV and BJ, VI.2 and XI.5.

4. Baladeva. LIII.125 states that Varāhamihira consulted the views of Baladeva and others regarding rainfall. This verse is not found in S. Dvivedi’s edition.

5. Bṛhadguri. From XLVII.2, it appears that Bṛhadguri learned Puṣya-Śaṅti from Vṛddha-Garga. In LXXXV.1, he is referred to as an author on Śākuna and Ṛṣabha is said to have based his work on him along with others. He is also named in VP, verse 23.

6. Bṛharadvaīja. LXXXV.2 mentions him as an ancient author on Śākuna and Mahārājādhīraja Dravyavardhana,

1. यान्नवेस्त्रस्वातान् समः प्रोचाच तानह बक्षे। XLV.1.
2. गार्गीय विविधारं पारासरसमितेवः देवलक्षे। XI.1.
3. श्लोककालसिद्धकि-देवलक-क्षयपुनिनिच्छिततान् बक्षे। BY, XIX.1.
4. वृक्षकवृक्षप्रेमेऽऽथोताय बादरायणनेनसि:। ग्रीष्मश्रवस्या न दसंशोगः। उत्तत्त इमे। XXXIX.1.
5. JBBRAS, 1948-49, p. 5.
6. मेयदामय प्रश्रमेव मया प्रविष्टं ज्येष्ठामतीत्य बल्देवमताति दृष्टवः। LIII.125.
7. या व्यास्ताता शानिः: स्वयमभुवा सुरसुरोमहेन्द्रायः। XLVII.2.

1. यान्नवेस्त्रस्वातान् समः प्रोचाच तानह बक्षे। XLV.1.
2. गार्गीय विविधारं पारासरसमितेवः देवलक्षे। XI.1.
3. श्लोककालसिद्धकि-देवलक-क्षयपुनिनिच्छिततान् बक्षे। BY, XIX.1.
4. वृक्षकवृक्षप्रेमेऽऽथोताय बादरायणनेनसि:। ग्रीष्मश्रवस्या न दसंशोगः। उत्तत्त इमे। XXXIX.1.
5. JBBRAS, 1948-49, p. 5.
6. मेयदामय प्रश्रमेव मया प्रविष्टं ज्येष्ठामतीत्य बल्देवमताति दृष्टवः। LIII.125.
7. या व्यास्ताता शानिः: स्वयमभुवा सुरसुरोमहेन्द्रायः। XLVII.2.
king of Avanti, is said to have based his treatise exclusively on that of Bhāradvāja. The commentator (on LII.75-76) quotes an Anuṣṭubh verse from him regarding the position of the door in a house.

7. Bhṛgu. According to LXXXV.43, Bhṛgu declared as auspicious the movement of the bird cāsa and mongoose from right to left of a traveller in the afternoon.¹ Also mentioned in BY, IV. 30; XXIII.39.

8. Bṛhadratha. LX.1 states that the chapter on golakṣaṇa (signs of cows) is summarised from what Pārāśara taught to Bṛhadratha (Pārāśaraḥ prāha Bṛhadrathāya go-lakṣaṇāṁ yat kriyate tato = yam/Maya śaṁśaḥ śubha-lakṣaṇās = tāh sarvās = tath-āpy = āgamato = bhidhāsyē).  

9. Bṛhaspati. In XXIV.2, Bṛhaspati is said to have taught the moon’s conjunction with Rohiṇī and its bearing on rainfall and crops to Nārada. According to LXXXV.1, Rṣabha based his treatise dealing with Śākunās on Vāgīśa (Bṛhaspati) along with others. In all, Utpala quotes five Anuṣṭubh verses from him: one Anuṣṭubh quoted on XXXV.3 deals with the signs of rainbow, another on LII.88 describes the places where a residential building should not be located, and three verses quoted on LII.2-3 treat of Vāstu-puruṣa.

10. Devala. It is stated in VII.15 that according to Devala the effects of Rjvī, Ativakrā, Vakrā and Vikalā motions of Mercury last for 30, 24, 12 and 6 days respectively,² and Utpala (on VII.16) actually quotes five Anuṣṭubh stanzas from him. XI.1 names him as an author on śikhicāra. Along with others, his work on Śākuna is said to have formed basis of Rṣabha’s work on the same subject (LXXXV.1). Utpala (on V.3) ascribes to Devala the view that Rāhu is formless and of the nature of pure darkness, and quotes an Anuṣṭubh of his to that effect. Devala is quoted by Utpala in connection with the courses of Venus (one verse on IX.1) and Saturn (X.19, one verse), grahavarsa-phaṇa (XIX.22, one verse), sandhyā-lakṣaṇa (XXX.32, 1½ verses) and rainfall (XXI.2, XX III.4, one verse). Thus the contents of Devala’s work were similar

¹. चापः सन्तुली वामो भूरुराधानाराष्ट्रत:। LXXXV.43b.
². कृत्तिवन्दनका बक्रा विकला च मतेन देवश्वेतः। Panchatūrīकाठ्य कृत्तिवादीनां बहुवस्तः। VII.15.
to those of BS, and probably Devala was a Śāńhitā-writer. He is also mentioned in BY, XII.15 (on marching in different planetary aspects), XIX.1 (agni-lakṣaṇa), YY, IX.12 and VP, verse 22 (on the consequence of nakṣatra in regard to the nuptial). The reference to Devala in a verse of Rśiputra quoted by Utpala on YY, I.15-16 shows that Devala was an older authority than Rśiputra.

11. Dravyavardhana. It is stated in LXXXV.2 that on Śākuna Varāhamihira consulted, among others, the work which Mahārājādhirājaka, Dravyavardhana, king of Avanti, had composed after consulting Bhāradvāja's work.1 Now, Avanti stands for both western Malwa and its ancient metropolis Ujjayini. However, the commentator takes it in the latter sense.2 As Varāhamihira flourished in the first half of the sixth century A.D., king Dravyavardhana, whose work he consulted, must have ruled some time in or before the beginning of that century. The identity of this king and his relation with Ujjayini have formed a subject of a long-drawn controversy between Drs. V.V. Mirashi and D.C. Sircar. According to Dr. Mirashi, Dravyavardhana was an Aulikara king who ruled from about V. 552 to 572 (A.D. 495-515) and was thus a predecessor of Yaśodharman-Viśṇuvardhana and probably his father. He takes the above statement of Varāhamihira to indicate that the Aulikara kings from Ādityavardhana onward ruled not from Daśapura (Mandasor), as usually believed, but from Ujjayini.3 This view is disputed by Dr. Sircar who upholds the older theory taking Daśapura to be the capital of the Aulikaras.4 It must be remembered that Dravyavardhana is not mentioned in any epigraphic record, nor does Varāhamihira associate him with the Aulikaras. If, however, Dravyavardhana is assigned to the Aulikara family on some other grounds

1. Bhāratajñata nātra yavan śrīdrājyavān
2. Āvartikā: Prabhū nāye mahārajaśārhata
4. IHQ, XXXV, pp. 73-75. Dr. Buddha Prakash (Aspects of Indian History and Civilization, pp. 69-140) thinks that Mahārajaśāhira. Dravyavardhana was a successor of Yaśodharman-Viśṇuvardhana, the latter being the first ruler in the Aulikara family to attain the rank of Mahārajaśāhira-Parameśvara.
as is done by Dr. Mirashi, the gloss of Utpala would have us believe that Dravyavardhna, as also the family to which he belonged (i.e. Aulikara), had Ujjayini for the seat of his government. That Varahamihira also uses Avanti in the sense of Ujjayini would be evident from a comparison of XII. 14\(^1\) and its parallel in the *Samasa-samhitā* quoted by the commentator.\(^2\) In the latter ‘Avanti’ stands for ‘Ujjayini’ used in the former. There is thus no room to doubt Dravyavardhana’s association with Ujjain as his metropolis.

12. **Garga.** None of the authorities named in BS can claim a larger number of references than Garga. XI.1 refers to his Śikhicāra, and Utpala actually quotes a number of verses from him according to one of which (on XI.15) ketus number 1000. XXI.2 states that the account of the pregnancy of clouds is based, among others, on Garga. XXI.5 avers that the author will enumerate the days of the formation of rain-embryos following Garga and others. In contradistinction to Siddhāsenā he held that the formation of rain-foetuses commences on the first day of the bright fortnight of Mārgaśīrṣa (XXI.6). In XXIII.4, he is represented as holding the view that there will be good rain during the whole season if there be rain over an area of not less than 12 yojanas in the beginning. In XXIV. 2, he is said to have instructed his pupils about the moon’s conjunction with Rohini. According to XLV.1, Garga studied utpātaṁ from Atri or was inspired by the latter’s work. XLV. 52 informs us that the following two verses (XLV.53-4 describing a sāntī to be performed when twins are born to a mare, she-camel, she-buffalo, cow or she-elephant) are composed by Garga, XLV.56-8, 79-80 refer to two other sāntis prescribed by Garga. XLVII.38-42 enumerate materials necessary for Pusya-snāna following Garga’s view. LV.31 refers to his Prāśada-lakṣaṇa (a work on temple architecture). XLIX. 15 tells us that the method of divining dents in a sword des-

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\(^1\) Samśāvibhāganāt pratiśeṣaṁ sunyam vastuṣeñu manasaṃśeṣaṁ: 

\(^2\) Tikṣaṇaḥ sāmāṣaṁhitānām: karnoṁ bāgyaṁ śvarāryah: sūtraśat kriyāḥ:
cribed in XLIX.11 ff. is based on Garga’s view, and Utpala actually quotes three Anuṣṭubh verses from Garga to that effect. According to LXIV.8, LXIV.9 describing four kinds of goats is of Garga. In LXXXV.3, Garga is represented as a writer on Yātrā and Śākuna. According to Utpala, II.1 and 6 are borrowed by our author from Garga. He is also named in BY, IV.6 (view about auspicious direction and nakṣatras for a royal march); VI.5, and in VP, 22-23. In the last verse, the name Garga occurs in plural number and may refer to a school of Garga’s followers or may simply be indicative of honour. From what has been said above, it would appear that most of the topics found in BS were dealt with in Garga’s work which must come under the category of Saṃhitā, and it is interesting to note that most of the verses of Garga cited by the commentator (he quotes over 430 verses) can be traced to the extant Gārgī Saṃhitā. Garga appears to be a somewhat mythical personage, and according to Kern he is a meteoric phenomenon and his name originally denoted ‘thunder, lightning’, as a derivative from ‘garja’. In a few verses of Garga cited by Utpala on I.5, it is stated that Garga studied Jyotisa Vedaṅga from the Self-Born who created it for use in sacrifices and then from him (Garga) other sages received it and wrote works thereon.

Before proceeding to name other authorities, it would be desirable to record available information about Vṛddha-Garga also. XIII.2 declares that Varāhamihira would describe the motion of the constellation of the Great Bear (saptarṣi) relying upon Vṛddha-Garga’s view, and the next verse is evidently based on Vṛddha-Garga whose verse is cited by the commentator. XLVII.2 states that Vṛddha-Garga imparted to Bhāguri the śaṁti which Svayambhū had expounded to the preceptor of gods for the sake of Indra. At a number of places, our author uses the words muni (Cf. XLVII.23, 51) and pṛsi (Cf. LXXXV.6) and Utpala takes them to stand for Vṛddha-Garga. Utpala quotes over ninety-five verses from him. While illustrating praṇa and prati-praṇa in I.11, Utpala cites twenty-


three verses in the Anuṣṭubh metre as Garga’s (not twenty-five as stated by P. V. Kane\(^1\)), but in the verses themselves Vṛddha-Garga (not Garga) is introduced as propounder. In this case, Utpala seems to identify the two. At the same time, it is equally interesting to see Utpala quoting both Garga and Vṛddha-Garga separately on one and the same verse of BS. Thus on V. 17, Utpala cites two stanzas in Anuṣṭubh from Vṛddha-Garga declaring that one should not predict an eclipse if on an amāvāsyā or pūrṇimā there be conjunction of five planets without Mercury, that the presence of the latter foreshadows an eclipse, and that the direction of the eclipse could be pre-determined on the preceding aṣṭami by observing the appearance of a drop of oil poured on the surface of water. Then follow three verses of almost identical import quoted by Utpala as Garga’s. V.17, however, dismisses it as irrational. In support of XI.7, Utpala quotes two verses each from Garga and Vṛddha-Garga as agreeing with each other, the second half of the second verse being literally identical. By way of supporting the latter half of XXXII.1 that the earthquake is caused by the heaving sighs of the elephants of the quarters tired with bearing the burden of the earth Utpala quotes 3½ verses as Garga’s, while Vṛddha-Garga (2 verses on XXXII.2) is represented as holding the view that by means of earthquakes gods manifest their satisfaction or dissatisfaction with good or bad conduct of the mortals. These instances seemingly indicate some sort of distinction between the two. Kern, in order to get out of this ambiguity, suggests that ‘Garga and Vṛddha-Garga considered as persons are one and the same; but when Utpala quotes Vṛddha-Garga, he has another work than the Gārgī Sanhitā in view.’ According to him, the work cited as Vṛddha-Garga’s either formed a kind of appendix to the Gārgī Sanhitā, or both the works did not differ from each other more than differrent redactions of Sanskrit works are occasionally found to do.\(^2\) Dr. P. V. Kane\(^3\) is equally justified in concluding that Varāhamihira and Utpala had before them works ascribed to both Garga and Vṛddha-Garga and that they must have preceded Varāhamihira by some centuries. The fact

\(^{1}\) JBBRAS, 1948-49, p. 7.
\(^{2}\) BS, Introd., pp. 34-35.
\(^{3}\) JBBRAS, 1948-49, p. 8.
of about 60 verses of Garga being quoted by Utpala in his gloss on BJ indicates, according to Dr. Kane, that Garga also wrote on Horāśāstra.¹

13. Garutmaṇ. He is mentioned as one of the authorities whose views formed the basis of Rśabha’s work on Śākuna (LXXXV.1).

14. Kapisthala. A writer on Śākuna whose views were followed by Rśabha (LXXXV.1).

15. Kāśyapa or Kāśyapa. In XXI.2, he is named along with Garga, Parāśara, Vajra and others as a writer on rainfall. XXIV.2 represents him as having taught the moon’s conjunction with Rohiṇi to the assemblage of his pupils. In many verses, Varāhamihira uses words like ‘anye’ (XI.1), ‘ādi’ (XVII.3; XXI.5; LXXXV.3), ‘kecit’ (XXIII.4; XXXV.2) and ‘eke’ (XXXII.1; XLV.5; XCVI.62), and Utpala regards them as intended for Kāśyapa. The fact that Utpala quotes Kāśyapa (he quotes at least 255 verses as Kāśyapa’s) on almost all topics contained in BS shows that the Samhitā attributed to Kāśyapa was a very extensive one.

16. Manu. XLIII.39 refers to Manu in connection with making seven or five Śakra-kumāris (decorative wooden dolls attached to the banner of Indra). XLII.51 prescribes that on the fourth day after the commencement of the festival of Indra’s banner should be recited the mantras prescribed by Manu, and verses 52-55 are evidently quoted from him. It is declared in LIII.99 that our author has in the preceding verses treated of Dakārgala on the basis of Sārasvata’s work and that he would now proceed to deal with the same subject in Vṛttta metres following the work of Manu, and the commentator on LIII.102 actually cites five verses in Anuṣṭubh metre as Manu’s on the art of tracing underground water. According to LIII.110, the next following verse describing certain rocks and the results of their presence at a particular site is from a muni, probably Manu. LV.31 contains a reference to an extensive work on temple architecture by Manu.² On LXXXV.18, Utpala quotes what he styles as Manu-dharmāḥ (one verse) about the relative strength of diurnal and nocturnal animals and

¹. JBBRAS, 1946-49 p. 9.
². Oppert’s List of Sanskrit MSS. in Private Libraries of South India, I, p. 476, mentions a Mānava-cāstu-lakṣaṇa which must be a later work.
birds in particular places. Of Manu as a Dharmasastra-writer, we shall say more subsequently. Now, as the topics in connection with which Manu is shown to have been referred to above come under the purview of a Śāṁhitā, his work must have belonged to that class. And Kern actually informs us that Manu is regarded as one of the eighteen Śāṁhitā-proclaimers and is mentioned as an authority on astrology in the Gārgī Śāṁhitā. The fact that Utpala does not cite verses from Manu on topics like temple-architecture and Indra’s banner has led Dr. Kane to conclude that ‘Utpala had not before him the work of Manu on these topics, though Varāhamihira had it before him.’ The learned scholar seems to have overlooked the fact that all these topics form part of a Śāṁhitā and they should not be looked upon as providing subject-matter for independent treatises. Now, Utpala actually cites as Manu’s six verses in Anuṣṭubh metre, i.e. five on Dakārgala and one on Śākuna. No doubt whatsoever should, therefore, be entertained as to the presence of what may be called Māṇavi Śāṁhitā before Utpala when he wrote his gloss on BS. Whether our Manu was identical with or distinct from the dharmaśāstra-kāra of that name, is beyond one can say in the present state of our knowledge.

17. Maya. Maya is said to have imparted good and bad results of the moon’s conjunction with Rohini to his pupils’ assemblage (XXIV.2). LV.29 and LV.18 mention him in connection with architecture. He is also referred to in Bṛj, VII.1 regarding Ayurveda. Thus Maya appears to have written a Śāṁhitā and a Horāśāstra. Maya’s work on architecture appears to have been independent of his Śāṁhitā. Being traditionally the architect of the demons, as Viśvakarman was of the gods, his name is associated with several treatises on Vāstuvidyā, mostly hailing from the south and belonging to a very late date. Now, as Utpala in his gloss on BS does not quote from Maya except regarding architecture, it may be conjectured that Maya’s Śāṁhitā was not available in his time, while Utpala’s quotation from Maya on Bṛj, VII.13 shows the presence of the latter’s Horāśāstra in the former’s time.

1. BS, Introd., p. 42.
2. JBBRAS, XXIV-XXV, p. 12.
3. For a list, see Acharya, Dictionary of Hindu Architecture, pp. 769-770.
We learn from two verses in Upajāti quoted by Utpala on II.4 that Maya, the king of Dānavas, received the science from the Sun, sage Vasiṣṭha from Viṣṇu, and Parāśara from Soma, and they (Maya, Vasiṣṭha and Parāśara) diffused it among the Yavanas. This statement is in striking agreement with the Sūrya-siddhānta (XIV.22-27) according to which having studied this science from the Sun himself Maya bestowed it upon the sages who flocked round him. Since the name of the Egyptian sovereign Ptolemy occurs as Turamaya in Asoka's inscriptions, Weber suggests that this Asura Maya is identical with the Ptolemy of the Greeks, who wrote the Almagest, and this conjecture is strongly supported by Whitney. This suggestion is not likely to receive general acceptance until some more reliable evidence comes forth. Whether this Maya is the same as or distinct from the writer of that name of an architectural treatise is difficult to decide. The latter view, however, seems to be the more likely one.

18. Nārada. As against some writers (e.g. Parāśara) holding the view that there are 101 ketus and others (e.g. Garga) believing in the existence of 1000 comets, Nārada is said to have opined that there is really only one ketus which appears in numerous shapes. Utpala quotes a verse in Anuṣṭubh from him to that effect. We are further informed that Nārada heard from Bṛhaspati the moon’s conjunction with Rohini and its effects on the top of the Mt. Meru (XXIV.2).

1. यद द्वानवेन्द्राय मयाय सूर्यं शास्त्रं वदी सम्प्रणाताय पुराब्मृः।
विश्वोद्विषिण्ठश्च महाविद्ययो ज्ञानामूर्ति यत् परमासाद।
परावर्त्तवायिकम्य सोमाद वृष्णु सुराणा परमाद्मूर्ति यत्।
प्रकाशयायां उज्जुन्तकेत्तमेण महादेवसत्ते यवनेषु तते॥


3. Sūryasiddhānta, Tr., p. 4.

4. शमकाशिचिक्षकेव सहस्त्रपरे वर्तत्वे केत्तुनाम।
बहुःपनकेत्तेव प्राह मुनिनार्द: केतुम॥

5. दिव्यान्तरिक्षणो भौम एक: केतु: प्रकीलितः।
शुभासमाकल्लू लोके ददात्यस्तम्बोद्वः।

6. सूर्यान्तरिक्षिकर्वे बहस्तिनार्ददाय यानाह॥

XI.5.
Whether the astrologer Nārada is the same as the legal writer of that name cannot be decided. Weber’s Catalogue of MSS. in Berlin Library (No. 862) mentions a Nārādī Saṃhitā.

19. Paitāmaha Siddhānta (B.S, II, p. 22; P.S, I.3). Varāhamihira informs us that by his time the Paitāmaha Siddhānta had grown inaccurate and very much mutilated as its calculations did not agree with the results arrived at by observation (dṛkpratīyaya). This Siddhānta, as summarised by Varāhamihira, very closely followed in the footsteps of the Jyotiṣa Vedāṅga: it bases its calculations on the system of luni-solar quinquennial yuga of five years\(^1\) and fixes the winter solstice in the beginning of Dhanisṭhā.\(^2\) In one respect, however, it shows a definite advance over the Jyotiṣa Vedāṅga. Whereas the Jyotiṣa Vedāṅga dealt with the calculations relating to the sun and moon only, it appears from Brahmagupta’s Brāhmaṣṭhasūtrasiddhānta (I.2) that the Paitāmaha Siddhānta contained calculations of the motion of other planets (graha-ganita) also. Its following the Jyotiṣa Vedāṅga and growing inaccurate in Varāhamihira’s time show that it must have preceded him by some centuries. This conclusion seems to be supported on some independent grounds too. Āryabhaṭa (born A.D. 476) holds Pitāmaha in high reverence and describes his own work as based on that of Svayambhū (Pitāmaha).\(^3\) Brahmagupta (A.D. 628) also has probably the same Paitāmaha Siddhānta in view when he speaks of errors in calculations creeping into it due to lapse of a long time.\(^4\) Thus the Paitāmaha referred to by Āryabhaṭa and

\[\text{1.}\]
रविशालिनोः पञ्चयूगं वर्षाणि पितामहोपप्रकटानि।
अधिमासस्त्रिकुलाभिमांसिकृतमो ब्रह्मप्रेमवा तु॥

\[\text{2.}\]
संकप्पवृत्तेः गणे तत्तिन्मवमकिन नवाहतेषुएवकेः।
विद्यसामग्राही: सप्तमिन्न शासिं धनिष्ठाद्यम् ॥

\[\text{3.}\]
प्राणिपत्यस्मनं क सत्य देवताः परं ब्रह्म।
आयोभूतिः देवती गणित कालकिल्ल्यो गोलम्म॥

\[\text{4.}\]
ह्रोमस्तं ग्रहाणिणं भवति कालेन यत् निदेशमूतम्।
अभिमंडितं स्फुटं तत् जिज्ञासुत्रहसुप्तेन ॥

\[\begin{align*}
\text{Brāhmaṣṭhasūtrasiddhānta, I.2} \\
\text{A definite date for the composition of the original Paitāmaha Siddhānta cannot be fixed for want of sufficient data. In P.S, XII.2} (Dvīnum Šaka-}
\end{align*}\]
Varāhamihira was extant in the seventh century A.D. when Brahmagupta composed his Siddhānta. It appears to have been lost and completely superseded by Brahmagupta’s work some time before the ninth century A.D., for Utpala quotes only from this latter work without caring to retain the word *sphuta*. Alberuni had naturally no knowledge of the older Siddhānta and he (I, 153-4) invariably refers to the Brahmā Siddhānta as Brahmagupta’s work. The old Paitāmaha, thus, seems to have been lost irrecoverably, its three modern versions being available at present, viz., Brahmagupta’s Siddhānta, Brāhmasiddhānta forming a section of the Viṣṇudharmottara, and the one popularly known as Śākalya Siddhānta. The statement contained in I.4 that the day named after the earth’s son (i.e. Mars) is not auspicious which is said to have been made in a work ascribed to Pitāmaha has led Dr. Kane to believe that the Paitāmaha incorporated certain astrological matters also. As against this, we may humbly point out that the reference in question seems to be to the Samhitā attributed to Pitāmaha or Brahmā and not to his Siddhānta. This suggestion of ours is borne out by the fact that Alberuni (I, 157) mentions Brahmā (i.e. Pitāmaha) as a Samhitā-writer.

20. Parāśara. Traditionally the most ancient Hindu astronomer, Parāśara is referred to several times by our author. VII.8 mentions him as having declared seven kinds of motions of Mercury and names his work Parāśara-tantra. On III.1,5, drakālam paṅcabhir = uddhṛtya ṛṣaṇa-vṛṣṇa-pāṃ) Varāhamihira gives rule for fixing a point from which the quinquennial yugas are to be counted. He asks us to deduct 2 from Śakendrakāla, and to divide the remainder by 5, a process which would enable us to find out the number of yugas at any given time. It supposes a new yuga to commence when two Śaka years have gone. Dikshit (HIA, p. 151) holds that the Paitāmaha was composed long before the Śaka era, the introduction of Śakendrakāla being due to Varāhamihira who uses it with the sole purpose of bringing out ahargaṇa. Thibaut (PS, Introd., p. xxvi), on the other hand, thinks that this rule was contained in the Paitāmaha itself, for had Varāhamihira added it himself, he would most likely have adapted it to the same initial date as the other Siddhāntas, viz., 427 Śaka. According to this view, the Paitāmaha may be assigned to any date after the 3rd year of the Śaka era.

1. JBBRAS, XXIV-XXV, p. 15.

प्राकृतविभिन्नभिक्षुद्विद्योगालंश्रोपाश्च: 1
सप्त पराशरतन्त्रे नक्षत्रे: कीतिता गतव: 11
VII. 8.
XXXII.26 also Utpala refers to the Parāśara-tantra. Varāhamihira (XI.1) tells us that before writing his chapter on ketucāra he consulted, among others, Parāśara’s work on the same subject and Utpala would have us believe that Parāśara held the number of comets to be 101 (vide comm. on XI.5.). On XI.36, Utpala quotes a prose passage from Parāśara according to which the results of the appearance of Calaketu occur within 10 or 18 months. According to XVII.3, Parāśara held planetary conflicts to be of four kinds¹ and a prose passage of his quoted by Utpala names them as Bhedana, Ārohaṇa, Ullekhana and Raśmi-saṁsarga.² XXI.2 refers to the Garbhalaṅkaṣapa (monsoonish indications) of Parāśara and XXIII.4 mentions him in connection with the predictions about rainfall. In XXIV.2, he is said to have imparted good and bad effects of the moon’s conjunction with Rohini to the multitude of his pupils. XXXII.3-7 refer to a myth about the cause of an earthquake and Utpala quotes a prose passage from Parāśara in support thereof. On XLIX.20, Utpala cites a prose passage as Parāśara’s about the signs of swords. LX.1 states that our author will summarise the auspicious signs of cows which Parāśara imparted to Bhadratha whose another name was, according to the commentator, Śaṅgarava, and Utpala quotes in all fifteen verses of Parāśara on the same subject. LXXXV.3 mentions writings on Śākuna by Garga and other Yātrā-writers, and Utpala includes Parāśara among them. It will have become sufficiently clear from the above survey that Parāśara’s work trod the same ground as BS and Alberuni (I, 157) actually refers to the Samhitā of Parāśara.

According to a verse quoted by Utpala on II.14, Parāśara studied Jyotiṣa from the moon (Soma) and spread it among the Yavanas. B7, VII.1 calls him Śaktipūrva, i.e., one whose ancestor was Śakti. From Utpala’s commentary on I.11 (pp. 14-18); XXXII. 3-7 it appears that Parāśara’s Samhitā contained some legendary matters, viz., stories about the war of

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¹ युद्ध चतुष्प्रकारं पराशराधैमूनिनिमिभक्तम्। XVII. 3.
² भैदमारोहयमुक्तवनं रहिमसंगंधंवति ग्रह्युद्ध चतुविधमाच्यश्च। कुशलं। ते वां पूर्वाद्वारं गर्नियान्।
gods and demons, origin of planets, etc. One of the most striking peculiarities of Parāśara’s Saṁhitā is that it was composed in mixed prose and verse. Utpala profusely cites both prose passages and verses. For prose passages vide comm. on I.11 (pp. 14-18), II (p. 24); II.20; III.1, 24, 32; IV.5; V.2, 16, 20-23, 32-34, 42, 52, 59, 60; VI.1, 2, 35; VII.9-13, 14; VIII.2, 16; IX.8, 22, 35, 36, 37-38, 39, etc. For verses vide com. on III.4, 5, 6, 35, 36, 39; V.63; VI.6, 7; VIII.18; IX. 36; X.19, 21, etc. Metrical part of Parāśara’s Saṁhitā was mostly in Anuṣṭubh, though verses in Āryā and Upajātī are also to be met with. From the occurrence of Āryās, Dr. Kern concludes that Parāśara’s Saṁhitā is of later origin than the Gaṇgī Saṁhitā.

Parāśara is also mentioned in BJ, VII.1; XII.2, and VP, 17, 23. As we have seen above, Utpala includes Parāśara among the yātrākāras. He informs us that he had heard about Parāśara’s works covering all the three branches of Jyotiṣa, but that he had seen only his Saṁhitā and not Jātaka (on BJ, VII.9). Two works on horoscopy entitled Laghu-Pārāśari and Byhat-Pārāšari are available now, but they do not appear to be genuine.

21. Pauliśa Siddhānta (BS, II, p.22). The Pauliśa is one of the earliest records of scientific Hindu astronomy, and Varāhamihira makes special mention of this Siddhānta for accuracy of calculations (PS, I.4). It was already commented upon by one Lāṭadeva (PS, I.3). In the original Pauliśa Siddhānta (the word original is prefixed to distinguish the Pauliśa Siddhānta abridged in PS from its later recasts) there are some indications of foreign derivation, e.g., it does not establish a general jyuga of any kind, but operates with specially constructed short periods of time, and gives the difference in longitude between Banaras and Ujjain on the one hand and Yavanapura, probably identical with Alexandria, on the other (PS, III,13). The name Pauliśa has a non-Indian ring and suggests a foreign origin. And Alberuni (I, 153) actually states that it was composed by Puliśa and was so-called from

1. BS, Preface, p. 33.

2. पाराशारोपीया सहितता केवलमस्मामिभव ह्या न जातकम्। श्रूयते स्कन्धाथ्रां पराशरस्येऽति। तदवच वराहमिहिरः शक्तिपूवच जित्याह।
Pauliśa the Greek who hailed from the city of Saintra which he supposed to be the same as Alexandria. The whole controversy centres round the identity of Pauliśa the Greek. Some propose to identify him with Paulus Alexandrinus, the author of the astrological treatise *Esiagoge* which has come down to us,¹ and regard the *Pauliśa Siddhānta* as a translation of that work. Weber holds that the *Esiagoge* was itself known to the Hindus in some form or other, for it alone contains nearly all the technical terms adopted by Indian astronomy from the Greek.² In support of his view, he points out that the *Esiagoge* contains a passage which is in almost literal agreement with one in the *Hāyana-ratna* of Balabhadra.³ The untenability of Weber's opinion has been demonstrated by Kern who pointed out that the passage being a simple enumeration of lunar mansions and their lords is sure to be found almost literally in every work on nativity, that there is no indication of Balabhadra's borrowing this passage from Pulīśa, and that the *Pauliśa* is a pronouncedly astronomical work, while the *Esiagoge* is, as confessed by Weber himself, concerned with astrology.⁴

Like other Siddhāntas, the *Pauliśa* also seems to have undergone more than one recast. The Siddhānta from which Utpala quotes in all 23 Āryās under the names Pulīśa-cārya, Pulīśa-siddhānta and Pauliśa employs entirely different methods of calculation from those of the original Pauliśa. Thus while the original Pauliśa did not establish a constant yuga of any kind, its adoption in the later work of that name is evident from an Āryā quoted by Utpala on BS, II, p. 23.⁵ Whereas the duration of the year according to the original Pauliśa is 365d 15gh 30p, the year of its later version amounts to 365 d 15gh 31 p 30v. Moreover, Utpala cites a verse in Anuṣṭubh from what he calls Mūla-Puliśa-siddhānta (BS, II, p. 27). Even this Mūla-

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⁵ तथा च पुलिषाबिन्धानेन दिव्य वानेन पञ्चमोते ।
अष्टोत्तरविलद्दर्दविन्धाना कुमारम्भुदार्थीनस्तु ।
अन्यभस्ते शत्गुणितं ग्रहतुष्यम् तद्वेकल्मः॥
Puliśa-siddhānta is distinct from that compressed in PS. Thus, there appear to have been three different versions of the Paulīśa, (1) that abridged in PS, (2) the one from which Utpala quotes 23 Āryās, and (3) the Mūla-Puliśa-siddhānta from which Utpala extracts a verse in Anuṣṭubh.¹ Which of these Paulīśas was known to Alberuni is not possible to decide.

22. Romaka Siddhānta (BS, II, p. 22). The original Romaka stood close to the Paulīśa with regard to the accuracy of calculations (PS, I.4) and, like the latter, had already been commented upon by Lāṭadeva (PS, I.3). Its name points to the West and indeed there is some unimpeachable internal evidence indicating its derivation from some foreign source. It calculates ahargaṇa for the meridian of Yavanapura, i.e. Alexandria (PS, I.8). It adopts a luni-solar yuga of its own comprising 2850 years, 1050 intercalary months and 16547 omitted lunar days (tithis) and reducible by 150 (PS, I.15); it is based on the Metonic period consisting of 19 tropical years comprising 235 synodical months.² Again, the Romaka is the only Siddhānta to employ tropical revolutions of the sun and moon, while the Śūryasiddhānta treats of sidereal revolution only.

The Romaka epitomised in PS must be distinguished from the pseudo-Romaka Siddhānta now deposited in India Office Library, London. Brahmagupta states, “Having taken the rules regarding the mean motions of the sun and the moon, the moon’s apogee and node, as also the mean motions of Mars, Mercury’s Šighra, Jupiter, Venus’s Šighra and Saturn from Lāṭa, elapsed years and revolutions of the yuga from the Vāsiṣṭha, pāda from Vijayanandin’s work, and rules about the apogees, nodes, epicycles and true motions of planets from Āryabhaṭa, Śrīṣena transformed the Romaka, the mountain of jewels, into a tattered garment.”³ Thus Brahmagupta clearly disting-

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¹ HIA, p. 163; I4, XIX. (1890), p. 52, fn. 18.  
² Thibaut, PS, Introd., pp. XXVI-XXVII.  
³ Brāhmaṇa-puṣaṇa-siddhānta, XI.48-50a.
uishes the original *Romaka Siddhānta* from its later version made by Śrīseṇa both of which were known to him. The extant *Romaka* seems to be the same as or based on Śrīseṇa’s recension.

Now as regards the date of the original *Romaka Siddhānta*. The facts that the *Romaka* had already a commentary by Lāṭa, that both Varāhamihira and Brahmagupta are silent about the name of its author and treat it as of divine origin, that the length of the year of the original *Romaka* is the same as that of Hipparchus, i.e., 365 d 14 gh 48 p, and that it contains calculations of only the sun and the moon, and not of planets, tend to show that the work in question was composed sometime between B. C. 150, the date of Hipparchus, and A.D. 150; the date of Ptolemy, who first established the theory of the planets in accordance with the principles of Hipparchus.¹

23. *Rśabha*. He is said to have consulted the views of Śakra, Śukra, Bṛḥaspati, Kapiśṭhala, Garutmat, Bhāguri and Devala before composing his own work on Śākuna (LXXXV.1).²

24. *Rśiputra*. Our author names Rśiputra expressly only once. XLV.82 states that the author will quote the verses composed by Rśiputra describing the phenomena natural to different seasons which should not be looked upon as utpātas and indicate no evil effects.³ Next twelve verses (XLV.83-94) appear to be citations from Rśiputra, and it is noteworthy that all these verses are in Anuṣṭubh, the metre in which all the verses cited by Utpala as Rśiputra’s are composed. The information that Varāhamihira gives about Rśiputra’s work is meagre in the extreme; but the commentator quotes Rśiputra in connection with Rāhucāra (V.27, 4 verses), the motion of Mercury (VII.15, 2 verses) and Venus (IX.36, 2 verses), Jovian year (VIII.1, 3 verses), planetary conflicts (XVII. 2-3, 1 verse), the moon’s conjunction with the planets (XVIII.1, 1 verse), rainfall (XXI.30, 1½ verses), the moon’s

2. यथिश्रुतयुवानीशशक्तिपदलग्न्यमताम् च
   मतेम्यः प्राहः क्रष्यभो भागुपैदवलवयः च II LXXXV. 1.
3. च न दौपाणु जनयस्यपातास्तात्साधुस्तवभावहि कुलान् च
   क्रियेयः पुनर्यःः लोकामिवादेतः समासोक्तिः II XLV. 82.
conjunction with Rohini (XXIV.10, 3 verses), signs of rainbow (XXXV.3, 1 verse) and omens (LXXXV.15, a prose passage comprising 12 lines). It shows that like Parashara's, Rṣiputra's work was composed in mixed prose and verse and dealt with contents similar to those of BS. Utpala quotes him profusely in his gloss on the _Togayātṛa_ also.¹

25. _Sakra._ Hs is the first in the list of authors on Śākuna whose views were consulted by Rṣabha before he composed his own work on the same subject (LXXXV.1).

26. _Saptarśi_ (LXXXV.3). Varāhamihira is said to have consulted, among others, the views of the seven seers (Marici etc. according to Utpala) also before composing his chapters on Śākuna.

27. _Sārasvata._ LIII.99 states that the preceding account of Dakārgala in Āryas is based on that of the sage Sārasvata and the commentator really quotes 31 verses in Anuṣṭubh from him. Vide Utpala on LIII.6-7 (3 verses), 9-10 (2), 16 (2), 17 (2), 21-22 (2), 24 (1), 29-30 (2½), 31-32 (2), 37 (1¼), 58 (1), 63-64 (2), 67 (1¼), 83 (2), 85 (2), 90 (1¼), 95 (1¼), 96 (1¼). Sārasvata's work on Dakārgala seems to have been lost by the time of Alberuni (I, 158) who mentions him among the 'Hindu scholars of whom we know their names, but not the title of any book of theirs.'

28. _Saura Siddhānta_ (BS, II, p. 22). XVII.1 states that the author has already dealt with the means of predicting when and how a planetary conflict would occur in the Sūryasiddhānta section of his _Karana_, i.e., _PS._² Its calculations were more correct than even those of the _Pauliṣa_ and _Romaka_ (PS, I.4). The great importance that Varāhamihira attaches to the _Sūryasiddhānta_ is evident from the fact that while he gives the calculations of the sun and the moon separately in the case

1. For some examples, see _JBBRAS_, XXIV-XXV (1948-1949) p. 16.

2. _युद्ध यथा यदा वा भविष्यमादिस्य विकालेनं।
तदृ बिज्ञानं करणे मया कहत सूर्यसिद्धान्तोऽविश्वसिद्धान्ती॥

_Sūryasiddhāntā_ is another reading. P. C. Sengupta (Sūryasiddhānta, Engl. Tr. Introd., pp. xix, xlii: _Khaṇḍakhādyaka_, Tr. Introd., p. xviii) takes this verse to support his view that the original _Sūryasiddhānta_ was in an amorphous condition before the time of Varāhamihira who gave it a crystalline structure by including in it new material and constants from Āryabhaṭa's Ārdhārātrika system.
of each of the five Siddhântas, calculations of planets are of the Sûryasiddhânta alone.

The Saura known to Varāhamihira must be distinguished from the extant work of that name. A comparison of certain astronomical calculations employed in the original Sûryasiddhânta with those of its modern representative reveals a fundamental difference between the two works with regard to many details.\(^1\) Alberuni (I.153) ascribes the Sûryasiddhânta to Lâta. But this statement cannot have reference to the old Siddhânta. Varāhamihira is fully aware of Lâta’s commentaries on the Pauliśa and Romaka and probably an independent work also as appears from the manner in which he refers to Lâta’s view to the effect that the ahargana is to be reckoned from sunset at Yavanapura (Lāṭâcāryen—okto Yavanapure—rddh-astage sûrye, PS, XV.18). This view is opposed to the Sûryasiddhânta according to which dyugana is counted from midnight. Moreover, had the original Sûryasiddhânta been Lâta’s work, Varāhamihira would not have held it as of divine origin. Brahmagupta also draws distinction between the Sûryasiddhânta and Lâta. Lâta’s hand may, however, be suspected in remodelling the original Saura and giving its present shape. Even if Lâta is responsible for the modern Sûryasiddhânta, his work was not known by that name at least until the ninth century A.D. as is clear from the fact that Utpala cites in his gloss on BS in all five verses from the Sûryasiddhânta\(^2\) which are not to be found in the extant Sûryasiddhânta. The modern

2. तथा च सूर्यसिद्धान्ते ।
   महादृष्टिष्यस्य स्थवर्यान्ति नित्य भास्यते रवि: ।
   अर्थ शासांकविभवस्य न द्वितीयं कर्यचन् ॥
   तेजसम् गोलकः सूर्योऽप्रहस्तिवृद्धिगोलकः: ।
   प्रभावचतुष्ठ हि दूरस्ते सूर्यं रहितविद्धिपिता: ॥
   विश्वकर्मेऽयः यात्र यात्रा हास्यस्यस्थितमरवे: ।

   तथा तथास्य मूलधर्माण्यं भास्यते रवि: ॥ on IV.1.
   इत्युतम् छावितं सूर्यं मुख्यविद्वित्तमामिनः ।
   न पश्चातः यदा छोटस्तत्रा स्वादु भास्करप्रवहः ॥

   तमोमयस्य तमसी रविरदिमपलाविनः ।
   भूच्छाया चन्द्विन्य च स्भावने च परिकल्पिते ॥ on IV.2.

   तथा तथा तथा तथास्य मूलधर्माण्यं भास्यते रवि: ॥ on IV.3.
   न पश्चातः यदा छोटस्तत्रा स्वादु भास्करप्रवहः ॥

   तमोमयस्य तमसी रविरदिमपलाविनः ।
   भूच्छाया चन्द्विन्य च स्भावने च परिकल्पिते ॥ on V.11.
Sūryasiddhānta had, however, earned its place of honour by the time of Bhāskaracārya who quotes in his own commentary on the Siddhāntasiriomani two verses from the Sūryasiddhānta which are Spaśţādhikāra 1-2:

Next, as regards the date of the original Sūryasiddhānta. Bentley held that the modern Sūryasiddhānta dates from the eleventh century A.D., or to be more exact, from A. D. 1091, and that there was no Sūryasiddhānta before that. His latter view has been successfully combated by Whitney (Sūryasiddhānta Tr., pp. 21ff.). Both Varāhamihira and Brahmagupta regard it as of divine origin; this tends to indicate that the Siddhānta must have preceded them by a considerably long time. S. B. Dikshit thinks that the Romaka was composed by A.D. 150 at the latest and regards the Saura as anterior to it.¹ While upholding Bentley’s view regarding the lower limit of the date of the modern Sūryasiddhānta, P. C. Sengupta pushes back the upper limit of the original Sūryasiddhānta to A.D. 400, or rather 384², when it came from the Asura or Babylonian source.³

29. Siddhasena. According to XXI.5, some held that the days of pregnancy of clouds begin after full moon of the month of Kārttika, and the commentator would have us believe that the authority intended here is Siddhasena from whom he quotes one verse in Anuṣṭubh. He is mentioned in BJ, VII.7 in connection with āyurdāya.

30. Śukra, (LXXV.1), a writer on Śākuna whose views were consulted by Rṣabha. XLIX.23-24 give a prescription of Ușanas for sharpening the blade of a sword. According to Utpala, Ușanas stands here for Śukra. BS, Ch. 49 including the prescription of Ușanas is reproduced verbatim in YY, XII. YY, XVII.1 states that the author would give in the following verses the mantra found in the śāstra of Ușanas for making umbrellas, banners and weapons specially fit for the destruction of an enemy.⁴ In YY, V.3 is quoted

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¹ HIA, pp. 160, 168.
³ Ibid, p. xxx.
⁴ चन्द्रध्रजप्रहणान्यभिमन्नितानिकुञ्जन्ति शतुखडन्तः रिपुविधिनिनामाः।
मन्न्व जगाद भगवानुनामाण्य शास्त्रे मलिक्यते तद्विद्ध पूर्वविधिकयमेव।
YY, XVII.1
Uśanas's view that a monarch desirous of victory should not undertake any march in Maghā or Svāti. Śukra or Uśanas is nowhere quoted by Utpala.

31. Vajra. Vajra is expressly referred to only once in BS. In XXI.2, it is declared that Varāhamihira consulted among others Vajra's work on monsoonish indications before writing his own section on the same subject. Utpala refers to him in connection with ketucāra (XI.1) and planetary conflicts (XVII.3) also but nowhere quotes from him.

32. Vasiṣṭha. XXII.4-8 dealing with the days of the retention of rain-sozetuses appear to be Vasiṣṭha's if we are to rely on the wording of XXII.3 (ślokāṣ = e—āpy = atra Vasiṣṭhāḥ). In XXIII.4, Vasiṣṭha along with Garga and Parāśara is represented as holding the view that if there is rain over an area of twelve yojanas in the beginning of the rainy season there would be good rain throughout that season. In LVII.8, Vasiṣṭha is said to have opined that there should be a distance of four angulas between the eye-ends and ear-holes of an image and Utpala quotes half an Anuṣṭubh as his to that effect. In several places of his gloss on BS, Utpala takes the words muni (XVIII.3, on four kinds of grahayuddhas; XXI.2, monsoonish indications), ādi (XXI.5; LV.31, on temple-architecture; LXXXV.3, on Śākuna), anye (V.3; XXXII.2), etc. to stand for Vasiṣṭha and others.

He is also mentioned in BT, II.3 (next verse in Anuṣṭubh being his), VIII.6, IX.2, XI.9, and BT, XI.10-21 are quoted from him. Thus in addition to his Saṁhitā, which treated of topics similar to those of BS, Vasiṣṭha appears to have written a Yātrā also, both in Anuṣṭubh.

Utpala quotes two verses on II.14 according to which Vasiṣṭha received Jyotiṣa from Viṣṇu and spread it among the Yavanas. This statement is repeated in somewhat different words in BT, II.6 (Astrausic = ca pūrā Viṣṇor = jñān-ārtham samu-pasthitah Pacanaṁ loka-nāthasya niḥṣṭatam mukha-pānkajāt).

Vasiṣṭha has a Siddhānta also attached to his name. Although evidently more advanced than the Paitāmaha, it was likewise far from being accurate (PS, I.3), and Varāhamihira accordingly devotes to it only a short chapter consisting of thirteen verses (Ch. 2). The Vasiṣṭha Siddhānta, as summarised
by our author, gives calculations of the sun and the moon only and not of planets.

According to Alberuni (I.153), the Vāsiṣṭha was so called from one of the stars of the Great Bear and was composed by Viṣṇucandra. This statement is apparently based on Brahmagupta who informs us that Viṣṇucandra made a recast of the Vāsiṣṭha by incorporating in it certain elements from Lāṭa, (original) Vāsiṣṭha, Vijayanandin and Āryabhaṭa as was done by Śrīṣena in the case of the Romaka (Etāṁ = eva ghrītvā Vāsiṣṭho Viṣṇucandreṇa, Brāhmaṇauṣṇa-siddhānta, XI.50), Brahmagupta, thus, makes Viṣṇucandra responsible for a fresh redaction of the Vāsiṣṭha and not the original work of that name, which he clearly distinguishes from each other.¹ The extant Vāsiṣṭha Siddhānta seems to be based on Viṣṇucandra’s work.

II. Architecture and Sculpture

In the opening verse of Ch. 52 of BS, it is stated that the knowledge of Vāstuśāstra had come to be transmitted through generations of sages (Vāstu-jiñānam = ath = ātaḥ Kama-bhavaṇ = muni-parampar — āyātam, LII.1), and the concluding stanza of Ch. 55 speaks of extensive treatises on temple-architecture by Garga, Manu and others (Prāsāda-lakṣaṇam = idam kathitam samāsād = Gargaṇa yād = viracitam tad = ih = asti sarvam, Manu = adibhir = viracitāni prthūni yāni tat samāśrṇa prati may-ātra kṛto = dhikāraḥ, LV.31). In addition to Garga, Manu, Maya and Vasiṣṭha whose views have been noticed above, we have references to Nagnajit and Viśvakarman also.

Nagnajit. LVII.4 states that according to the Drāviḍa measure given by Nagnajit the length of the face of an image should be 14 aṅgulas, while in LVII.15 he is represented to have have held that the length of the face including the line of the hair should be 16 aṅgulas. In both the cases, Utpala cites relevant verses from Nagnajit, and in his gloss on the last mentioned verse he refers to Nagnajit’s Pratimālaksana (Nagnajit-proktaṃ pratimālaksane āṣyaṃ mukham sakteśanivāyaṃ keṣarekhayaḥ sahitam saṅgata-āṅgulāni). Elsewhere, he attributes

¹. Thibaut, PS (Lahore), Introd., pp. xxxii-xxxiv; HIA, pp. 154-156, 187-188.
two more works to Nagnajit, Prāsādalakṣaṇa (on LV.31) and Citralakṣaṇa (on XLV.23), the latter dealing, among other things, with various kinds of weapons. These three were probably independent works and not parts of a large compendium. A Citralakṣaṇa, also known as Nagnajitiecitralakṣaṇa or Nagnavrata, attributed to him, is available in its Tibetan version and has been edited by Laufer. But the Tibetan text does not deal with weapons. Hence either the Tibetan text is incomplete or it is erroneously ascribed to Nagnajit.¹

Visvakarman. Visvakarman is said to have held that the height of a storey (bhūmikā) should be 84 aṅgulas (3½ cubits), while the same according to Maya should be 108 aṅgulas (LV.29), indicating that they represented two different schools of architecture, northern and southern. At another place, Visvakarman is represented to have opined that the breadth of a couch should be a half of its length less by an eighth (LXXVIII.10). In both these places, Utpala quotes verses in support of the above statements. Visvakarman’s name is associated with a large number of treatises on Vāstuvidyā;² but most of them appear to be very late compilations. It is held by some³ that the Visvakarma-prakāśa is a late compilation of a work of Visvakarman, but earlier than BS. In our opinion, it is a very late unintelligent compilation by an incompetent hand. Long ago, Kern⁴ pointed out that BS, LII.30, 31 are also found in the Visvakarma-prakāśa⁵ and as these are the only stanzas in Āryā in the Visvakarma-prakāśa, they must have been borrowed by the latter from BS. Many verses from BS are reproduced verbatim in the Visvakarma-prakāśa, which seems to be later than even Utpala (9th century A.D.), for while a few verses cited by him in the name of Visvakarman (on BS, LII.76) may be traced in it (VII.78), there are others that are not found in it.⁶

1. For a detailed discussion of this question see my paper in BV, XXII, pp. 57-62.
2. For a list of some such works, see Acharya, Dictionary of Hindu Architecture, s. v. Visvakarman.
4. JRAS, 1873 (VI), p. 283, fn. 2.
6. For a full discussion of this and connected problems see my paper in Dr. Mirashi Felicitation Volume, pp. 318-335.
III. Daṇḍaniti.

According to Utpala, II.4, viz., ‘It is possible that one trying to cross the ocean may reach the other shore by means of favourable wind, but one who is not a sage cannot even mentally reach the end of Kālapuruṣa, i.e., astrology, which is like a great sea,’ is borrowed by our author from Ācārya Viśnugupta. In BJ, VII.7, Varāhamihira is critical of the views of Viśnugupta, Devasāmin and Siddhasena regarding āyurdāya and Utpala quotes an Anuṣṭubh from Viśnugupta which name he regards as synonymous with Cāṇakya (Viśnuguptena Cāṇakyā—āpara-nāṁn—ātivam—uktam). BJ, XXI.3 represents Viśnugupta as criticising the views of Satya and Yavanas, and on this Utpala quotes two Āryās in the names of Cāṇakya and Viśnugupta (atra Viśnugupta-Cāṇakyaḥ = āhatuh). But the incorrectness of this reading of the printed editions is pointed out by Dr. Kane who informs us that the reading in MSS. is ‘Viśnuguptasya Cāṇakya āha’ which is the correct one. BJ, XXII.4 names Viśnugupta in connection with the signs of horses and verses 5-11 appear to be cited from or based on Viśnugupta’s work. Naturally these verses are not to be found in Kauṭilyya’s Arthaśāstra which is given to the condemnation of too much belief in astrology. It seems likely, as suggested by Kane, that there were really two Viśnuguptas,

1. उक्तं चाचार्यं विण्णुपथेन तथाः।
   अयर्षवस्य पुरुषं प्रतर्नु क्षदाचिदासाये चेतनलेवेगच्छेन पारसम्।
   न लक्ष्यं कालपुरुषायमहार्षवस्य गच्छेत्कालचिदलृणिसनापि पारसम्॥
2. आयुर्दायं विण्णुपथेन चैव देवस्वामी सिद्धस्यन्धः।
   दोषस्वयं जातकेष्टाविरेत हिल्या नायुर्विलिते स्यादर्थस्तात॥
3. न कुम्भलग्नं तुम्माशो सत्यों न भागमेदायवनं समहति।
   कर्माचारमेंद्रों न त्रायता राजतिप्रतिगंगस्वति विण्णुपथ।॥
4. JBBRAS, XXIV-XXV, p. 18.
5. तुरगाणामानाया: प्रक्षिता विण्णुपथदः। BY, XXII.4.
6. नक्षत्रमञ्जुस्तवं बालमयोस्तिवर्ते।
   अथौ हायस्य नक्षत्रं किं करिम्यन्ति ताराका।॥
7. JBBRAS, XXIV-XXV, p. 19.
one the author of the *Arthaśāstra* and the other a writer of an astrological treatise and that Utpala who flourished long after them erroneously confounded the two.

But there are other indications that Varāhamihira knew Kauṭiliya's *Arthaśāstra* full well. He expressly refers to some *Arthaśāstra* text in *YY*, I.7, XIII.4 and to those skilled in *Arthaśāstra* in XVI.23 (*arthavidusah*) and Utpala understands it as the Kauṭiliya (*arthaśāstrāṇi Cāṇakya-prabhūtini, on YY, I.7; arthaśāstrāṇi Cāṇakya-ādini, on YY, XIII.4*). Varāhamihira (LXXVII.1-2) advises men to examine carefully the attachment or otherwise of their wives towards them and in this connection gives two instances of faithless queens killing treacherously their royal consorts, Vidūratha and Kāśirāja,¹ which are evidently borrowed from Kauṭiliya who gives as many as seven such instances.² In *BY*, XXX.1-3 and XXXI.1-2 are described moral weaknesses of an assailable monarch. They seem to be based on the *Kauṭiliya* VI.1 (last passage), VII.4. In his commentary on *YY*, Utpala cites several passages from the *Kauṭiliya* in order to elucidate certain terms used by Varāhamihira.³ *BY*, XXI.7 states that while working in ivory one should leave a length two times the periphery at the bottom of an elephant's tusk. It is literally identical with a similar stanza in the *Kauṭiliya*.⁴

XIX.11 refers to the prosperous state that the four branches of knowledge, viz., Vārtā, Trayī, Daṇḍaniti and Ānvikṣāki reach in the year of Mercury, and Manu’s Daṇḍaniti is named in this connection.⁵ In *BS*, Ch. 73, Varāhamihira desperately defends women against the allegations levelled against them and LXXXIII.7-11 are quotations from Manu if we are to rely on the wording of LXXXIII.6 (Manun-

¹. शस्त्रेण वेषीविनगितिते विद्वरवं स्वा महिषी जयान।
   विष्णुमस्य च नूपरेण देवी विरक्ता किल काशिराजम्।

LXXVII.1.

¹a. *Arthaśāstra*, I.20, p. 41. Also cf. *Kāmandakiya Nitisārā*, VII, 51-

². For references, vide *JBBRA*, XXIV-XXV, p. 19.

³. *Arthaśāstra*, II.32, last verse.

⁴. बार्ती जगत्वविशिष्टबिक्ष्ण तयी च सम्यक्ष चर्त्वपि मनोरिक दण्डनीति।
   अव्यक्तरसविभिन्नविद्ययोजे कृतिद्विनिलीकायु च परं पदमीहनाना।

XIX.11.
ātra c-oktam). But of these only LXXXIII.10 is traceable to the extant Manusmṛti (III.58). This indicates that the text of Manu which Varāhamihira had before him was different from the extant one. Manu along with Vyāsa is referred to in TṬ, XVI.4 in connection with the ethics of war and the following verses seem to be a summary of Manu, VII.87-94, 164-7, 170-71, 181-99.

IV. Erotics

BS, Chs. 74, 75 and 77 deal with winning a lady’s love (subhagaṅkarāṇa), erotic remedies (kāndarpika) and union of man and woman (puṇḍratrisamāyoga) which really fall within the domain of Kāmasūtra. It will be seen from a comparison of these chapters with Vātsyāyana’s Kāmasūtra that the latter is one of the sources of the former.1 The erotic remedies described in Ch. 75 are very much similar to those prescribed in Kāmasūtra, VII.1.36-51. LXXVII.9-11 warn the reader against dangers to a woman’s character which appear to be based on Kāmasūtra III.1.16, III.4, 10; III.4.33-34; III.5.9, IV.4; IV.1.9; V.5.11, etc. The signs of a loving woman described in LXXVII.4-6, 12, 15 will be found in somewhat different words in Kāmasūtra III.3. 24 ff.; IV. 1. These similarities apart, verse 17 of the Vivāhapāṭala mentions one Vātsyya in connection with the proper year, month, fortnight, āṣṭi, etc. of marriage. We cannot be sure about his identity with Vātsyāyana, the famous author of the Kāmasūtra.

V. Philosophy

BS, I.6-7 contain passing reference to various theories regarding the origin of the cosmos. I.6 tells us that originally there was darkness prevailing throughout the universe and from the primeval waters sprang a golden egg consisting of two halves, the earth and the heaven, and that out of this arose the creator with the sun and moon as his eyes. This seems to be an abridged version of Manu I.5-13 which are

quoted by the commentator. I.7 alludes to a number of philosophical speculations. Kapila is named and the Sāṅkhya theory of pradhāna or prakṛti being the material cause of the universe is referred to. It is most probably Īśvarakṛṣṇa’s Sāṅkhya-kārikā that our author had in view, for the Sāṅkhya sūtras are placed by most scholars in the ninth century A.D. Utpala actually quotes verses 22-30 of the Sāṅkhya-kārikā in support of Varāhamihira’s statement. Now, as the readings of the verses quoted by him considerably differ from those of the printed editions, they may be of great value in bringing out a critical edition of the work. Next comes Kaṇabhuja (Kanāda), the founder of the Vaiśeṣika school, advocating the atomic theory and regarding the nine dravyas as the source of the universe. Next are mentioned the Paurānic, the Laukāyatika and the Mīmāṃsā theories of the time, innate nature (svabhāva) and action (karman) respectively being the cause of the universe. The commentator cites some passages which I am unable to locate.

VI. Religion

A Sāvitra-śāstra dealing in detail with the procedure of the installation and consecration of the images of individual gods is referred to in LIX.22. We have no information whatsoever about the date or authorship of this work; but it must have been considerably older than Varāhamihira who regards it as a great authority. This is the oldest reference to a work dealing with this subject and its discovery is bound to be of great value for the religious history of India. While commenting on LIX.19, Utpala refers to a work called Vātulatantra which dealt with the consecration and installation of Siva’s images.

VII. Palmistry

According to LXVII.1, an astrologer desirous to attain the power to reveal one’s past and future by observing one’s physical appearance must be well-versed in the Sāmudra. Utpala treats Sāmudra¹ as the name of a work on palmistry and cites

¹. Also mentioned in 17, 1.2.
in all 20½ verses in Anuṣṭubha from that work. Vide com. on LXVII.3 (2 verses), 4(1), 6(2), 8(4), 9(1½) ; LXIX. 2-3(6), 6(1), 10(3). No information about the authorship of this work is available. Its discovery will throw welcome light on the history of palmistry in India.

VIII. Metrics

Our author was a skilled versifier. He uses not less than 63 different metres in BS alone, Āryā being the most favourite one. In this respect no writer chronologically anterior to him can stand a comparison. Strenzler has analysed and listed them.¹ Ch. CIH of BS dealing with the results of the various planetary positions in one’s horoscope is couched in different metres, each stanza naming the metre it illustrates. The metres thus mentioned are listed below, the serial number of verses in which they occur being given in brackets:

Mukhacapalā (2), Jaghanacapalā (3), Śārdūlavikriḍīta (4), Srāgāharā (5), Suvadanā (6), Suiomanipā (7), Śikhariṇī (8), Mandākrāntā (9), Vṛṣabhaçarita (10), Upendrabajrā (11), Upajāti (12), Prasabhā (13), Mālatī (14), Aparavaktra (15), Vilambitagati (16), Supūspitāgra (17), Indravaṁśā (18), Svāgatā (19), Drutapada (20), Rucirā (21), Praharsaṇīya (22), Dothaka (23), Mālinī (24), Bhramaravilasita (25), Mattāmayūra (26), Manigunānikara (27), Harinapluta (28), Lalitapada (29), Śālinī (30), Rathodhata (31), Vilāsini (32), Vasantatilakā (33), Indravajrā (34), Anavasitā (35), Lākṣmī (36), Pramitākṣara (37), Sthira (38), Toṭaka (39), Varisapratapati (40), Lalita (41), Bhujaṅgaprayāta (42), Puṭā (43), Vaiśvadevi (44), Urmimālā (45), Vitāna (46), Bhujaṅgavijṛmbhita (47), Udgatā (48), Gītyāryā (49), Upagiti (50), Āryā (51), Naruṭaka (52), Vīlāsa (53), Āryā giti (54), Pathyāryā (55), Vaktra (56), Śloka (57), Anuṣṭubh (58), Vaitāliya (59), Aupacchandasika (60), Vṛṣṭiprayāta-danda (61), Vrṇaka-danda (62), Samudra-danda (63), Vipulā Āryā (64).

CIII.52 equates Naruṭaka and Gitaka and Utpala tells

¹. ZDMG, XLIV, pp. 4-15. The list has been reproduced with minor additions by H. D. Velankar, JBBRAS, XXIV-XXV, pp. 63-64.
us that what is Narkuṭaka in Sanskrit is Gitaka in Prakrit (Gitakaṁ Prākṛte, Narkuṭakaṁ Sanskṛte, tau ca tulya-prastārau tulya-virāmāva-eva bhavatā). Similarly, CIII.54 equates Āryāgiti (Sanskrit) and Skandhaka (Prakrit), Vaitāliya and Māgadhī, and Āryā and Gāthā. Though all the metres thus named are not defined, peculiar features of some of them are occasionally referred to: the number of groups (gaṇas) of mātrās is the same in both the halves of Upagiti (Upagiter = mātrānām gaṇavat, CIII.50); in Āryā there ought not to be a jagaṇa in the odd groups, while the sixth group ought to have a jagaṇa or four short syllables;¹ in the Śloka the 5th syllable in all the quarters, and the 7th in the 2nd and 4th ought to be short;² a short syllable at the end of a line is treated as long.³

In the concluding verse of this chapter (CIII.64), Varāhamihira refers to copious works on metrics, but tells us that the metres enumerated and illustrated in the preceding stanzas ordinarily suffice for all practical purposes, and hence he collected together the metres pleasant to hear.⁴ In CIII.3 Māṇḍavya is referred to as a writer of a work on metrics and Utpala adds the name of Rāja (perhaps a mistake for Rāta). Both these authors were older than even Pingalā who mentions them.⁵ They appear to have been joint authors of a work, for Utpala (on CIII.61) assigns a common verse to both of them.⁶ Their work is no more extant.

We know hardly anything about the source from which

¹. आर्यागितिः कुलस्त विनासकृतत्त्वालीचित्रमसंस्थः।
   गण इव पञ्चे द्वाटः स सर्वलवल्लात जन्म नयति। II CIII.5.1.

2. पञ्चमं लघु सब्रे। सप्तमं द्वितितथ्यो।
   यद्यक्तोकारं तदलब्लुतम गति हुस्तिनेल। II CIII.57.

3. प्रक्तः पञ्चगितीं वस्तवाहो व्यवस्थित।
   स गति गुस्ती लोके यदा स्पुषुः मुखिता प्रहाः। II CIII.58.

4. विपुलांगिति बुधव्यं छत्रोंविचित्रित मवति कार्यभेदाभुतः।
   श्रुतिमुखक्वल्लूत्वमशर्मिलममाह वराहमिहिरोजः। II CIII.64.

5. Pingalachandahsūtra, VII.34.

6. ... राजमाधवो वर्णितिवा ... तथा च ताबुवालः।
   सुवर्णशङ्कयंगशः च च च जीमूत एव च।
   बलाहृको मुहांगवच समुद्रस्वतेति दण्डकः।
Varāhamihira derived his information about metrics. Nor does Utpala enlighten us on the point. It has been suggested by Prof. H. D. Velankar\(^1\) that Varāhamihira probably followed the *Chandahśāstra* of Jayadeva, for the name Narkuṭaka, which is used in CIII.52, was, according to Hemacandra’s *Chandonaśasana*, first given to that metre by Jayadeva. But it does not seem to be very likely for, as pointed out by the learned authority himself, fourteen of the metres mentioned and illustrated by our author are not known to Jayadeva, and also because the date of Jayadeva is not quite certain.

The above survey will have made it sufficiently clear that vast literatnet on various subjects flourished at the time of our author. Most of the works referred to above are lost and the value of these references can hardly be overestimated.

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APPENDIX I

POLITY AND GOVERNMENT

The Brhat-saṃhitā does not add much to our knowledge of the administrative set up of the country during the period represented by it. Nonetheless our study will remain incomplete without a reference to the data, albeit scanty, bearing on this important aspect of contemporary life. The present appendix is an attempt to remove this want.

The science of government is called daṇḍaniti, and experts therein are referred to as nitiśṛtti and nitiṣṭha.

Although we have a few vague references to republics (gaṇa, saṅgha) and their chiefs (gaṇāmukhyā, XV.17; XVII. 24; gaṇāpa, XXXII.18; gaṇāpati, XVI.32), there is little doubt that hereditary monarchy was the prevailing form of government. The reference to the king of the Yaudheyas shows that even avowedly republican peoples had come under the impact of the monarchical form of government. The king was the very soul of the state. It is interesting to note in this connection that some of the topics dealt with in our work are meant particularly for kings. Antahpuracintā or matters appertaining the royal harem forms an item of the contents of the Samhitā. Indramaha, Nirājana, Pusa-yana and Paṭṭa-laksana are other topics that particularly concern the king.

1. XIX. 11. For this term see HDS, III, pp. 5 ff.

2. X. 17; XVI. 22. Cf. the titles like Kāmavandakiya nītiśara, Śukrasūtiśāra, Nitiśr̥tyānma, etc. Vide also K. P. Jayaswal, Hindu Polity, p. 6; A. S. Altekar, State and Government in Ancient India, pp. 2-3.

3. V. 76 refers to the great gaṇas (mahāgaṇāḥ) and the saṅghas of the Niśādas. Utpala invariably, but wrongly, takes both these words to mean multitude (samūha).

4. IX. 11. Cf. the Bijayagadh stone inscription referring to the Mahārāja Mahāśeṇāpati of the Yaudheyas-gaṇa (CII, III, No. 58).

5. II, p. 73. According to the commentator, Chs. 73-77 on the praise of women, the winning of affection, erotic remedies, perfume and the union of man and woman are included in antahpuracintā.

6. Chs. 71-72 and 78 dealing with umbrellas, chowries and furniture are also mainly intended for the king. The procedure of worshipping Agastya is also particularly described keeping the king in view (XII.13).
tance attached to him is obvious from his description as the root of the subject-tree whose well-being or otherwise depended on the nourishment or injury of the former.\(^1\) He was expected to secure the welfare of his subjects, and their sufferings were regarded as due to his misdeeds (III.15). He was to mould his character in such a way as to place an ideal before others. Thus a king who was devoid of right conduct, hot-tempered, malicious, cruel and intent upon hostility was detested and believed to lead his kingdom to ruin. Varāhamihira voices Brāhmanical viewpoint when he includes devotion to heretical sects (pākhanda) and atheism among the attributes of a despised king.\(^2\) His life was full of worries, and carefree moments of leisure were rare indeed. He had to hide his feelings, be ever-ready to fight the enemies, ponder over statecraft involving hundreds of things that have been done or are yet to be done, follow the counsel of ministers and suspect everything; his life was verily an ocean of sufferings.\(^3\) He had to be constantly alert against danger to his life not only from his enemies but also from ministers,\(^4\) sons\(^5\) and queens.\(^6\) To illustrate the last point the author quotes two traditional instances of

1. मूलं मनुजाधिपति: प्रजातरोस्तुपथातसंस्कारात्।
   अशुभं शुभं च लोकं भवति यतो अहो नृपतिचित्ता।

XLVII. 1.

The same idea is voiced in Matsya-parāyaṇa, CCXIX. 34.

2. परलं नारिकानं च महत् साधवाचार्यप्रविष्ट: कृष्णेऽकः।
   ईव्यु: कृरो विप्रहस्वकङ्कचेता यस्मि राजा तस्य देशस्य नाथः।

XLV. 75.

3. आकारं विनिग्रहता रिपुवलं जेतु समुतिष्ठता
   तन्वः विनिलयता हुताकुशत्थापर्थादानाकूलम्।
   मन्निद्रोक्षानिधियत्वाणि वितिमुजामाविद्धिना सवंतो
   दुःखभोजनिनिधिबित्ता मुखलव: कान्तासामालिक्षनम्।

LXXXIII. 3.

4. III. 32; XVI. 41. For some instances of kings killed by ministers see Hṛsha-carita, VI; Yaśastilaka-compū, III, pp. 491-92.

5. XVI. 41. For an instance of a king killed by his own son vide Arthasastra, I. 20. 15-17; for the necessity of king’s protection against the princes, vide ibid., I. 17.

6. XXIV. 34. For several instances of kings killed by or through the stratagems of queens, vide Arthasastra, I.20. 15-17; Kāmāndakīya-nītisāra, VII, 51-4; Hṛsha-carita VI; Nītivākyāmṛta, XXIV. 35-36; K. K. Handiqui, Yaśastilaka and Indian Culture, pp. 104-5.
queens murdering their husbands. Thus Viduratha, we are told, was slain by his queen with a weapon concealed in the braid of her hair, and Kasiraja was killed by the disaffected Devi with her anklet smeared with poison. This is at variance with the Arthaśāstra (I.2.16) and the Kāmandakīya-nītisāra (VII.51-54) which aver that Kasiraja was murdered by the queen who had mixed fried rice with poison under the pretense of honey, while Vairantya was killed by the queen with her anklet treated with poison. Another source of danger to the king was the rebellion of his own armies. There is yet another reference to the murder of the king by weapons (XXXIV.8).

The king was the centre of all governmental powers. Proper protection of the subjects leading them to prosperity was his primary duty. He was also expected to ensure the welfare of his subjects by performing śāntis to ward off portentous occurrences (XLV.3, 17, 63). We have also a reference to a king, severe in punishment (ugra-danda, IV.11), who, according to ancient Indian writers on polity, was a source of terror to the subjects.

The highest aspiration of an ancient Indian king was to attain supremacy among all the kings (LXIII.1) and the status of a cakravartin or universal sovereign (CIV.13) with his suzerainty accepted over the whole earth (sārvabhauma, XI.58; sakalāvānanātha, LXVIII.18) which, of course, meant India. Thus a king who worshipped Agastya with appropriate ceremonial is promised overlordship of the earth girdled by the seas and victory over his enemies (XII.17). Likewise the sacrificial fire with auspicious signs at the homa on the occasion of Indramaha is said to bring under the king’s authority the earth bounded by the seas, having the rivers Gaṅgā

1. श्रीविनिलिहितेन विद्वृतः स्वा महिष्यो जयान | विप्रदिग्धेन च न नुपुरेण देवी विरक्ता किल्ला काविराजम् ॥
LXXVII. 1.

2. Sva-bala-kṣobha, V. 26; antah-kopa, V. 89; bala-kopa, XXX.25.
3. XIX. 14. Cf. XIX. 9 which refers to the negligence of this duty.
4. Arthaśāstra, I. 4. 8; Manu, VII 101-103; Kāmandaka, VI. 15.
5. Also cf. LXVII. 103 (aphratrikata-pratōpā jita-riyavo mānavendraḥ; LXVII. 85 (adhirajj-arthino rājñāh). For the sphere of influence of a rekhavartin (cakravarti-kṣetra) see HDS, III, pp. 66-7; D. C. Sircar, Studies in the Geography of Ancient and Mediaeval India, pp. 1 ff.
and Yamunā for her necklace, the mythical mountains of sunrise (Udayadharādhara) and sunset (Astadharādhara) for her hips and the Himavat and the Vindhyaśas for her breasts (XLII.32, 35). This ideal being set before them by all the kings, there were frequent wars. This phenomenon of constant wars was evidently responsible for the well-known maṇḍala theory which, according to ancient Indian political thinkers, was the guiding principle of interstate relations. This theory revolves round a king aspiring for conquest (vījīgīṣu) whom it places in the centre and seeks to define his relations with the neighbours both in the front and the rear. Three constituents of this circle are named by our author: vījīgīṣu (the would-be conqueror), ākṛanda (an ally in the rear whose kingdom is separated from vījīgīṣu’s by that of another king), ākṛandasāra (an ally of ākṛanda with their territories separated from one another by that of another king). A marching king is referred to as yāyin, while a king against whom it is expedient to march is styled abhiyojya (V.84). A king defending his own capital is called nāgara and paura.

Varāhamihira gives us another interesting classification of kings based on their rank in relation to one another. In the ascending order of their status they are (i) maṇḍalika or a vassal who bowed at the feet of his suzerain, (ii) anantarajit or a conqueror, and (iii) samastarājyārthīn or one aspiring for overlordship. As we have seen above, they used thrones of varying heights according to their respective status on the occasion of the ceremonial ablution called Pusyasūna.

Mention is also made of a frontier-king (prātyantika).

Such great monarchs of the earlier period as the Mauryas, the Śuṅgas and the Sātavāhanas were content with the simple
title of rājan. But the Guptas rejected this unpretentious style and adopted grandiose titles popularised by foreign rulers of North India. Henceforth mahārājādhirāja, which was adapted from the title mahārāja rājātirāja known to have been assumed by some Indo-Greek, Scythian, Parthian and Kuśāṇa rulers, became the characteristic style of paramount monarchs in so far as Northern India was concerned, the titles rājan and mahāraja being relegated to the feudatory chiefs. It was in keeping with this established practice that our author styles King Dravyavardhana of Avanti mahārājādhirājaka.¹

The parasol, flag-staff and chowrie were regarded as royal emblems (XVI.23).²

The king was assisted in the discharge of his onerous responsibilities by a large number of officials. In the description of the paṭṭas, houses, chowries, umbrellas and furniture³ we have an indication of the relative ranks of some of the highest dignitaries of the state. Next to the king, these dignitaries in the descending order were: the chief queen, the crown-prince (juvarāja), the commander-in-chief (senāpati) and the general (daṇḍa-nāyaka).⁴ Whether the chief queen had to discharge any official functions we have no means to ascertain. But that sometimes she played a very vital role in government is illustrated by the case of the Vākāṭaka queen Prabhāvatigupta. The commentator describes the juvarāja⁵ as a partner in the enjoyment of the kingdom.⁶ The high position occupied by the juvarāja is indicated by some Vaiśāli seals which show

1. LXXXV. 2. See supra, p. 39.
2. For chowries and umbrellas, see supra, pp. 235–6.
3. For these items, see supra pp. 226–30, 372 ff.; 235–6, 251–2.
4. This view is based on the measurements of the paṭṭas, houses, umbrellas, chowries and couches meant for these dignitaries. However, one cannot be quite certain about the relative rank of the chief queen and the crown-prince. The paṭṭas of both had three crests, but the width 1.3rd length of the queen’s was more than that of the crown-prince’s. The umbrellas of both were of identical dimensions. But a smaller residence is prescribed for the queen than that for the crown-prince. This may have been due to the fact that the latter required larger accommodation as he actually participated in the administration of the kingdom while the former did not.
5. XXX. 19; XXXIV. 10; 20; XXXVI. 1; XLII. 62; XLVIII. 2; LII. 17; LXXII. 4.
6. Juvarāja = rdha-rājya-bhāg rāja, on XXX. 19; yuvarājā = rdha-thēgi rājā, on XXXIV. 10; yuvarājaḥ prasiddho = rdha-rājya-klāk, on LXXII. 4.
that he had his own kumāramātyas and military officers. The high rank of the senāpati, also called camūpa, camūpati, camūnātha, balamukhya, balanāyaka, balapati, senādhīpa and senāni, and of the daṇḍanāyaka was no doubt due to the necessities of wars which appear to have been quite frequent. It is interesting to note in this connection that seals of senāpatis and daṇḍanāyakas have been found at Bhiita, and the senāpati frequently figures in the copper-plate charters of the Vākāṭakas in connection with land-grants. In our work we do not come across such official designations as the mahābalādhirēta and mahā-daṇḍanāyaka mentioned in contemporary inscriptions.

The age-old institution of the council of ministers continued to enjoy a respectable status during our period. We have numerous references to ministers called mantrin, amātya, sacīva, nrpamātra and mahāmātya. There is also an allusion to querrel among the ministers (XVII.4). We are told that the king had to act to the counsel of the ministers (LXXXIII.3). It may be mentioned in this connection that Kāmandaka (IV. 41, 44-5; XII.51) also compares the ministers to teachers and friends who prevent the king from going astray and whose advice the king must accept.

1. ASI, AR, 1903-04, Nos. 1, 6, 8, 12, pp. 107-8; V. R. R. Dikshitar, Guptapolity, pp. 134-36.

2. Senāpati:—III. 21; XV. 26; XXXIV. 10; XXXV. 7; LII. 5; LXXII.4; camūpa:—X. 4; XVI. 13; camūpati:—L. 21; LXVII. 41, 48, 62; camūnātha:—XVI. 8, XLV. 12; LXVII. 47; balamukhya:—XVII. 28; balanāyaka:—V. 29; balapati:—XXIX. 10; XXXIV. 13; XXXVI. 1; LXXVIII. 9; senādhīpa:—CIII. 61; senāni:—LXVIII. 20.

3. For the various meanings of this term, see HDS, III, pp. 98-56; Dikshitar, op. cit., pp. 221-2; D. C. Sircar, Indian Epigraphical Glossary, pp. 83-1.

4. ASI, AR, 1911-12, Nos. 31, 44-51, pp. 52, 55.

5. CII, V, pp. 29, 43, 58, etc.

6. Mantrin:—V. 29, 41, 66, 93, etc.; amātya:—V. 41, 69; X. 3; XVI. 28, etc.; sacīva:—III. 32; IV. 25; V. 67, etc.; nrpamātra:—V. 37 (cf. Utpala:—nrpamātra-nrpa-sadṛśa-amātyāḥ); mahāmātya is a variant in IX. 28, the other reading being mahāmātra, which also, though taken by Utpala to mean elephant-tamers (hasti-sādhana-patiḥ, on IX. 28; XV. 11; XVI. 26) more probably appears to stand for a high government Official. See HDS, III, pp. 98-9.

7. Dikshitar (op. cit., p. 113) thinks that the council of ministers exercised control over the king.
The purohita or royal priest was another important functionary of the state, his duties being primarily of a religious character. He conducted religious ceremonies for the king on such occasions as Indramaha, Nirājana and Pusya-snāna. As we have seen earlier, the sāṅvatsara (astrologer) was a sine qua non of the state in ancient India. Other high functionaries of the state included superintendents (adhyakṣa, LI I.9) of various departments such as the karmāntādhyakṣa (LI I.9) or the superintendent of government workshops and manufactories, probably corresponding to the kārmāntika of Kauṭilya (I.12.6; II.4.11; V.2.7), and kośeṣa (CIII.61) or the superintendent of the royal exchequer, officers in charge of various offices (ādhikaraṇika, XXXVIII.2) and other officers (adhiṃkṣa, LI I.9; rājādhiṃkṣa, X.16; rāja-puruṣa, LI I.14; XCVI.20; pravara-rāja-puruṣa, LI I.8; rāja-bhṛta, X.18; rājopasevin, XXXVIII.3; niṭpānucara, XIX.3; niṭpā-sevaka, C.6).

The kaṇeukīn (XLII.23) or the officer-in-charge of the royal harem and the royal physician (LI I.10) belonged to the personal staff of the king. The envoys (dūta) and spies (cara) evidently belonged to the foreign office. The ārakṣaka (XVI.19) was probably a police officer (rakṣādhiṃkṣa according to Utpala). The kāyastha (LXXXVI.12) was a clerk in the revenue department of the king.

Apart from the senāpati and dandaṇāyaka mentioned above, we have references to two other army-officers also: nāyaṇa (XXXV.7) or netṛ (LXXXV.34) and gaṇādhyakṣa (LXXXV.34; LXXXIX.4). The former was probably a commander, and the latter the chief of the elephant forces. The turagarakṣa (XV.26) was probably a cavalry officer.

1. X. 13; XLV. 7; LXXVIII.9; XCVIII. 9. For the importance and functions of the purohita, vide Arthasastra, II 9. 9-10; Manu-smṛti, VII. 78; Kāmāndaka, IV. 31.
2. XLII. 30, 61; XLIII. 19; XLVII. 3, 18, 77. For these ceremonies, see supra, pp. 119, 180-85.
3. Supra, pp. 349 ff.
4. IX. 31; X. 10; XVI. 18; LI I.9, etc. Cf. Arthasastra, I. 16; Manu, VII. 63-8; Kāmāndaka, XIII. 1-25.
5. X. 10; XVI. 18; LXXXV. 33; 34; LXXXIX. 4; XCV. 2. For details about spies, see Arthasastra, I. 11-4; Manu, VII. 122, 184; Kāmāndaka, XIII. 26-51.
6. See supra, p. 312.
Forts were of great importance in ancient warfare and as such all ancient Indian writers on polity devote special attention to them. The great value attached to them is evidenced by their inclusion among the seven limbs (saptāṅgas) of the state. Varāhamihira refers to three kinds of forts, viz., mountain-fort (giridurga, XVI.6. 37), water-fort (saliladurga, XVI.6) and forest-fort (āṭavika-durga,¹ XVI.12).²

Of the four traditional limbs of the army (caturāṅga-bala), three, viz., infantry, cavalry and elephants, are mentioned by our author.³

There is a reference to the encampment of an army on march (skandhāvāranīvēsa, XCIIV.45). We are told that a ground free from ashes, charcoal, bones, sand, husk, hair, pits, burrows of crabs, burrowing animals, rat-holes and ant-hills, hard, sweet-smelling, glossy, sweet and even is suitable for military encampment (XLVII.16-17).⁴

Military operations were undertaken after the rainy season (XLIII.23). The king often led military expeditions himself. We have a beautiful picture of the commencement of a military march in XLIII.23-6. Profusely decked with a variety of ornaments, with white chowries being waved over him and accompanied by foot-soldiers, horsemen and elephants, the king launched on a military campaign amidst the sounds of musical instruments after the rainy season was over. As observed above, the craze for territorial expansion led to frequent wars. We get references to besieging and capturing towns (VII.19; X.19; XII. 19; XXX.5, 23). Mention is also made of niyuddha or hand-to-hand fight (XV. 23; XVI.35).

Varāhamihira affords some valuable information about weapons of war. XLV.19 states that the blazing of a praharaṇa forebodes a sanguinary war, while XLV.23 makes the same statement with regard to an āyudha. Now, as praharaṇa and āyudha are generally taken to be synonyms, there is a possibility of duplication to avoid which Utpala cites the authority of Nagnajit’s Citra-lakṣaṇa which states that āyudha is a general

1. The commentator, however, takes the words āṭavika and durga as quite independent of one another.
2. For various kinds of forts, vide Arthaśāstra II. 3; Manu, VII.70-71.
3. XIX. 3, 14; XLIII. 23, 23-26, 28; XLII. 34; LXV. 1; LXVI. 8.
4. For details about skandhāvāra-nīvēsa, vide Kāmandaka, XVII. 1-22.
term used to denote weapons as a whole and that āyudhas are of three kinds, viz., (i) praharaṇa (swords, etc.), (ii) pāni-mukta, thrown by hand, e. g., wheel, and (iii) yantramukta, thrown by certain devices, e. g., stones, arrows and sticks. Āyudha is thus a general term and praharaṇa a kind.  

**WORDS.** In the Khāḍga-lakṣaṇa (Ch. XLIX) section of the Bṛhat-saṁhitā we get some points of absorbing interest about swords (khāḍga, asi, nistriṃśa). A sword measuring fifty aṅgulas (3 ft. 1½ inch) in length was considered to be the best while the shortest measured 25 aṅgulas (1 ft. 6½ inch). As a general rule a flaw (vraṇa) on a spot of the sword corresponding to an odd number of digits was deemed inauspicious, while that on a spot corresponding to an even number, lucky. But flaws shaped like a bilva fruit, Vardhamāna figure, umbrella, the liṅga, earring, lotus banner, weapon or Svastika were held to be favourable, and those like a lizard, crow, heron, carrion bird, headless trunk, or scorpion, and numerous flaws along the upper edge (vamśa) were regarded as ill-omnisious. Similarly, a sword that has a cleft, is too short, blunt, broken at the upper edge, unpleasing to eyes and mind,

1. *Sastra* is another word used in the same general sense. Cf. IV.21; V. 83, 88; VI. 5; XI. 4, etc.

2. नन्तु जलमार्श्वल्लने नृपतिवधः प्रहरणे रणो रीढः इत्यस्य निदेशः काय्यमचवमस्मि वा वृक्काती यदि बायुःपरासपाराणुः रीढःपनसिद्धकुलेशित वर्देशितनेन सह वृक्की प्रकटस्तिर्भवति यथा यत्रप्रहरणेष्वल्लनेव फलमुक्त तद्ययुक्तकल्लेन न च प्रहरणामायुधानां च मेघोपल्लेन्तीति।

3. Cf. XXI which is a verbatim reproduction of BS, XLIX.

4. XLIX. 1, 3, 5, 9; II, p. 73; LXVIII. 22.

5. VI. 5; XIX. 3; XLIX. 6; LXVII. 47; LXVIII. 17, 34; X L IX.

6. XLIX. 10.

and without resonance even when struck against an object was taken to be unlucky (XLIX.1-4).\footnote{1} It was provided with a hilt (tsara,\footnote{2} XLIX.9) and kept in a scabbard (kośa, XLIX.5, 10). It was forbidden to unsheathe a sword without reason,\footnote{3} rub it, look at one’s own face in it, to tell its price or source, take its measure and touch the blade (asi-yāṣṭi) without precaution (XLIX.6). In case a wrought sword was too long, the desired length could be obtained by rubbing it against a file (nikāsa), cutting a portion at the upper end or point being forbidden (XLIX.8).

Our author mentions with approval swords fashioned like a cow’s tongue, a lotus petal (Fig. 29), a bamboo leaf (Fig. 30), an oleander leaf\footnote{4} and those with pointed (śūlāgra, Fig. 31) and rounded (maṇḍalāgra, Fig. 32)\footnote{5} tips. Maṇḍalāgra swords are referred to by Kauṭilya\footnote{6} and Padmagupta\footnote{7} also. We find such swords represented in sculptures from Sanchi, Bharhut, Amaravati and Nagarjunakonda.\footnote{8}

Blood, clarified butter, water and a mixture of the milk

1. For other beliefs concerning swords and their flaws, cf. XLIX. 5, 9-22; for smell, cf. XLIX. 21-22.
2. According to the Arthaśāstra, II. 18, p. 102, handles of swords were made of the horn of rhinoceros, buffalo, of the tusk of an elephant, of wood, or of the root of bamboo.
3. The Gurkhas still observe this practice.
4. Cf. Medini, quoted by Bhānuji on Amra II.4. 77, where karati (oleander) is given as meaning a sword.
5. गोजिन्द्रासर्वायानी निसोद्वलंशपत्रस्यदृश्यसि

करवीरपत्तुलाप्रमणत्याः प्रवस्ताः स्युः ॥

XLIX. 7.

Arthaśāstra, II. 18, p. 102.

\textit{Navasāhasāṅkacarita}, I. 74.

\textit{Ap Lotus-patal}:

Sivaramamurti, \textit{Amaravati Sculptures}, p. 124, Pl. X, fig. 2; Naik, Nagarjunakonda Sculptures, p. 286, fig. 24; N. P. Joshi, Army & Weapons in Ancient India (Hindi), Bhārati, Bulletin of the College of Indology, Banaras Hindu University, No. 3 p. 16, Fig. 45.

(b) Bamboo-leaf:

Sivaramamurti, Pl. X, fig. 1.

(c) Oleander Leaf:

Naik, p. 288, fig. 27; N. P. Joshi, fig. 47.

(d) Maṇḍalāgra:

Sivaramamurti, Pl. X, fig. 6; Longhurst, Nagarajunakonda Sculptures, Pls. XXX(a), XLIX (b); Naik, p. 286, fig. 25; Joshi, fig. 63; Marshall, Sanchi, II, Pl. XXXVII (b)
of a mare, a she-camel and a cow-elephant were used as imbriements of swords (śastra-pāṇa). A compound of fish bile, deer-milk, horse-milk and goat-milk, blended with palm-resin, was employed for tempering swords. These are said to be based on Usānas’s precepts. 1 Two other methods of tempering a sword are also given—(1) A sword, first rubbed with gingelly oil, then smeared with an unguent compounded of the milky juice of the calotropis, goat’s horn, ink, and dung from doves and mice, well heated in fire, treated with one of the above imbriements, and afterwards whetted (śita), it is said, will not get worked on stones; 2 (2) An iron weapon treated with a stale compound of potash of plantains with butter-milk, and then properly whetted, is said to be so hard as not to break against stones, nor get blunted on other iron objects. 3

Varāhamihira also refers to poisoned arms (viśāyuḍha, V.40), bow (kārmuka, IV.12; cāpa, XXXV. LXVIII. 29; 6, 7, 8; bāṇāsana, XIX.3; dhanus, XVIII.5; XX.2; XXXV. 1, 5) with its string (jyā, IV.12)&; discus (cakra), plough (hala), mace (gadā), musala (XIX.3, LIII.17) vajra (XX. 2; LXVIII.29), various kinds of javelin (praśa, XX.2; śūla, LXVIII. 29); śakti (LXVIII.34), pāśa, paraśvadha (LXVIII.34), dagger (ksuraka, XXI.15), shield (khecaka, LVII.40; LXVIII.22), mail (varma, XLI.6) and helmet (karoṭi LXVII.29).

1. इदमोजनसं च शस्त्रपानं घिरिणं भिगमिच्छति: प्रदीप्तम् ।
हृविया गृणवस्मुताभिमिल्लो: सचिलनायकमिच्छति च विलम् ॥
वडवोटुटकरेणुदग्धपानं यदि पापेन समीहतेऽविलिम् ।
शवपितमूदातशस्त्रदुः: करिहस्तचिद्ये सतालमः:

XLIX. 23-4.

2. आकं पयो हुडुवियामयमयीसंंतं पारावतातुशुक्तं च युं: प्रलेप: ।
शस्त्रस्तव तेजमितिस्तव ततोत्स शस्त्रां पर्वाचिछायस्य न विकासमु भवेदिनात:॥

XLIX. 25. cf. Utpala’s comm.

3. शारे कदशा मचित्स मुक्तं विनोपि पापितमायसं यतृ ।
सम्यक् धितं चाचांगिनं नैतं भडंग न चायत्योऽहायणि तस्य कौष्ठ्यम् ॥

XLIX. 26.
APPENDIX II

JUPITER’S CYCLES OF TWELVE AND SIXTY YEARS

Two reckonings connected with the movement of Jupiter, one comprising twelve years and the other sixty, were current in ancient India. They are described in Ch. 8 of the Bṛhat-saṁhitā.

I. Twelve-year Cycle of Jupiter*

The years of the twelve-year cycle were known after the naksatras in which Jupiter’s heliacal rising\(^1\) takes place between twenty-five to thirty-one days after its conjunction with the sun, in accordance with the order of the lunar months.\(^2\) There are altogether twenty-seven lunar mansions (naksatras) beginning with Kṛttikā, and two of them are allotted to each of the twelve years of the Jovian cycle beginning with Kārttikeya except the fifth, eleventh and twelfth which claim three naksatras each.\(^3\) The following table will explain the mode of determining the names of the years of the twelve-year cycle.

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\* VIII.1-14.

1. The heliacal rising of a superior planet is its first visible rising after its conjunction with the sun, i.e., when it is at sufficient distance from the sun to be first seen on the horizon at its rising in the morning before sun rise, or in the case of an inferior planet, e.g., Mercury or Venus, at its rising in the evening after sunset. For Jupiter to be visible the sun must be about 11° below the horizon. Vide R. Sewell and S. B. Dikshit, Indian Calendar, p. 37, note 2.

2. नक्षत्रेण सहोदरग्रहणम् ज्ञाति पदन देवपतिमन्वी ।
   तत्सां बक्तवत्यं बर्षं मासा क्रमेणैव ॥ VIII. 1.

3. वर्षाणि कान्तिकादीन्यायेण्याद्भद्यानुयोगीनि ।
   कमशस्विन्म तु पठनमुपपात्यमत्यं च यद् वर्षः ॥ VIII. 2.

While commenting on this verse, Utpala takes ‘antya’ to mean ‘last’, ‘concluding’ and states that the fifth (Phālguna), eleventh (upāntya, Bhādrapada) and twelfth (antya, Āsvayuja) years of the Jovian cycle comprise three naksatras each:
The nakṣatras of Jupiter’s heliacal rising

Kṛttikā or Rohini
Mṛgaśīras or Ādrā
Punarvasu or Tiṣya
Āślesā or Maghā
Pūrvā-Phalguni, Uttarā-Phalguni or Hasta
Citra or Svāti
Viśākhā or Anurādhā
Jyeṣṭhā or Mūla
Pūrvāśāḍhā or Uttarāśāḍhā
Śravaṇa or Dhanisthā
Śatabhiṣaj, Pūrva-Bhadrapadā, or Uttara-Bhadrapadā
Revatī, Āśvinī or Bharani

The interval between two heliacal reappearances of Jupiter is about 399 days. And since in twelve solar years Jupiter rises heliacally only eleven times, in each cycle of the heliacal rising system there are only eleven saṅvatsaras in twelve solar years, and one of the twelve saṅvatsaras of the cycle is treated as expunged.

Another system of determining the names of the saṅvatsaras of the twelve-year cycle of Jupiter is given by Āryabhaṭa² and Brahmagupta.³ It is known as the mean-sign system.

1. 
2. Āryabhaṭiya, Kālakriyāpāda. 4.
3. Brāhmasphuṭasiddhānta, XIII. 42.
But as shown by S. B. Dikshit, the heliacal rising system is advocated not only by Varāhamihira but by several other authorities also, viz., Parāśara, Garga, Rṣiputra, Vasiṣṭha-Atri, Bṛhaspati, the Nārada-saṅhītā, the Muhūrta-tattva, the Jyotisa-darpaṇa and the Sūrya-siddhānta. This shows the higher antiquity and greater popularity of the heliacal rising system as compared to the mean-sign system enunciated by Āryabhaṭa and Brahmagupta.

The saṁvatsaras of the twelve-year cycle of Jupiter are referred to in several inscriptions dating from the fifth to about the end of the seventh century A.D. The names of the years are sometimes prefixed by the word maḥat. So far as the epigraphical evidence is concerned, this feature is to be noticed only in the records belonging to Central India, Rajasthan and Orissa. Two records of the Kadamba king Mrgeśavarman (c. 475-490 A.D.) belonging to his 3rd and 8th regnal years are dated in the Pauṣa and Vaiśākha saṁvatsaras respectively. The Pāṇḍaraṅgapalli grant of the 15th year of Avidheya, the Rāṣṭrakūṭa king of Mānapura, is dated in the Bhādrapada saṁvatsara. The earliest mention of a saṁvatsara of Jupiter’s twelve-year cycle in North India is to be found in the Khoh plate of the Parivrājaka Mahārāja Hastin, dated in the Gupta year 156 (475-476 A.D.) corresponding to the Mahā-Vaiśākha saṁvatsara. Another Khoh copper-plate charter (dated Gupta 163 (482-483 A.D.), Mah-Āśvayuja saṁvatsara) and the Majhgavan plates (dated Gupta 191 (510-511 A.D.), Mahā-Caitra saṁvatsara) of Hastin, the Bhumara pillar inscription of Hastin and the Uccakalpa chief Śarvanātha (dated in the Mahā-Māgha saṁvatsara), and the Khoh plates of the

2. The prefix maḥat is employed by Utpala also in his commentary on VIII. 1, p. 182.
5. CHH, III, p. 55, text-lines 1-2. Dr. D. C. Sircar’s statement that the earliest occurrence of the reckoning in North is traceable in Mahārāja Hastin’s Khoh copper-plate grant dated in the Gupta year 163=482-83 A. D. (Indian Epigraphy, p. 260) is obviously due to oversight.
6. CHII, III, p. 102, text-lines 1-2.
8. Ibid., p. 111, text-lines 7-8.
Parivṛ̣jaka Mahāraja Sāṅkṣobha (dated Gupta 209 (528-529 A.D.), Mahā-Āśvayuja saṁvatsara) also refer to the cyclic years. The years of the twelve-year cycle are not mentioned in South Indian records after the sixth century A.D. In North India the cycle continued to be in vogue for some time more. The Dhulev plate of Mahāraja Bhetti, dated in the year 73, variously assigned to the Bhāṭika or Harṣa era (696 or 679-80 A.D.), is the latest known record to mention a year (Āśvayuja) of the Jovian cycle of twelve years. The reckoning is now almost obsolete and is sometimes mentioned in the alamanacs only.

II. Sixty-year Cycle of Jupiter*

The years of the Jovian cycle of sixty years are invariably referred to by their respective names and not by numbers as in the case of other reckonings. A Jovian year is the period of Jupiter’s stay in a particular sign of the zodiac with reference to his mean motion. A Bārhaspatya saṁvatsara comprises about 361.026721 days and is thus shorter than the solar year by about 4.232 days. Consequently in every period of about 85 years a Jovian year is expunged. When two years of Jupiter begin during the same solar year, the first is regarded as omitted.


2. El, XXXVII, p. 15. The latest reference to this reckoning in the Deccan is to be noticed in the Siripuram plates of the Gaṅga king Anantavarman, dated in the Mahā-Āśvayuja saṁvatsara (ibid., XXIV p. 51, text-line 13).
3. El, XXX, p. 4, text-line 5.
5. R. Sewell and S. B. Dikshit, Indian Calendar, p. 33. For a list of expunged saṁvatsaras according to Varāhamihira from Śaka 232 (current) to Śaka 999 (current), see ibid., p. 36.

These sixty years were classified into twelve yugas of five years each, the yugas being known after their respective presiding divinities, viz., (1) Viṣṇu, (2) Sureśya, (3) Balabhīt, (4) Hutāśa, (5) Tvaśtr, (6) Ahirbudhnya, (7) Pītr, (8) Viśva, (9) Soma, (10) Śakrānala, (11) Aśvin and (12) Bhaga. The five years of these yugas known as (1) Samvatsara, (2) Parivatsara, (3) Idāvatsara, (4) Anuvatsara and (5) Idvatsara were believed to be presided over by Agni, the Sun, the Moon, Prajāpati and the spouse of the daughter of the mountain, i.e., Śiva, respectively (VIII.24). It was believed that there would be good rainfall in the first year of a yuga, rain only in the first half of the rainy season in the second year, excessive rain in the third year, rain only in the

¹. As pointed out by Sudhakara Dvivedi (BS with Upala's commentary, p. 201 n.), in the popular astrological works the name of this cyclic year is given as Pārthīva, and consequently modern scholars replace na leccū for nataḥ ca of the original (VIII. 35).
². Now-a-days it is commonly known as Subhakṛt. Sōkakṛt is a variant for Sōkakṛt. Vide BS, p. 203, notes 1-2.
³. Now it is popularly called Sōbhakṛt. Vide ibid., note 1.
⁴. Now commonly known as Virdhīn. Ibid., p. 204 note.
⁵. In all the popular astrological treatises, it is called Ānanda, Consequently modern scholars read Pramādy = at-ānandem = atē phem yēt in place of Pramādīnaṃ Vikramam = aṣṭy = aṭo = nyat in verse 45 and tetyph in place of Vikramaḥ at the beginning of verse 47. Ibid., p. 205 note.
⁶. Now it is generally called Rudhirdongārīn and therefore some scholars read Udgāri-sañjñāḥ in place of Aṅgāra-sañjñāḥ in the beginning of verse 50. Ibid. p. 207 note.
latter half of the season in the fourth year and scanty rain in the fifth year (VIII.25). Of the twelve yugas, the first four were regarded as very auspicious, the next four as middling and the last four as the worst (VIII.26). The auspicious and inauspicious happenings of all the sixty years of the reckoning are described at length (VIII. 27-52).

According to Varāhamihira (VIII.27), Prabhava, the first year of the Cycle, begins when Jupiter reappears after his conjunction with the sun having reached the first quarter of the nakṣatra Dhanisthā in the month of Māgha.

Varāhamihira gives the following rule for finding out the Jovian year: Multiply the number of expired Śaka years by 44 and add to the product 8589 and divide the result by 3750. Add to the quotient the number of expired Śaka years. Divide the sum by 60. The remainder will be the serial number of the expired Jovian saṁvatsara beginning with Prabhava at the beginning of a given Śaka year (expired). The same divided by 5 gives the yuga and the remainder denotes the number of saṁvatsaras elapsed in a particular yuga.¹

According to this rule, the expired Jovian saṁvatsara at the beginning of Śaka 1890 (expired) would be the 54th year Raudra, the current year being Durmati (1890 × 44 = 83160, 83160 ÷ 8589 = 91749, 91749 ÷ 3750 = 24, 24 + 1890 = 1914, 1914 ÷ 60 = 31, remainder 54 (Raudra), the following year (Durmati) would be the current saṁvatsara). The current yuga is the 11th presided over by Aśvins; the first four years of the yuga have elapsed, the fifth one (Durmati) being current (54 ÷ 5 = 10 (the number of elapsed yugas), remainder 4, which is the number of the years elapsed in the current (11th) yuga.

In order to find out the nakṣatra in which Jupiter is situated in a particular saṁvatsara Varāhamihira asks us to multi-

¹. मनान वर्षाणि शकमाण्डकालांत्तराणि सदौर्गण्यवेच्चतुर्मिभि:।
नवांतप्यशास्त्र ५५८९ सुमानि कुक्कु विभाजयेच्छूत्यवाराहम्: ३७५० ॥
लय्येन युक्तं शकमुखांकं संसोध्य वधुङ्गा वियवविभज्य।
युगानि नारायणपरंकाणि लक्ष्मणि शोभा: क्रमशं: समां: यथ: ॥

VIII. 20-21.
ply the number of expired Jovian years found out by the above method by 9 and to divide the same by 12 and then to add the product and the quotient and lastly to divide the result by 4. The quotient yields the particular lunar mansion beginning with Dhanisthā and the remainder the ādīp in the next naksatras already traversed by Jupiter.\(^1\)

In North India Jupiter’s year theoretically commences with Jupiter’s entry into a particular zodiacal sign, but in practice it is counted from Caitra ūkla 1. Originally there was no difference between the Northern and Southern systems of the 60-year Jovian cycle. But later on in South India the distinction between the Jovian and solar years was ignored and consequently a southern Jovian year is the same as a solar year and there is no suppression of a samvatsara in a period of 85 or 86 years as is the case with the Northern or true system. It has no connection with the movement of Jupiter, and Pramāthin is regarded as the first year of Kaliyuga as against Vijaya in the Northern system.

According to S.B. Dikshit, the true cycle of Jupiter was in vogue in South India before Śaka 828 (905-6 A.D.), but from that year according to the Ārya-siddhānta, or from Śaka 831 (908-9 A.D.) according to the Śūrya-siddhānta, the expunction of the samvatsaras was altogether neglected, with the result that the 60-year cycle in the South became luni-solar from that year. At present the northern samvatsara has advanced by 12 years over the southern one.\(^2\)

To find out the Jovian samvatsara according to the Southern luni-solar system one has to add 12 to the number of expired Śaka years and divide it by 60, the remainder being the number of the current year of the reckoning beginning with Prabhava. According to another rule, one has to add 12 to the number of expired Kali years and then to divide the sum by 60, the remainder being the number of expired cyclic year beginning with Prabhava.\(^3\)

\(^1\) एककमेतेपु नवाहिनयु दत्तच पृथग्ग दादशाक क्रमेण ॥
हस्तवा चतुर्बिंवयुदेवतावसन्धुर्मुनि शेशवत्सकृवमेतेपु ॥

\(^2\) Sewell and Dikshit, l. c., p. 37.

\(^3\) G. H. Ojha, l. c., p. 188 and note 3.
The 60-year cycle is rather rarely employed in North Indian inscriptions, but in South India it is in daily use even to this day. The Mahākūṭa pillar inscription of the Cālukya king Maingalesa dated in the Siddhārtha year¹ is regarded as the earliest genuine record referring to a year of the 60-year cycle of Jupiter. According to some scholars, however, the use of the 60-year cycle at a much earlier date is attested by two Nagarmunakonda inscriptions of the Ikṣvāku kings Virapuruṣadatta and his son and successor Ehuvela Śāntamūla (late third-early fourth century A.D.).² In that case the view of Burgess that the years of the Jovian cycle were first introduced about 349 A.D.³ needs to be substantially modified.

¹ IA, XIX, p. 18.
² EI, XXXV, pp. 1ff.; JOR, XXIX, pp. 41ff. But contra EI, XXXVII, pp. 70 ff.
³ Sewell and Dikshit, l. c., p. 36.
APPENDIX III

TEXTUAL EVIDENCE BEARING ON RAINFALL IN ANCIENT INDIA*

Some thirty-five years ago Dr. Ganganath Jha invited the attention of Indologists to the great importance of studying ancient Indian meteorology and called upon the younger generation of scholars to take to the task of elucidating it (Allahabad University Studies, Vol. I (1925), pp. I-II). In spite of a gap of about forty-five years, however, the subject still offers a virgin field for study. Here is an humble attempt to fulfil this long-felt need by recording and analysing some textual evidence bearing on rainfall in ancient India.

Sources of Study—In an agricultural economy like that of India the importance of proper rainfall can hardly be exaggerated, and it is quite reasonable to expect ancient Indian authors to have made observations on the climatic conditions of their country. And it is indeed gratifying to note that such observations were really made and recorded. The Brhat Samhitā of Varāhāmihira abounds in references to the views of Garga, Parāśara, Vajra, Kaśyapa, Bādarāyaṇa, Asita-devala (or Asita and Devala) and others bearing on rainfall. Unfortunately all these works, with a very few exceptions (e.g. fragments of Gargisamhitā), are no more extant. But Bhāṭṭotpala in his commentary on the Brhat Samhitā entitled Vīyūti quotes from these authors as well as from Siddhasena, indicating thereby that works ascribed to these personages were still available in the ninth century A.D. Among the extant texts, the most exhaustive treatment of the subject is to be found in chapters XXI-XXVIII of the Brhat Samhitā. Extracts from earlier works


1. Anuvāna jagataḥ prāṇāḥ prāya-kālasya c-ānunam=āyattam
Yasmaḥ =atah parikṣayah prāyoḥ—kālah prayarutane (ES, XXI. 1). Cf. also XXI. 2-4, where Varāhāmihira extols persons skilled in predicting rains. For a similar idea, cf. Kṛṣi-Parāśāra, (KP), verse 10.

2. Utpala informs us that cf. XXVII on ‘Circle of Winds’ (Vātacakra) is spurious—atah parān kecid—vātacakram pāthānti tac=ca Varāhāmihiraśkrīta nā bharati yato Nippattir=agni-kopa vṛṣṭi=mandūtha madhāyam śrīścitā Bahu-
jalā-prāṇānā pūṣṭi suhā ca pūr śādībhyā pacanāh, (BS, XXVII 13) is = amba
pavarukṣyam bhavati. Bahuṣeṣu=ādariesa. na drśyate.
in Bhaṭṭotpala’s commentary are equally useful. The Kṛṣi-Parāśara, also known as Kṛṣi-saṅgraha or Kṛṣi-paddhati, a work on agriculture and matters related thereto, devotes considerable space to prediction about rainfall and its measurement, etc.¹ The four Mss. of the Meghamālā, now preserved in the Bhandarkar Oriental Research Institute, Poona, are exclusively devoted to this subject.² Apart from these texts, accidental references occur in works dealing with other subjects, e.g., the Rgveda, Pāṇini’s Aṣṭādhyāyī, Kautilya’s Arthaśāstra, Meghadūta, Kalhana’s Rājatarāṅgini. The following account of ancient Indian meteorology is mainly based on these works.

Pregnancy of Clouds (Garbha-lakṣaṇa)—According to the beliefs current in those times the process of the formation of clouds commenced six months and a half before rains actually came: in the ornate style of the age clouds conceive (garbha) in autumn-winter and give birth (prasava) to rain 195 days (six and a half months) later. This belief seems to be as old as the Rgveda. Most probably Rgveda 1.6.4 contains a reference to the formation of rain embryos and Sāyaṇa aptly interprets the verse “Ādaha svadhām = anu punar = garbhatavam = erite dadhānā nāma yajñīyam” by “megha-madhye jalasya garbh-ākāram preritavantaḥ” (cf. JRAS, N. S., 1871, p. 251, fn. 2). Meteorologists differed very widely as to the time when the formation of rain-embryos actually begins. It was held by some that the clouds begin to conceive after the bright half of the month of Kārttika (October-November): Kecid = vadanti munayaḥ

¹ Having critically analysed available data Mr. S. G. Banerji concludes that the work cannot be later than the eleventh century A.D. (Abori, XXXVI (1955), pp. 2-6). J. Bentley considers it to be an ‘insignificant little work’ and ‘a most palpalable forgery’ (Asiatic Researches, VI, p. 576), but there is hardly anything to substantiate this view. As the original Sanskrit text is not available to me, I have used its Engl. Transl. by S. P. Raychaudhuri (Agricultural Practices in Ancient India, Indian Council of Agricultural Research, New Delhi, 1953), pp. 26-48.

² These are—1. No. 844 of 1884-87, New No. 24, fol. 12; 2.407 of 1883-36, New No. 26, fol. 45. Both these works are called Raudri Meghamālā and the colophon of the former represents it as a section of the Gārgisaṁhitā—iți Śrī—Gārgisaṁhitāyāṁ Raudri Meghamālāyāṁ garbha-saṁyogam samāptam iti; 3.971 of 1886-92, fol. 30. It was copied in V. S. 1759 and is called Māṇesari Meghamālā in the colophon; 4.673 of 1886-92, fol. 2c, is called Bālavacaka-Meghamālā; was copied in Śaka 1760. These Mss. differ very little from each other and are in the form of a dialogue between Śiva and Pārvatī. Apart from a number of orthographic mistakes, there is more of astrology than meteorology proper.
Kārttika-śukl -āntam = atitya garbha-divasāḥ syuh (BS, XXI.5). Utpala also quotes a verse from Siddhasena to this effect: ¹
the Meghamālā similarly describes the formation of rain-foetuses in Kārttika (Ms. No. 844 of 1884-87, New No. 24, folio 13, vv. 13ff). But this was not the majority view—na ca tan = mataṁ bahūmāṁ (BS, XXI.5): according to Garga (and Utpala adds), Vasiṣṭha, Parāśara, Rṣiputra and Kaśyapa marks of the pregnancy of clouds could be detected from the first day of the bright half of Mārgaśirṣa (November-December) onwards when the moon enters Pūrvaśādha (BS, XXI.6). The foetuses thus formed give birth to rains 195 days later (after six months and a half) when moon is in conjunction with the same asterism as that when conception takes place. ² The clouds formed in the bright half rain in the dark half and vice versa; those formed during the day bear fruit during the night and vice versa; those conceived at dawn bring rain in the evening and vice versa; and those formed in the east pour water in the west and vice versa; so on and so forth. ³ The clouds conceived in the beginning of Mārgaśirṣa and in the bright half of the month of Pauṣa (December-January) give but little rain. ⁴ The following chart will show the months and fortnights of the formation of rain-embryos and their delivery respectively (BS, XXI. 9-12, and Garga quoted by Bhaṭṭotpala):

<table>
<thead>
<tr>
<th>Conception</th>
<th>Delivery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pauṣa krṣṇa (dark half)</td>
<td>Śrāvaṇa śukla (bright half)</td>
</tr>
<tr>
<td>Māgha śukla</td>
<td>Śrāvaṇa krṣṇa</td>
</tr>
<tr>
<td>Māgha krṣṇa</td>
<td>Bhādrapada śukla</td>
</tr>
<tr>
<td>Phālguṇa śukla</td>
<td>Bhādrapada krṣṇa</td>
</tr>
</tbody>
</table>

¹. Śukla-pakṣaṁ = atikramya Kārttikasya vicāryet,
Garbhāṅgāṁ sambhawam sanyaṁ sasya-sampattī-ṃ kāreṇam.

². Yan = nakṣatraṁ = upagate garbhāṁ = candre bhavet sa candra-cāḷit, Paṇca-
navate dina-late tatr = aiva pravasavām = āyāti. BS, XXI. 7. cf. Semaśa-samhitā quoted by Utpala:— Saṁbhājaṁ saṁbhāhaṁ māsaiṁ garbha-viśakhaṁ sa nakṣatre.

³. Sita-pakṣaṁ = bhavaṁ krṣṇe śukle kṛṣṇā dyu = sambhāra rātricu,
Naktaṁ prabhavāṁ = c doḥani sandhyāṁ = jātāṁ = ca sandhyāyām.
Pūrṇa = udbhūtāṁ paścād = apara-utthāṁ prāyg = bhavati jumūṭāṁ,
Śrāvaṇa = api dikṣu = evaṁ viparītyo bhavati vāyai = ca. BS. XXI.8, 13.
Cf. Garga’s verses (on BS, XXI. 8) where more details are given.

⁴. Utpala (on BS, XXI. 9) tells us that in regard to the conception of clouds and their delivery we should follow the Amānta reckoning—Asmin
garbhā = lañjaṁ Caṭṭra = sīl-ādaya maśā vijnātasyāṁ.
Phālguna kṛṣṇa
Caitra śukla
Caitra kṛṣṇa

The following are some of the auspicious marks tending to nourish rain-foetuses:—pleasant, soft, northerly, north-easterly or easterly wind; clean sky; moon and sun covered by glossy, bright and thick halo; sky overcast with large dense, smooth, needle-like or razor-shaped red, black or blue clouds and bright moon and other stars; morning or evening (pūrea-or aparā-sandhyā) accompanied by rainbow, rumbling of thunder, lightning and appearance of mock-sun; birds and animals with pleasant sounds in the north, north-east or east; large, soft-rayed and unhurt planets moving in the pradaksīna order (to the north of asterism); trees with their sprouts unhurt; men and quadrupeds happy (BS, XXI. 14-18, Cf. Parāśara quoted by Utpala). Clouds resembling pearls or silver or having complexion of tobacco, lotus or collyrium and of the shape of aquatic animals foretell profuse rain; those scorched by fierce rays of the sun and accompanied by soft breeze pour excessive water at the time of delivery (prasava-kāla).  

Mārgasīrṣa (Nov.-Dec.)—absence of red glow of horizon in severe cold, morning and evening. Pauṣa (Dec.-Jan.)—absence of and clouds accompanied thick frost by haloes. Māgha (Jan-Feb.)—strong winds, sun and moon with their light obscured by frost, too much cold, appearance of clouds at sunrise and sunset. Phālguna (Feb.-March)—rough and violent gale, glossy and floating clouds, incomplete haloes round sun and moon, tawny or coppery sun. Caitra (March-April)—wind, clouds, rain and haloes. Vaiśākha (April-May)—clouds, winds, rain, lightning and thunder.  

2. BS, XXI. 22-24. See also 3 verses from Samāsa-samhitā quoted by Utpala.  
The following signs indicate a miscarriage of rain-embryos and tend to destroy all chances of rain foreseen from the phenomena described above: — fall of meteors, lightning, dust-storm, burning of the quarters (digdāha), earthquake, clouds having the appearance of cities, comets, planetary conflicts, thunder, marks of blood, oil, ghee, etc. (Utpala—rudhīr-ādi-vaiḍīṛtaṁ viṅkāraḥ raka-māṁsa-vasā-gṛīta-tail-ādi-varṣaṇam) in rain-water, rainbow and appearance of Rāhu as well as the other three portents, viz., celestial, atmospheric and terrestrial (cf. Parāśara quoted by Utpala on BS, XXI.25-26: —atha ca Parāśaraḥ, leśām graham = udaya-āstama-nilā-nirghat-āśani-pāta-gaṅgharvam-nagara-digdāh-ārka-raṣmi-varṇa-viṅkāra-bhū-calana-pra-durbhāvo varṣas = abhāvāya). Utpala tells us that if any of these phenomena appear immediately after the formation of rain-embryos, then there is little chance of resultant rainfall (on BS, XXI.26—etad = uktam bhavati, garbe dṛṣṭe yadi paścād = uktanam = anyatamo bhavati tadā garbho hato yasya samanantaram paścād = utpāta-sambhavo n-ānya iti). Besides, the signs just reverse of those general and special phenomena indicative of rainfall, described above, minimise chances of rain.1

It is further observed that the cloud-foetuses formed in any of the six months from Mārgasīrṣa to Vaiśākha when the moon enters any of the five asterisms, viz., Pūrva- and Uttara-Bhadrapadā, Pūrva- and Uttarāśāḍhā and Rohini, give profuse rain; an embryo formed in any month in the asterisms Satabhīṣaj or Āśleṣa or Ādrā or Śvātī or Maghā develops and rains for many days, whereas the foetuses destroyed by the celestial, atmospheric and terrestrial portents indicate absence of rain for those very days2; that formed in Mārga-

According to Kaśyapa quoted by Utpala one should examine cold, clouds, wind, solar and lunar haloes and should accordingly predict rain in the month of Śrāvaṇa; lightning, rain, thunder and easterly wind in Pālghuna augur good rain in Bhādrapada; trees terming with plenty of flowers and fruits, winds scattering sand, cold, rain and clouds in Cāitra indicate profuse rains in Āśvayuja; soft easterly winds and fast southerly winds in Vaiśākha are indicative of rain in Kṛttika.

1. BS, XXI. 27: —svaru-svabhāva-janitāṁ sāmānyaṁ = yeś = ca lokṣa-nair = veddhīṁ, Garbhāṅgām vipūrītāṁ = tair = eva vipūryagaj bhavati.

2. Utpala on BS, XXI. 29: —eteśām madhyād = ekatema na kṣatratva sambhūtah śūbhāḥ śūhāḥ = phalo bhavati sa ca bahūn divasān puṣyati prakāhātān ēlāṇi puṣṭim nayati...etad = uktam bhavati, hatas = tāvanti eva dināṁ na varṣati.
śirṣa (Nov.-Dec.) rains for eight days; that in Pauṣa (Dec.-Jan.) for six days; that in Māgha (Jan.-Feb.) for sixteen days; that in Phālguṇa (Feb.-March) for twenty-four days; that in Caitra (March-April) for twenty days; and that in Vaiśākha (April-May) for three days only.¹ A rain-embryo accompanied by all the five concomitants, viz., wind, water, lightning, thunder and cloud, rains profusely over an expanse of one hundred yojanas; that accompanied by four phenomena over fifty yojanas; that having only three phenomena rains over an area of twenty-five yojanas; one accompanied by two over twelve yojanas and a half; and that by one only over five yojanas² (cf. Meghadūta, I. 5—Dhūma- jyotiḥ-salila-marutāṁ sannipātaḥ kva meghaḥ, where four of the five concomitants are enumerated); but too much rain at the time of the conception tends to its destruction (BS, XXI.34) and produces a drizzle at the time of delivery (ibid, XXI.37). If however, a fully developed rain-embryo does not deliver rain at its proper time after one hundred and ninety-five days, it gives hail-stones at the time of second conception, for, like cow-milk kept for a long time, water also becomes hard after crossing its time.³

The four days commencing with the 8th of the bright half of Jyeṣṭha (May-June) are regarded as retainers of wind (vāyu-dhāraṇā divasāḥ) and these accompanied by soft, northerly or southerly or easterly wind as also glossy clouds favour good rain; whereas a rain in the same month and fortnight (Jyeṣṭha śukla) in the four asterisms, viz., Svāti, Viśākhā, Anurādhā, and Jyeṣṭhā, indicates absence of rain in Śrāvaṇa (July-

1. Mrga-māsādīvaḥ = aṣṭau sat śoḍaśa viṁśaṭīs = catur-yuktā, Viṁśaitīr = atha divasa-trayam = ekatama = trṣeṇa paṅcatabhyah. 

BS, XXI. 30.

Utpala tells us that this rule is an exception to BS, XXI. 9, viz., foetuses formed in Mārgaśīraṣa and Pauṣa śukla bear but little fruit:— tathā Mrgaśīrṣ-śayā garbha manda-phalā ity = anena granthena Mārgaśīra-sājātim garbhā-adām Pauṣa-sukla-jālānāṁ manda-phalatā uktaḥ tad = eva-vādām = āha.


Utpala informs us that this verse also appeared in the Samāsa-samhitā.


BS, XXI. 35-36.
August), Bhādrapada (Aug.-September), Āśvayuja (Sept.-October) and Kārttika (October-November) respectively (BS, XXII. 1-3).

According to Kauṭilya a forecast of rainfall could be made by observing the position, motion and pregnancy of Jupiter, the rise and setting and motion of Venus, and the natural or unnatural aspect of the sun. (Arthaśāstra II. 24. 7-8).

Means of ascertaining Future Rainfall:—Prospects of future rainfall could be foreseen by a careful observation in the dark half of Āṣāḍha of the size, brightness, colour, direction, etc. of the moon when in conjunction with Rohiṇī. For this purpose a Brahmin astrologer went to a place north or east of the town or village; stayed there three days observing fast and worshipping sacred fire; drew figures of planets and asterisms on the ground and worshipped them with oblations coupled with incense and flowers; sanctified all types of seeds with the Mahāvrata hymns and finally immersed them in water containing gold and kusa grass in a pot. Only those of the seeds and their parts which got sprouted during the moon’s conjunction with Rohiṇī may be expected to thrive during the year and not others (BS, XXIV. 4-8, 11). Water-pots already kept in the north, east, south and west were regarded as indicative of rainfall in Śrāvaṇa, Bhādrapada, Āśvayuja, and Kārttika respectively; full jars foretold good rain; while half-filled and empty ones moderate rain and drought in the months represented by them.1

Similarly, pots bearing names of kings, countries and different castes foretold their future prospects (BS, XXIV.27). Besides, the direction of the future rainfall could be determined by carefully observing the course of wind by means of a black flag four cubits in length and hoisted on a staff twelve cubits in height at the time of the moon’s conjunction with Rohiṇī: for this purpose four watches (3-hour periods) of the day were regarded as representing four months beginning with Śrāvaṇa

1. Nām—āṅkitaś=taiar=udak-ādi=kumbhaiḥ praḍakṣiṇāḥ Śrāvaṇa-māsa-pūrvaḥ, Pṛṣṇiḥ sa māsāḥ satilasya dātā srutaiḥ=aṁśṭiḥ parikalpyam=ūnaīḥ (BS, XXIV. 26).

Cf. Utpala:—etad=uktam bhaṇatii, udak-kumbhaḥ Śrāvaṇamāsaḥ pari-kalpyah; prāga Bhāḍrapadaḥ; daṇḍa Āśayuḥ; paścimasthaḥ Kārttiḥ pari-kalpyah it.
respectively; and parts thereof corresponded to the days in their respective months. In case the wind blows simultaneously from two directions, that which shows more firmness should be taken into account. The *Kṛṣi-Paraśara* (verse 34) also prescribes the use of a flag for ascertaining the course of the wind. It shows, as pointed out by Dr. S.P. Raychaudhury (*Agricultural Practices in Ancient India*, p. 31, fn. 2), the use of weather-vanes in those days. In this connection the colour, size, etc., of the clouds were also carefully observed and these features are described at length (*BS*, XXIV. 12-25). Similar observations were made at the moon’s conjunction with the asterism Svāti in the bright half of the month of Āśāḍha (May-June): a rain in the (i) first, (ii) second and (iii) third watches of the night indicated the abundance of (i) all crops, (ii) sesamum, green gram and black gram, and of (iii) summer crops respectively. Similarly, rain in the (i) first, (ii) second, (iii) third part of, and (iv) for the whole day indicated (i) good rain, (ii) rain coupled with insects and snakes, (iii) moderate rain, and (iv) timely rains respectively. If there are snowfall, strong and speedy winds, continuous thunder and lightning at the moon’s conjunction with Svāti on the seventh day of the dark half of Māgha, good rains and rich crops may be expected (*BS*, XXV).

Another method of ascertaining future prospects of rainfall and crops was to keep sanctified seeds of all types in equal quantities for the whole night of the full moon of Āśāḍha: such of the seeds as showed an increase in weight would thrive, while those that diminish would not flourish; and such as neither increase nor decrease would thrive moderately (*BS*, XXVI.1, 10. For the method of preparing the balance for weighing the seeds see, *ibid*, XXVI.6-9).

The *Kṛṣi-Parāśara* gives detailed rules for determining the ruler and the minister of the year in question and their influence on rainfall involving astrological matters which need not be detailed here. An interesting method of determining the

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1. *Śākyanaḥ* *patākām* = *asitām* *vidadhyaḏ* *daṇḍa-pramāṇāṁ* *trīṇa-xcccriāṁ* ca, Ādaḥ kṛte dig = grahaṇe nabhāsāṁ grāhyas = tāyā yogā-gate śaśāṅke, *Ten-ātra māśaḥ prāharair* = *vikalpyāḥ* varṣā-nimittāṁ divāsāṁ = *tad = anśiāḥ* (*BS*, XXIV. 9-10).

We have preferred Utpala’s reading “*ten-ātra māśaḥ*” in place of “*tattārdha-māśaḥ*” as given in the printed edition of the text.
quantity of rainfall for the whole of the forthcoming year as found in the Kṛṣi-Parāśara is as follows: The whole of the month of Pauṣa is to be divided into twelve equal parts, each consisting of two days and a half and representing the twelve months of the year commencing with Pauṣa. The course of wind ascertained by means of a flag during these twelve parts of Pauṣa foretold rainfall in the months represented by these parts: the wind blowing from the north or from the west in any of the above-mentioned parts of Pauṣa is indicative of good rainfall in the months thus represented, whereas that blowing from the east or south foretells scantly rain; if, on the other hand, wind does not blow in a definite direction, it would not rain at all, whilst the wind blowing at random indicates irregular rainfall. Every five dannas (24 minutes) of Pauṣa correspond to a day of a month: the rainfall in the first half of this 5-danda period indicates rainfall in the daytime, whilst that in its latter half foretells rainfall in the night; so on and so forth (verses 12-23, 31-34). A shower accompanied by thunder-storm or lightning on the seventh day of the bright half of Māgha (Jan.-February) and Phālguna (Feb.-March) or the third day of the full moon in Caitra (March-April) or Vaiśākha (April-May) foreshows good rainfall and abundance of crops in that year (verses 39-40).

According to another peculiar method, in the first night of the bright half of Vaiśākha one was required to write the words “Let there be success” (siddhih-astu) on a rod two hundred times, and then to erect that rod on the bed of a flowing river, dipping it up to the written mark in the water and finally to mark the next morning where the water level stands: unchanged water level indicates that the rainfall during that year will be the same as that in the preceding year; if the water-level goes up or down it indicates a rainfall more or less than that of the previous year; the water level rising above the marked spot on the rod foreshows double rainfall and flood (verses 45-49).

The course of wind on the full-moon day of Āṣāḍha was to be observed carefully for ascertaining the nature of rainfall (verses 56-57) A shower or the absence thereof on the seventh day of the bright half of Āṣāḍha indicates good rainfall or drought throughout the year (verse 38).
Signs of Immediate Rainfall:—The Brāhmaṇ, the Kṛṣī-
Parāśara and other works under consideration describe at length
the signs that were believed to indicate an immediate rainfall.
Many of these beliefs are still current in different parts of India.
Some of these phenomena are mentioned below:—the sun
with dazzling brilliance and burning with intense heat at the
zenith of the sky; tasteless water; sky having the complexion of
a cow’s eye; uncontaminated directions; moisture of salt;
absence of wind; fishes coming to the banks; repeated crock-
ings of frogs; cats scratching the earth with their nails;
accumulation of rust on iron; construction of bridges on the
streets by children; mountains appearing like heaps of colly-
rium; haloes of the colour of a cock’s eye round the moon; ants
shifting their eggs without any apparent cause; cows looking
above at the sun; reluctance of domestic animals to go out
of the house and their shaking ears and hoofs; dogs barking
continuously looking at the sky; lightning flashing from the
north-east during the daytime; appearance of mock sun and
moon; cool breeze blowing from the east (BS, Ch. XXVIII:
—sadyovarsalakṣaṇa); excitation of cats, mungoes, snakes
and other animals living in marshy places; rutting of young
elephants; aquatic birds beginning to dry their wings; so
on and so forth (Kṛṣī-Parāśara, verses 63-68). That these ideas
were no innovations of astrologers and were actually shared
by the people is evident from the fact that they are referred to
in a large number of classics. Kalhaṇa, the poet-historian
of Kashmir, for example, refers to the cows looking above,
serpents ascending the trees, and ants moving with their eggs
as foretelling an immediate rainfall:—Uṭṭikite gavāṁ vṛksa-
mūrdhārōhena bhoginām, Pipila-puḷays-āṇḍ-opasaṅkrānty-aiva
varṣanām (Rājaṭaraṅgini, VIII. 722).
Classification of Clouds:—Varāhamihira’s Brāhmaṇ, which
is the chief source of our information on the subject, does
not give any classification. The Kṛṣī-Parāśara, however,
divides the clouds into four classes:—Āvarta, (ii) Saṁvarta,
(iii) Puśkara, and (iv) Droṇa. One of these predominates over
a particular year: while āvarta rains in particular localities only,
saṁvarta rains everywhere; rainfall is scanty during the pre-
dominance of puśkara, whereas there is plenty of rainfall when
droṇa is dominant (verses 24-26). As Kālidāsa refers to the
puskara and āvarta types of clouds, this classification seems to have come into existence as early as, if not earlier than, the Gupta age (Cf. Meghadūta, pūrve megha, verse 6: -jātaṁ vanśe bhuṣana-vidite puskaro-āvartakānāṁ jānami tvāṁ prakṛtipurusanāṁ kāma-rūpaṁ maghonaḥ). The popularity of this fourfold classification is apparent from references to dṛona-megha and dṛona-vṛṣṭi in Śūdraka’s Mṛcchakaṭākā, X. 26, 39. The Meghamālā enumerates eighty types of clouds, ten each in the Mandara, Kailāsa, Koṭa, Jaṭhara, Śrṅgavera, Paryanta, Himavat and Gandhamādana mountains; and next it gives their names, e.g. Prabuddha (or Subuddha, ), Nandaśāla. or Mandaśāla, Kanyada, Prthakṛtravas, Vāsuki, etc. (Ms. No. 844 of 1884-87. New No. 24, folio-4a). These names are, however, not very clear and involve astrological details. A different type of classification appears to have been prevalent in earlier times. According to Kauṭilya (circa 4th-3rd century B.C.), there are three clouds that continuously rain for seven days; eighty are they that pour minute drops; and sixty are they that appear with sunshine:—Trayaś = sāptāhikā meghāḥ asitiḥ kṣaṇa-śikarāḥ, Saṣṭhir = āyata-meghānām = esā vṛṣṭis = samāhītā Vātam = ātapa-yogāṁ ca vibhajan yatra varṣati, Trīṃ karṣakāṁ = śca janayām = strata sasy-āgamo dhrvahāḥ (Kauṭilya’s Arthaśāstra 11. 24. 9-10).

Measurement of Rains:—Rain-gauging appears to have been prevalent in India from very early times and the earliest reference to it is to be found in Pāṇini’s Aṣṭādhyāyī (varṣa-pramāṇa—III.4.32; gospada is referred to as the smallest measure of rainfall VI. 1.145; failure of rain or drought (varṣa-pratibandha) is referred to as avagraha, III. 3.51). There were widely divergent views as to the time when one should start measuring rains and such other kindred matters. According to Varāhamihira, rain should be measured after the full-moon day of the month of Jyeṣṭha (May-June) when it has rained in the asterisms commencing with Pūrvāśādhā :—Jyaisthyāṁ samattiyāṁ pūrvaśādha-ādi-sampra-vṛttena, Śubham = asubham vā vācyam parimāṇam c-āṃbhhasa = tajjāñaiḥ (BS, XXIII. 1). According to still another view, the quantity of rainfall should be gauged when for the first time in the season it rains sufficiently enough to make the

1. V. S. Agrawala, India as known to Pāṇini, p, 203.
earth free from dust or when drops of water are visible on the tips of the blades of grass.¹ The quantity of future rainfall was also to be predicted accordingly as it rained in particular asterisms in the beginning of the season.² It was believed that in whichever of the asterisms there was rain in the beginning, there will be repeated rains in the same asterisms (ibid, XXIII. 5. Cf. Utpala—prasava-kāle Āpy-ādiṣu Pūrvāśāṅh-ādiṣu saptaviṁśeṣu = api nakṣatraṣu yadi na pravṛṣṭām tadā tu = anāvṛṣṭiḥ prasava-kāle bhavāditi). Kaśyapa and others held that if there be rain in any area whatsoever in the beginning, one may expect good rain throughout the whole season.³ Devala, on the other hand, maintained that if it rains over ten yojanas, there is bound to be plenty of rain during the whole season.⁴ According to Garga, Vasīṣṭha and Parāśara profuse rainfall must be expected if there be rain over an area of not less than twelve yojanas at the commencement of the rainy season.⁵ The lowest measure of rainfall, gospada, which, as we have seen, was prevalent in the time of Pāṇini (cir. B.C. 500), is conspicuous by its absence in later works. In Varāhamihira’s time (6th century A.D.) the commonest measures of rainfall were pala, āḍhaka and drona: fifty pala made one āḍhaka and four āḍhakas constituted one drona. The rainfall was measured by means of a specially prepared (cf. BS, LII. 91—पलाणयपामांकम् ब्रह्म स्वयमन: रत्न मूलिकालामावकमपामाव्यस्त)¹

1. Tena dharitrī mudrā janitā vā bindavasāḥ=īṭy-āgrasya
Vṛṣṭeṇa tena vācyaṁ parimāṇam c-āṁkhasāḥ prathamaṁ II

BS, XXIII. 3

Cf. Utpala—varṣe=pi sati bhavate=api garbhṛṣu dhāraṇāse=api satsu vadi pravṛṣṭa-kāle na varṣati tadā prasava-kāle vṛṣṭiḥ=na ṣyād=īty=utāḥ garbhṛṣu idam=ucyate parimāṇam c-āṁkhaḥ prasava-kāle tācyet=iti I


3. Pravṛṣṭaṁ yathā-ādāṁ varṣaṁ yadi śrīyate I
Varṣā-kālaṁ samāśādyā Vāsavo bahu varṣati II
—Kaśyapa quoted by Utpala on BS, XXIII. 4.

4. Devala quoted by Utpala :
Pravṛṣṭaṁ yadā vṛṣṭiṁ datā-yojanaṁ-muṇḍaṁ I
Varṣā-kālaṁ samāśādyā Vāsavo bahu varṣati II

5. Garga quoted by Utpala :
Aṣād-ādiṣu vṛṣṭiṣu yojana-dvādaś-āṁake I
Pravṛṣṭe śobhanaṁ varṣaṁ varṣa-kāle vinirdeśit II
RAINFALL IN ANCIENT INDIA

round gauge with a diameter of one hasta or cubit (18 inches) and containing marks indicative of palas: when filled to capacity it indicated one ādhaka rainfall; Hasta-viśālaḥ kuṇḍakam = adhikṛty-āmbu-pramāna-nirdesāḥ, pañcāśat palam = ādhakam = anena minuyāj = jalaṁ patitām (BS, XXII. 2). These measures appear to have been in use from very ancient times. According to Kauṭilya (4th century B.C.), sannidhātṛ or the superintendent of treasure-house was entrusted with the duty of measuring annual rainfall and the gauge used for this purpose was also one aratni or cubit in diameter: Kośṭhāgāre varṣa-mānam = aratnimukham kuṇḍaṁ sthāpayet (Arthaśāstra, II. V.7). The Samāsasanhitā (as quoted by Utpala on BS, XXIII.2) describes this one cubit or ādhaka measurement as Māgadha-mānaḥ (...jala-mānaṁ Māgadha-māṇena hasta-mite). It may thus be suggested that this system of measuring rainfall as mentioned by both Kauṭilya and Varāhamihira was prevalent in India, particularly in Magadha (South Bihar) from the fourth or third century B.C. to about the sixth century A.D.—for a period of about one thousand years. It is likely, therefore, that the Maurya and Gupta emperors introduced and popularised this system throughout the length and width of their extensive empire and consequently it became an all-India measurement.

According to Parāśara, however, the height and diameter of the rain-gauge should be 20 aṅgulas (15 in.) and 8 aṅgulas (6 in.) respectively and when it is filled to the brim it measures one ādhaka:—Same viṁś-aṅgul-ānāhe dvi-catuṣk-aṅgul-occhrite, Bhānde varṣati sampūrṇam jñeyam = ādhaka-varṣaṇam (vide Parāśara as quoted by Utpala on BS, XXI. 32).

Another similar method was of measuring the rainfall on the ground itself. Parāśara informs us that if the rain-water measures one dhanuṣ or four cubits it equals one droṇa: Dhanuḥ pramāṇam medinyā vindyād = droṇ-ātivaraṇam (vide Parāśara quoted by Utpala on BS, XXI. 32).

A different interpretation of the measurement ādhaka is to be met with in the Kṛṣi-Parāśara: a quantity of water spreading over an expanse of one hundred yojanas square and

2. The measure droṇa is referred to in BS, XXI. 32, 34; XXIII. 6-9.
thirty yojanas in height equals one ādhaka (Agricultural Practices in Ancient India, p. 30, fn. 2). This description is not quite clear.

The Kṛṣi-Parāśara prescribes the use of a vessel with 12 aṅgulas (9 in.) for its length, breadth and height for measuring rains. The vessel could be made of the wood of calita (Dillenia Indica), mango, (Mangifera Indica) or punnāga (Calophyllum inophyllum) trees. The use of the wood of wood-apple (Feronia elephantinum), pakur (Ficus insctoria) or nimba (Melia Indica) trees was forbidden for the measuring vessel (Kṛṣi-Parāśara, verse 220).

According to a definition found in the Meghamālā however, a continuous rain for seven nights together was called dṛṇa:—
Dṛṇa-saṅkhya ca vijñeyā sapta-rāthram pravarṣati (Ms. No. 844 of 1884-87, New No. 24, fol. 1b, verse 30).

Kauṭilya informs us that if one-third of the total annual rain came both during the commencement and closing months of the rainy season (Śrāvaṇa and Kārttika) and two-thirds in the middle (Bhādrapada and Āśvayuja) it augured good and prosperous crops:—Varṣā-tribhāgaḥ pūrva-pascima-māsayoḥ dwau tri-bhāgau madhyamayoḥ suṣamā-ṛūpam (Arthaśāstra, II. 24-6). This coupled with the evidence of the BrhatSaṁhitā discussed above shows that the rainy season in those days commenced in the month of Śrāvaṇa and came to an end in Kārttika and not in Āṣāḍha and Āśvayuja respectively as in our times.

As regards average rainfall in different parts of the country in his time, Kauṭilya makes the following statement: “in the country of Jāṅgala 16 dṛṇas; half as much more in the moist countries; as to the countries fit for agriculture 13½ dṛṇas in the Āṣmaka country; 23 dṛṇas in Avanti; an immense quantity in Aparaṇta, the Himalayan region, and in the regions where water-channels are made use of in agriculture: Śoḍaśa-dṛṇaṁ Jāṅgalanāṁ varṣa-pramāṇam = adhyardham = Ānūpānāṁ; desā-vāpānāṁ = ardhatrayodaś-Āsmakānāṁ; trayoviṁśatir = Avantiṇāṁ; amitam = Aparaṇānāṁ, Haimanyānāṁ kulyā-vāpānāṁ ca kālataḥ (Ibid, II.24.5).

The Kṛṣi-Parāśara (verse 30) would have us believe that if the total rainfall of the world be divided into twenty parts, ten parts fall on oceans, six on mountains and four on land.

To sum up, although a large number of texts dealing with ancient Indian meteorology have perished, what remains bears
eloquent testimony to the great success achieved by our ancestors in this field of study. It is indeed curious to note that many maxims and proverbs current amongst the agriculturists at present have their roots in the observations made by Indians millennia ago. It is left to those well-versed in modern meteorological techniques to tell us how far the above-mentioned observations are correct.
APPENDIX IV

DAKĀRGALA OR THE ART OF EXPLORING UNDERGROUND WATER-SPRINGS

The history of the art of exploring underground currents of water in India goes back to a hoary antiquity. It appears to have reached a fairly developed stage as early as the sixth century B.C. For in the Vamnapatha Jātaka¹ we find the following story:—Once the Bodhisattva, born as a merchant, set out on a merchantile adventure. While passing through a wilderness, he lost his wood and water. In search of water he ranged to and fro, while it was still early and cool until he came across a clump of kuśa grass. ‘This grass’, thought he, ‘can only have grown up here, thanks to the presence of water underneath’. He dug out a hole and up rose the water in the hole till it was as high as a palm tree. With due allowance for the obvious exaggeration, it indicates that one of the modes of ascertaining the presence of water-springs underneath was to make a minute observation of the growth of vegetation. Unfortunately no treatise of such an early date affording a detailed discussion of this subject has come down to us.

Varāhamihira dilates on this subject in some detail in Ch. 53 of the Brhadāraṇyākūṭa. He calls this art dakārgala² or udatkārgala³ which term evidently refers to the determination of the subsoil water (udaka, daka) with the help of a wooden stick (argala), an art still practised in some parts of the country. He

2. LIII.1, 99. Dagārgala in a variant, Halāyudha gives daka as one of the words denoting water:—Proktam prajñāh = bhucanam = anitēm jīvaniyam dakaḥ ca. For the use of daka in the sense of water, cf. Dīvīyāvadāna VIII. 262 f. (daka-rākṣasa); Sutrā, I. 26. 8; II. 7; III. 8; V. 236. Grammarians derive this form from udaka according to Pṛṣṭadādī.
3. The word argala means a wooden belt, pin, bar, bolt, latch, etc. Vide V. S. Apte’s Students’ Sanskrit—English Dictionary, s. v. argala. Monnier-Williams takes dagārgala to mean ‘water-key’, ‘examining the soil in searching for wells or rules for doing so’. Vide his Sanskrit-English Dictionary, s. v. dagārgala. But it is more appropriate to take it in the sense of searching water (daka) by means of a wooden stick (argala).

3. CVI. 7.
was, however, not the first to dwell on this topic. As we have seen above,¹ he had access to the writings of Sāravata and Manu dealing with this subject. These works were also available to Bhāṭotpala. However, as these treatises are no more extant and as this topic is not known to have been dealt with in any other ancient work also, the Brhatasaṁhitā chapter under review forms the only source of our information about the state of hydrological knowledge in ancient India. This chapter appears to have been considered unique in the whole range of Sanskrit literature, and as such it was studied as an independent text as is clear from the fact that independent manuscripts containing only this chapter (called Jalārgala-śāstra and Dṛgargala, an error for Dakārgala or Dagārgala) are reported to have been discovered.² Even in our own times this chapter has been independently published and has been widely popular with architects having some attachment with things ancient. Some architects, who happen to be my personal friends, tell me that their experience has demonstrated the correctness of many of the details and general principles laid down by Varāhamihira. A brief analysis of its contents is given in the lines that follow.

Means of Ascertaining Water-Veins (sīrā-nimittāni)—It was recognised that though all the water falling from heaven is originally of the same colour and taste, it becomes different in these respects on account of the difference of the soil (2).³ Sub-soil water-veins, some running higher and others deeper, are compared to the veins in the human body(1) These veins were variously named; eight veins in the different directions were known after the regents of the regions, the ninth in the centre being called Mahāsīrā (great vein). Other veins issuing from the above⁴ bore different designations (3-4), the

1. Supra, pp. 443, 453.
2. See supra, pp. 28-29.
3. Figures in brackets refer to the serial number of verses of Ch. 53.
15:—Nānā-rasaśvam bhajate toyam samprāpya hūtalem.
Kern’s translation (JRAI, 1873, p. 300), viz. ‘There are hundreds of others, that issue from different quarters’, does not appear to be quite correct. Eśākhyāḥ should be taken to refer to the nine veins mentioned above.
one called Kumuda (a vein 2 cubits to the north-west of a Bignonia in a dreary region) being mentioned by name (23). The veins running from the infernal regions and in the four quarters were regarded as auspicious and those issuing from intermediate points evil (5). The presence of water was ascertained mainly through its vegetable accessories, e. g., presence of a certain tree in a waterless tract, sometimes accompanied by an ant-hill¹ or a snake’s abode²; characteristics of an aquatic vegetation in a waterless region (47), a plot overgrown with grass in a grassless plain or a grassless plot in the midst of a soil abounding with grass (52), a thorny tree in the midst of thornless ones or a thornless tree in the midst of thorny ones (53), one of the branches of a tree being bent or faded (55), a tree showing unnatural symptoms in its fruits and blossoms³ (56), two or more trees growing conjointly (72, 74, 75, 76, 78, 83, 96), so on and so forth. It is further stated that the sprouting corn perishing, growing abundantly⁴ or looking pale in a single spot of a field (61), the soil sounding deep when struck by the feet (54), the ground steaming or smoking (60) or sloping downwards (93), the occurrence of a piece of unusual appearance (grass) in a ground otherwise uniform and devoid of grass, trees or shrubs (90), insects frequenting a spot without having their abode there (93), a row of anthills with one prominent above the rest and the corn in a field withering away or not growing at all (95) indicate water underneath. Bushes and trees growing low, looking smooth and having their long boughs hanging down (49,100) were also taken to indicate the presence of water underneath. We are also told that an isolated cold spot in a warm ground denotes cold water, while a solitary warm spot in a cold ground indicates warm water (94) and that a copper-coloured soil mixed with gravel yields astringent water; red-brown brackish water; pale yellow earth

1. LIII.9, 12, 14, 16, 19, 24, 25, etc.
2. 33, 35, 38, 41, 67, 68, 70.
3. E. g., kaṇṭakārikā without thorns and with white blossoms (57), a betelnut tree with two tops in a waterless region (58), a white blossoming *Pterospermum* or Butea (59).
4. Kern’s rendering, ‘Where, on a single spot of a field, the sprouting corn perishes, or looks thin and exceedingly pale...’ is not correct. ‘Snigda’ is rightly taken by Utpala to refer to exceedingly good crop:—
Atha vā tatr-aiva kṣet-odddeśe snigdham sayam=ātīca bhavati.
is indicative of salt, and a blue soil of sweet water (104). The fact that water-springs in a woody tract (jāngala) are situated at a lower level than in a watery country (anūpa), and in a desert even lower than in woody region is also recorded (62, 86, 89, 93). Varāhamihira describes in detail the various signs that one will come across in the course of digging a well, the quantity and the taste of water, etc., which need not detain us here.

SITUATION OF WELLS. The presence of a well in the south-east, south-west or north-west of a town or village was supposed to bring about various distresses, wells in other directions being approved (97-8).

EMBANKMENT OF A POND. The embankment (pāli, of a pond) extending from east to west, it is said, retains water for a long time while that from north to south does not, for the latter is often broken by billows roused by the wind. Varāhamihira advises one wishing to make such a pond to check the flow of water with strong timber or stones and the like (Utpala adds burnt bricks and large pebbles), the soil being hardened by the trampling of elephants, horses, etc. On one side, it is stated, an outlet should be made, the passage being built with stones, and a panel without aperture fixed in a frame, and covered by grit heaped against it. The banks of ponds were to be shaded by trees (119).

RECIPE FOR CLEARING WATER. (121-2). A mixture of aṅjana, mustā, uśira, rājakosātaka, emblic myrobalan and kataka nuts was used in order to impart clarity, good taste and other qualities to water.

1. Cf. Śaṅkara, Sūtrasthāna, XLV. 5-6.
2. पाली प्राणपरायताम्बू युविरं वृत्ते न प्रायोतरा कल्पोऽर्थवदास्तति महता सा प्रायोतरा।
   तां वेदित्तति सारदाहिरि शष्यां सम्पत्तमवार्येतु पाणादिदिर्मरेव व श्रवः द्विपद्वादिदिम्बः।
   द्वारं च नैवाहिकमेकते कायं विधासिद्धिववादिराग्म।
   कौशिकेश्वरं निविर्वरं कपाट कुत्ता तत्तु पाषङ्किं विशेषत् तम्।

   LIII. 118, 120.

3. Cf. Suśruta, I. 45. 17. The constellations of Hasta, Maghā, Anurādhā, Puṣya, Dhanīṣṭhā, the three Uttarās, Rohini and Sātabhiṣaj are recommended for the commencement of digging a well, cf LIII. 123. At the beginning of digging, oblation was made to Varuṇa, and a plug of banyan or rotang was put into the soil at the place of the vein and honoured with flowers, perfumes and incenses, cf. LIII. 124.
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P. 15, n. 4:—Add "By calculating the position of the Saptarṣis- at the time of Yudhiṣṭhira as stated in BS, XIII.3—4, vis-a-vis their supposed position in the Hasta nakṣatra for the latitude of Ujjain which Varāhamihira took as the basis of his calculation, D. G. Dhavale arrives at Śaka 474 as the date of Varāhamihira, which lies well within the extreme ones associated with him, viz., 427 and 509 Śaka. Vide ABORI, XLVIII-XLIX, pp. 347-352."

P. 94, under Prasthala:—Add "Prof. Jagannath Agrawal's suggestion locating the Prasthalas in that part of Tr'garta which now forms the district of Kangra (Purāṇa, VIII, No. 2, pp. 310-14) appears more probable."

P. 132, after line 23:—Add "The word cokṣa occurring in LXXXVI.43 refers to a sect of Vaiṣṇava ascetics. Śūdraka in his Padma-prābhṛtaka (Caturbhāṅgi edited by Motichandra and V. S. Agrawala, pp. 21-22) calls them Caukṣa and states that they avoided others' touch. The Pāda-tāḍītaka of Śyāmilaka also stresses this point and further informs us that they carried a staff and a bowl (kundaṅkā) and used to present lemons (māṭulun̄ga) to their teachers and the deity (ibid., pp. 163-65). The Kuṭṭani-mata (verses 748-50) of Dāmodaragupta also alludes to these mendicants though without mentioning their sectarian designation. They had a liberal religious attitude and worshipped non-Vaiṣṇavite deities also. Śūdraka and Dāmodaragupta represent them as worshipping Śiva. Bhaṭṭotpala
takes cokṣa to mean a wicked person (cokṣo duṣṭa iti prasiddhah), which may indicate either his ignorance about this sect of Vaiṣṇava mendicants or that they had earned a bad reputation because of their notoriety."

P. 159, after line 13:—Add "A panel on the right side of the back-wall of the varandah of the Milk Maid's Cave (No. XXVII) at Ellora satisfactorily answers Varāhamihira's description of two-armed Ekapādiā. As stated by our author, Ekāṇamśā, who occupies the central position, holds a lotus bud in her right hand raised to the level of her ear while her left hand rests in the kāṭisamsthita pose. On proper left is the four-armed sthānaka-mūrti of Kṛṣṇa holding a cakra and gadā in his back left and right hands respectively and a śaṅkha and probably a flute or play-stick in front left and right hands. On the lower end of the gadā is to be seen a mutilated miniature figure of Gadādevi with her left and right hands in the pralamba and kātyavalambita poses respectively, On her proper right is two-armed Baladeva holding a broken hala in his left hand, the right one being disposed in the śāntida mudrā. Vide JIH, XLIV, pp. 831-838. Fig. XA of the present work."

Fig. 1. Indra, Paharpur
Fig. 2. Varuṇa, Paharpur
Fig. 3. Viṣṇu, Mathura
Fig. 4. Ardhanārīśvara bust, Mathura
Fig. 5. Yama, Brahmaśvara temple, Bhuvaśvara
Fig. 7. Baladeva, Provincial Museum, Lucknow
Fig. 9. Skanda, Bharat Kala Bhavan, Varanasi
Fig. 11. Male figure wearing ekāvali and hāraphalaka, Ajanta
Fig. 12. Nakṣatramāḷa (of gold), Taxila
Fig. 13. Bodhisattva Padmapani wearing yasti, Ajanta
UMBRELLAS

Figs. 14—14-A. Royal Umbrellas, Ajanta
Fig. 15. Square Umbrella, Ajanta
Fig. 16. Lady holding a circular mirror, Ajanta
Fig. 17. Seat with kumbha legs, Amaravati
Fig. 18. Parts of the leg of a couch, Kuşâna Art
Fig. 19. Sarvatobhadra House  Fig. 20. Nandyavarta house

Fig. 21. Vardhamana house  Fig. 22. Svastika house

Fig. 23. Rucaka house
Fig. 27. Cakulaśipta plan (square)

Fig. 26. Ekāṭīpada plan (triangular)
Fig. 28. *Catuḥṣastipada* plan (circular)
SWORDS
Fig. 29. Lotus-petal-shaped, Amaravati
Fig. 30. Bamboo-leaf-shaped, Amaravati
Fig. 31. Pointed (śūlāgra), Nagarjunakonda
Fig. 32. Rounded (maṇḍalāgra), Amaravati
"A book that is shut is but a block"

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