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KALPAVRKŚA
THE WISH FULFILLING TREE

by V. S. AGRAWALA

Indian art conveys its meaning in a distinct symbol language. The lotus, the full vase, (pūrṇaghata) the Svastika, the wheel (cakra), the three jewels (triratna), and the Kalpaṃkṣa, part as it were of an alphabet, are being used with perfect mastery as elements of decoration; they have not only invested art, Buddhist and Brahmanic, with endless beauty but also show it as a vehicle of ideas. These symbols formed an integral part of Indian thought for ages serving like pegs for religious and metaphysical ideas. Their meaning was ingrained in the consciousness of the people, and the art-connoisseur carried within him a subconscious reaction to these symbol forms which intensified his appreciation of an art which was rich both in external narration as well as inward meaning.

The Lotus has been extolled as the prime symbol of creation, the seat and substratum of universal creative force which springs from the navel or centre of the primeval creator. Simplified to a concise Sūtra of art, it is expressed as Brahmā, the genius of creation, seated on a full-blown lotus with a long stalk springing from the navel of Viṣṇu. That the elaborate Paurāṇic cosmogony could be treated with such mastery of form gives a vantage ground to the artist. As the lotus floats above water, so the created cosmos emerged to the surface of the primeval deep or 'chaos', which originally was the confused mass out of which the order of the universe was evolved. The Greek word 'chaos' is the same as Vedic 'Kha'. 'Kham' represented the great chasm or vacuum out of which was born the 'Kam', or the Plenum. 'Kha' is the navel from which the cosmic lotus takes its birth. Again 'Kha' represents the centre of
the Wheel of which the spokes and the peripheral frame mark the universe.

The symbols of the lotus and the Cakra are primarily Vedic symbols. And so is the full vase or the Pûrṇaghaṭa in which, as the seer of the Atharvaveda sings, the gods filled in one place immortality and life, prosperity and food, and many a good thing besides. Their opposites, the principles of non-life and non-riches, also lurk, with divine sufferance, in some unperceived corner of this Pûrṇa Kumbha. But what is essential and auspicious for life is the brimming and overflowing aspect of the Pûrṇa Kumbha symbolising the growth and creative fertility in every phase of man's being on this earth. The Pûrṇa Kumbha is verily the human body or Man himself containing within him the fullest range of divine blessings and the choicest gifts to which the soul aspires. With such a perfect symbol to express the idea of fulness and prosperity the Indian artist felt enraptured, and with his genius for the beautiful he portrayed that idea in the form of a full vase overladen with foliage and adorned with girdles of flowery garlands on the neck, shoulder and base. A comprehensive study of the Pûrṇaghaṭa and its variations as found in Indian art would be interesting. The same is the case with other symbols which enriched art as elements of decoration and at the same time gave to it deeper philosophic meaning. Not only trees and creepers but also animals and birds of various forms, e.g., Simha, Vṛša, Haṁsa and Suparna, lion, bull, swan and 'bird', constantly appear in Indian art contributing to its richness, gaiety and freshness as it would be from a living contact with nature.

The symbol of the Kalpavṛkṣa has been popular both as regards its representation in sculpture and painting and description in ancient poetry and literature. It is variously known as Kalpataru, Kalpadruma, Devatara, etc., and from the point of view of art the Kalpavali and the Kalpalata are but extensions of the same motif treated with luxuriance. The central idea of the Kalpavṛkṣa is that it is the Wishing Tree which fulfils all desires. It was produced as one of the fourteen gems at the time of the gigantic churning of the ocean by the Devas and the Asuras. The auspicious conch and the auspicious cow—Pāṇcajanya and Kāmadhenu—were also produced along with the Wishing Tree and they too went to the gods. They are kindred symbols with
the Kalpavrksa as bestowing fruition of human desires, and have been employed in Indian art and poetry with remarkable success. The phrase ‘Kamadugha’ is frequent in the Vedas and is applied variously to speech (Vak), Sarasvati, the goddess of learning, Aditi, the mother of the gods, and Prthivi, the Great Mother personified (Mahimata). The Wishing Tree also is called Kamadugha as it grants all desires and fulfills all wishes. So long as a man is under its shade, whatever he conceives he realizes. Wealth, women and all kinds of enjoyment issue forth from its fructifying boughs.

The Mind is the Kalpavrksa or the Wishing Tree which gives us everything for the mere thought of it. In a very real sense the Mind is the most powerful creator, the perennial source of all our enjoyments, and the inexhaustible fountain from which pleasure (rasa) constantly oozes out. Thought (saikalpa) is the nature and power of the Mind which makes life teem with innumerable blessings. The artists made full use of a rich conception like this, and employed the Kalpavrksa as one of the symbols which adorned art both in respect of beauty of form and depth of meaning.

At Bharhut bounteous curves of lotus creepers run in continuous bands, each bough or bud of which carries beautiful ornaments, earrings, ‘kundalas’ for the ears of the Prakara-vapra design, necklaces set with pearls and beads, armlets and anklets and spiral rings of various designs, delicate scarfs with flower-patterns woven in their texture, and ‘saris’ with ‘patli’ ends of ‘gomutra’ designs. The Kalpalata decoration producing such ornaments is a conspicuous feature of early Indian art and it is very often repeated leaving a pleasant effect on the mind.

The motif is developed and continued later in the art of the Gupta period and even afterwards. The deep-cut foliage decorations and creepers with intertwining tendrils are a familiar feature of Gupta art, and in some of them objects of enjoyment are carved as the products of the

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1. For the meaning of the Prakara-vapra design earrings, see ABORI, XXXIII, p.p. 19-29.
2. Pāpini in the Gaṇasūtra ‘gomutra āchādane’ on Sūtra V. 4. 3. refers to a cloth called ‘gomūtrikā’ which seems to be the ‘śari’ worn by men and women in the reliefs at Bharhut and Sanchi; it seems to have derived its name from the particular ‘gomutra’ form of its front pendant portion.
Wishing Tree. In a beautiful pillar from Garhwa a creeper with youthful maidens springing from its branches has entwining leaves and offshoots. The pillar is illustrated by Cunningham (ASR. Vol. X. Pl. VI and on p. 7).  

Recently, Sivaramamurti drew attention to the Kalpavṛkṣa-Kalpavalli motif explaining it in the light of a few literary references from Kālidāsa. The conception of an idyllic land or clime in which all kinds of human enjoyments are available to man as in a garden of paradise, is of old standing in Indian literature. We read in the story of the Mahāvānīja Jātaka (No. 493) that a group of merchants who had set out in search of a treasure came to a mighty banyan tree with cool and pleasant shade. From its eastward branch pure and clear water trickled for them; they washed and drank their fill. One of the branches on the south gave them all things to eat:

'Both rice and meat out in a stream it brings,
Thick porridge ginger lentle soup and many other things.'

From the western branch—
'Outcame a bevy of fair girls all pranked in brave array,
And O the robes of many hues, jewels, and rings in plenty!
Each merchant had a pretty maid, each of the five and twenty.'

From the northern branch likewise—
'...outcame a stream of gold,
Silver in handfuls, precious rings and jewels manifold.
And robes of fine Benares cloth and blankets thick and thin,
The merchants then to roll them up in bundles did begin.'

This Tree which produced water streams, food, pretty maids and good things is the ideal Kalpavṛkṣa so often extolled in literature. The following Pāli gāthā sums up the virtues of this auspicious tree—

वारिद्रा पुरिमा साखा अन्नपानन्त दुष्किष्णा |
प्रियम् पश्चिमम् साखा साख्याक्षेम् च उत्तरा || (Fausboell. Jāt. IV. 352)

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1. Its present whereabouts are unknown, but I am indebted to Mr. A. G. Shirreff, I.C.S., for an old outline drawing of it which is reproduced here with his kind permission.

The idea that the tree deity gave the merchants water to drink, food to eat, beds to lie on, maidens to attend them and all treasures, has an irresistible appeal of which both the poets and the artists took full advantage to embellish their works. In the epic literature and in the Purāṇas the conception of the Wishing Tree producing all desires is extended to the idyllic land of Uttarakuru where Elysian conditions prevail, leading to an exceedingly delightful life of the inmates.

In the Rāmāyaṇa, Sugrīva directs the monkey chiefs to go in quest of Sītā in the northern direction. There, at the end of the earth they would find the land of the Uttarakurus. "Flowers of gold as resplendent as fire are seen there in eternal bloom imbued with divine fragrance. The beautiful trees produce garments of various kinds and costly gems which are pleasant for men and women to use in all seasons; beds with beautiful coverlets and pleasing garlands; costly drinks and food of many descriptions; and to crown this all, maidens endowed with beauty, virtue and youth."

In the Mahābhārata, the Elysian land of Uttarakuru with all kinds of plenty in fruits and flowers and with trees producing all objects of desire (sarvakamaphalā vṛkṣāḥ) is conceived in the northern direction adjacent to Meru. There, as fruits from trees, are produced: garments, ornaments and youthful pairs of men and women (mithunāni) who draw sustenance from the nectar-like milk of the milky trees and are perfectly matched to each other in beauty, dress and appearance. The human beings in that region are happy and contented like gods being free

(1) जातकपचर्य वाणी, सुितामालमार्यात्, मनोहरान्।
सिन्धुपरकलासात, पुराण्योक्तिः।॥

विष्णुमर्यादायाः संवादु स्मारण स्वर्ण न।
भास्माराज्य वाणीं फलनामी नस्यानाम।॥

सुवाते वृक्षों चित्राणि मनास्य प्रजैतणि न।
संस्कृतदोषानि सर्वान्त स्वर्णानि सदैव।॥

सर्वं सुविशेषार्य वाणीं फललक्ष्मी नस्यानाम।
भास्माराज्य वाणीं फलनामी नस्यानाम।॥

मिष्टाक्षराय चित्राणि च। समलक्ष्मी साधनानि फलवस्तये द्रुमा।॥

प्राणानि च मनोहरां भयो वाणी विष्णुः।
विष्णुपरि सुभाषिन्याः हर्षीवदलबिताः।॥

(Kiśkindhā kārpja, ch. 48, verses 43-48.)
from all sorrows and ailments, and they do not suffer the
pangs of separation.1

It appears that this description of Uttarākuru was
an inherent part of the Bhūvanakośa as we find it repeated
in a similar context in the Vāyu-purāṇa (Chap. 45 verses
11-50). The description in the Purāṇa, besides recording
what the Epic contains is much more elaborate, and we
find there reference to streams of 'madhu' and 'maireya',
of butter and curds, to mountains of delicious food, to
groves furnished with beds, seats, cosmetics, garlands, etc.
and to a great many other items of pleasure. In that region
there is sweet music of every description rising from lute,
flute and tabors, and hundreds and thousands of Kalpavṛkṣas
produce fine and beautiful garments agreeable to wear.

A representation of the Uttarākuru land is probably
what we find at Sanchi carved on the western face of
the western pillar of the south gateway of the Great
Vol. II, Pl. XIXa). In several undulating bands of a lotus
creeper (one of which is reproduced on p. 5, Figure 1)
are youthful couples engaged in music and pleasure
surrounded by birds and animals and seated under the
shades of boughs overladen with costly ornaments of
many kinds.

This representation is so close to the literary
tradition given in the Epics that it appears to suggest
a conscious treatment by the artist of a theme which
literary tradition had made popular. The sculptors at

(1) उत्तरार: कुर्वीर राजान् पुष्यः दिर्गदिति वितुदाः।
तत्र वृक्ष भुज्ञस्थित विकसियते अवस्थित।
पुष्यि च सर्वंधीनि सम्भविति भवति च।

( Bhīṣmaparvan, 7, 2-11)
Sanchi and Bharhut (p. 5. Figs. 2-5) have carved time and again the lotus creepers as producing ornaments (muktāvaidūryacitrāni bhūṣanāni). Kālidāsa in the Kumārasambhava, VIII. 68, refers to necklaces (hārayaṣṭi) hanging from the top of Kalpavṛkṣa trees. In the Meghadūta he mentions the Kalpavṛkṣa as the one complete source of all objects of adornment and toilet used by the women in Alakā for example; beautiful fabrics, wine causing love glances in the eyes, flowers and tender leaves, a variety of ornaments, and lac dye for painting the feet are the Kalpavṛkṣa products used for female beauty make-up (abala-maṇḍana).  

Again the poet refers to the Kalpavṛkṣa ‘madhu’ named ‘anaṅgadīpaka’ (also called ‘ratiphala’ in Meghadūta II, 3) which was served in cups of scarlet coloured gems (lohitārka-maṇi-bhājana, Kumār. 8. 75). The conception of fine garments produced from the Kalpataru is found not only in Kālidāsa (kalpataru-lambī aṃśuka, Kumār. 8.71), but also in Bānabhaṭṭa who refers several times to the ‘Kalpadruma dukūla’ or the ‘Kalpalata dukūla’ which was diaphanous and transparent like the slough of a snake and so light as to be tossed about even by the air of human breath (धीरे निःशस्यहैं निर्माणकृत्यनीं कलपलतादुकुलं, Kādambarī text, ed. Vaidya, p. 201, 206).  

(१) बासिन्द्रम शनिःविन्यासारित्वायसद्वाच तथा कर्त्तुवेन विश्वषेठित्वार निध्वान।  
धीरे निःशस्यहैं निर्माणकृत्यनीं कलपलतादुकुलं, कामाक्षेत निध्वान। ||  
Magha. II. 11,  

2. From the above literary tradition we find that the Kalpavṛkṣa was considered as the source of the following objects of decoration and enjoyment:

Garments: ‘kalpatarulambī aṃśuka’ (Kumār. 8. 71); ‘citra vāsa’ (Magh. II. 11); ‘maṅgalya kṣauma’ (Śak. IV), ‘Kāśika’ cloth and blankets of Uḍḍiyāna or Gandhāra country, known as Pāṇḍukabala in the Jātakas and in Pāṇini.

Cosmetics for the body and feet: ‘lakṣārāga’, ‘visīchita’, etc.
Wine and drinks: ‘madhu’ (Magh. II. 11); ‘anaṅgadīpaka’; (Kumār. VIII. 75) and ‘ratiphala’ (Magh. II. 3); ‘mahārāhū pānā’ (Kiṣkindhā, 48. 49); ‘maireya’ (Vāyu, ch. 45).

Beds: ‘citraśaralaṭavanti śayanāni’ (Kiṣkindhā, 48. 47).
Garlands: ‘manāḥkānta mālya’ (Kiṣ. 48. 47).
Food: ‘vīdīḍha bhakṣya’ (Kiṣ. 48. 48); ‘bhau sālimaṇḍana’ (Jāt. IV. 352).

Maidens and Couples: ‘guṇasampāmā rūpāyavanalakṣitā striyaḥ’ (Kiṣ. 48. 48); ‘nārīyo saṃśaṅkaṭa’ (Jāt. IV. 352); ‘mithunāni’ and ‘apsarasopamāḥ striyaḥ’ (Bhīṣma. 7. 8).

Water in regaling streams (Mahāvīra Jāt. IV. 351).
ON THE CANONS OF IMAGE-MAKING
PIŃGALĀMATA, CH. IV

by P. C. BAGCHI

I

A few years ago I published and discussed a chapter of the Tāntrik text entitled the Brahmayāmala-tantra which deals with the canons of Brahmanical iconometry (‘Journal of the Indian Society of Oriental Art,’ 1935). I had taken a copy of the text from a palm-leaf manuscript in the Durbar Library of Nepal dated 1052 A. D.; I had also copied another text of the same school, the Piṅgalāmata, of which a chapter also deals with the canons of image-making.

The present text is called Piṅgalāmata. The manuscript which is preserved in the Durbar Library of Nepal is on palm-leaf. It was copied in the Nepal Samvat 294, i.e. 1174 A. D. during the reign of King Rudradeva (Samvat 294 Caitra-Śukla-puṇḍamāsyaṃ samadine uttaraphālguna naksatre śrī-parameśvara-paramabhaṭṭāra-kā-mahārājādhirāja-śrīmad-Rudradevasya vijaya-rājye śrīmad-mahāvijayakarathiyāyāṃ śrī-candana-manḍapī-rāthyā-nivāsina śrīśivācarya-vijayadhara-varmeṇa likhāpitam lekhaka Paśupatinā likhitām). For a further description of the manuscript see H. P. Shastri, ‘Catalogue of the Palm-leaf manuscripts, Nepal II’, p. 69 and Bagchi, ‘Studies in the Tantras’, p. 7, pp. 105-109. The colophon of the manuscript throws light on the reign of King Rudradeva about whom we know very little. Rudradeva was on the throne for a very short time. He abdicated in favour of his son, became a Buddhist monk and lived a retired life in a Buddhist monastery. He ruled sometime between Nepal Samvat 286 (≈1166 A. D.) and Samvat 296 (≈1176 A. D.). Our manuscript gives for the first time a positive date for his reign.

The Piṅgalāmata is a supplement of the Brahmayāmala. I have tried to show elsewhere that the Piṅgalāmata and the Jayadrathayāmala
presuppose the existence of the Brahmayāmala. The Jayadrathayāmala is mentioned in a Kambuja Inscription of 802 A.D. It must have been composed in the 6th-7th centuries A.D. The Brahmayāmala belongs to an earlier period. The Piṅgalāmata belongs to the same period as the Jayadrathayāmala (‘Studies in the Tantras’, pp. 7ff). In the same connection I also tried to determine the age in which the eighteen Āgamas of the Śaiva school had come into existence. That age was not later than the sixth century A.D.

I am unable to say as yet what was the exact relation between the South Indian Śaivāgamas and these earlier Āgamas some of which are still preserved in very old manuscripts. Gopinath Rao utilised for his study of Indian Iconography and Iconometry only five Āgamas, viz. Suprabheda, Kāmika, Kirāṇa, Amśubheda and Vaikhānasa. Of these only, the Kirāṇāgama, belongs to the list of the eighteen old Āgamas but even then it is difficult to say without a comparative study if the South Indian Kirāṇāgama is the same text or a later version of it. The tradition however must have been the same.

The Tantras therefore deserve a closer attention than hitherto paid to them for our study. As they were directly concerned with the worship of deities the canons of measurement of the images of Brahmānical gods and goddesses must have originated with them. Non-sectarian texts had much less interest in them and whenever they give such canons they borrow them from the sectarian literature. Dr. J. N. Banerjea in ‘The Development of Hindu Iconography’, pp. 336 ff., would however attach greater importance to the Bṛhatasamhitā than to the Āgama literature in matters concerning the canons of image-making. The Bṛhatasamhitā was compiled towards the middle of the sixth century and Utpala’s commentary on it in the 10th. It is not known how far Varāhamihira was responsible for the composition of the whole of the Bṛhatasamhitā including the section on the canons of Iconometry. It does not mention the ‘tālamāṇa’ or the measurement by ‘tāla’ whereas, all other works including the Tantras give details on the ‘tālamāṇa.’ This is an argument which Dr. Banerjea puts forward in favour of the priority of the Bṛhatasamhitā. But Utpala also, who did not write before the second half of the 10th century, does not mention the ‘tālamāṇa’. The Śaivāgamas are certainly older than the 10th century. There is a manuscript of the
Kiranāgama dated 924 A.D. and another of the Pārameśvara-tantra dated 859 A.D. ('Studies in the Tantras', p. 5, n. 1). There is a manuscript of the Kubjikātantra in the collection of the Royal Asiatic Society of Bengal written in the late Gupta script (6th-7th cent.) and the Kubjikā, according to the orthodox Tantrik tradition is much later than the Āgamas. The tradition of the Tantras therefore seems to be much older than hitherto admitted. The materials for the iconometrical portion of the Brhat-sūmhitā must have been drawn from the sectarian literature like the Tantras.

Chapter IV of the Piṅgalāmata deals with iconometry as well as with the iconography of a number of gods and goddesses. The chapter is entitled Pratimādhikāra. The iconometrical portion, as will be found from the summary of the text given below, is more comprehensive than the corresponding chapter in the Brahmāyāmala. It gives two kinds of measurements: one is called the 'dvāramāna' or the measurement according to the height of the temple doors and the other is called 'karamāna', or the measurement according to the length of the arms.

The doors of a temple are of three types: the door of minimum height, that of medium height and that of maximum height. The images accordingly are also of three types: Kanyasā, Madhyamā and Jyeṣṭhā. This is the 'dvāramāna' measurement and it was followed in the case of the bigger images. Of the three types only the first is described by the Brhat-sūmhitā and the Hayasīrṣa Pañcarātra. According to our text the height of the Kanyasā variety of image is to be determined thus: "Divide the height of the smallest door of the temple into 8 parts. Leave out one part and divide the rest into three. (Of these three parts again) leave one for the pedestal. The image occupies the remaining two". The pedestal is therefore \((1-1/8)+3=7/24\)th part of the height of the smallest door and its double, the height of the image, 7/12th part of its height. The Hayasīrṣa Pañcarātra which is quoted by Dr. Banerjea expresses this in the following words "the height of the door (shrine door) should be divided into 8 equal parts, two of these parts should constitute the height of the image and one part of it divided into three parts, the height of pedestal, which is neither too high nor too low".
dvārocchrayasya yanmānamsatadāh tattu kārayet/
bhāgadvayena pratimāṃ tribhāgī kṛtvā tat punah/
pindiṅkā bhāgataḥ kāryā nātinīcā na cocchritā\

The passage seems to be defective so far as its meaning is concerned. A second line has been dropped and that contained instruction about leaving 1/8th of the height of the door. Otherwise two parts of eight divisions would be meaningless. The instruction concerns only large images. But even if we take the door of the shrine as 16 ft. high the image would be only 4 ft. The instruction on the measurement of the pedestal also is meaningless.

The instruction contained in the Brāhmaṇaḥ in this regard is clearer:

dvāgāra-dvārasyaastāmsonasya yastrīyoṁsah/
tat pindikāpramāṇam pratimā taddvignaparimāṇa\n
Dr. Banerjea translates it thus: "The height of the pedestal of the image should be three parts of the height of the shrine-door less the 8th part when the latter is divided into eight parts and the same of the image should be twice the height of the pedestal". The translation requires a little modification: "the height of the pedestal of the image should be 1/3 of the height of the shrine-door less the 8th part. [i.e. (1-1/8) ÷ 3 = 7/24th part of the door] when the latter is divided into eight parts and the same of the image should be twice the height of the pedestal (i.e. = 7/12th part of the door)"] This perfectly agrees with the instruction contained in the Piṅgalāmata.

This clearly shows that a very important line has been dropped from the passage of the Hayaśrīṣa Paṇcarātra. This line may probably be found in the Matsyapuruṣṇa as quoted by Dr. Banerjea (ibid. p. 354, n. 2): 'bhāgamekam tatastaktivā pariśiṣṭantu yad bhavet'. The passage of the Hayaśrīṣa Paṇcarātra would then stand thus: "the height of the door is to be divided into 8 parts. (Leave out one part and divide the rest into three portions). Two of these should constitute the height of the image, the other, that of the pedestal".

We have been so far speaking only of one type of image which is measured according to the height of the lowest door, the Kanyāsa. The other two varieties, the Madhyāma and the Jyeṣṭhā, are not referred to in the sources described above. They are measured, as will be seen
from the text, according to the heights of the middle-sized and the highest doors of the temple.

The classification of the images according to 'dvāramāna' into Jyeṣṭhā, Madhyamā and Kanyasā is not known from any other source. It may have some relation with the threefold classification of images into Pravara, Sama and Nyūna as given in the Brāhmaṇa but its basis of measurement is different. The threefold classification of the Brahmayāmala into Divyādhika, Divya and Divyādīvya is similar to the classification given in the Brāhmaṇa. The classification of the Brahmayāmala is based on 'tālamāna'. The three classes of images mentioned in it are respectively of 11, 10 and 9 tālas, i.e. 132, 120, and 108 aṅgulas in height. The later tālamāna classification into Uttamadaśatāla (124 aṅg.), Madhyama—(120 aṅg.) and Adhama—(116 aṅg.) is based on the same principle.

It is clear that the threefold classification of the Piṅgalāmaṇa into Jyeṣṭhā, Madhyamā and Kanyasā is not based on the 'tālamāna'. Although the Brāhmaṇa does not mention the 'tālamāna' its Sama class seems to be the same as the Divya of the Brahmayāmala (120 aṅg.) and the Madhyama-daśatāla of the later texts (120 aṅg.). This is the normal measure in all the three cases. The other two are determined in relation to it, Nyūna, Adhama or Divyādīvya being inferior to it in measure and the Pravara Uttama or Divyādhika being superior to it in measure. But so far as the classification of the Piṅgalāmaṇa is concerned there is no such common basis of measurement. Each of the three types, Jyeṣṭhā and Kanyasā being independent of the other and the basis being one or other of the three types of doors.

Whether the Brāhmaṇa mentions it or not its classification presupposes the 'karamāna'. The 'karamāna', the measurement according to the length of the arms, is also mentioned in the Piṅgalāmaṇa. It says that the 'karamāna' may be taken both as an absolute and a relative unit of measurement. In the former case 'trasareṇu' is the theoretical unit. It is defined in our text as those particles of dust which may be seen when the rays of the sun fall in a shady corner (malāntaretāte sūrye ye dṛṣṭāstātrasareṇavaḥ). The Brāhmaṇa uses the word 'paramānu' instead of 'trasareṇu' but it defines the word almost in identical language: Jālāntaragatāte bhānau yat sūkṣmaṃ dṛṣyate rajaḥ/ prathamaṃ tat prāmāṇam
paramāṇu pracaṅkṣate” // “the subtle particles of dust that are seen when the sun’s rays enter a cobweb are called paramāṇu—the very first unit of measurement”. But this is not Varāhāmiśra’s own definition. He has taken Manu’s definition verbatim (‘Manusaṁhitā’ VIII. 132) : ‘jālāntaragate bhānau yat sūkṣmam drṣyate rajaḥ / prathamam tat pramāṇam trasareṇum pracaṅkṣate /’. Varāhāmiśra has substituted the word ‘paramāṇu’ for ‘trasareṇu’ of Manu but the Piṅgalāmata is faithful to the old tradition.

In the ‘karamāṇa’ measurement of the Piṅgalāmata ‘kara’ is the highest unit. It is 24 ‘aṅgulas’. The word ‘tāla’ is given as its synonym. The next lower unit is the ‘vitasti’ which is 12 aṅg. The synonyms of the word vitasti are ‘mukha’, ‘pradeśa’ and ‘ardha-kara’. Although the word ‘tāla’ is known no special importance is attached to it. Another word for kara is ‘hasta’. It is also called ‘saṅkhyā’ in our text.

The ‘karamāṇa’ is also known as a relative unit of measurement in the Piṅgalāmata. According to it 1 ‘hasta’ (kara) is made of 24 of one’s own thumbs: “svaivyāḥ svaiḥ jyeṣṭhāṅgulaṁ (aiḥ?) devi caturvīṁśe tu hastakam”. Dr. Banerjea has drawn attention to various texts which refer to this relative standard of measurement (‘Pratimālakṣaṇam’, pp. 26 ff.). The Pratimālakṣaṇam defines it as ‘svēnāṅgulipramāṇa’. G. Rao defines it as ‘dehalabdha-aṅgula’ or ‘dehāṅgula’ on the basis of texts studied by him, the Śukranītisāra as ‘sva-sva-muṣṭeṣcaturthāṃśa’, and the Brhatasamhitā as ‘svairāṅgulapramāṇa’. Utpala explains the last as the 108th part of the block of wood or slab of stone from which the image without the pedestal has to be carved. This relates to ‘navatāla’ images of 108 aṅg. G. Rao says that the ‘aṅgula’ can be derived by dividing the image into 124, 120 and 116 parts according as it is either Uttama-dāsatāla, Madhyama or Adhama. But how to measure the block of wood and the proposed pedestal? This can be done only in relation to the height of the temple door without having recourse to other units of measurement. But the ‘dvāramāṇa’ measurement was applicable only in the case of larger images.

The ‘aṅgula’ as a relative unit of measurement, may then be the ‘aṅgula’ of the donor or of the artist. But that also leads to absolute units of measurement, divergences in the ‘aṅgulas’ of different men being negligible. These divergences could not be so great as to give rise to three classes of images referred to. From actual measurements of images Dr. Banerjea has concluded that the “dehāṅgula is in some cases the same as
the breadth measurement of the middle digit of the medioius of the images." I believe that the Piṅgalāmata throws light on this point. It says that the 'kara' is 24 times one's own thumb ( jyeṣṭhāṅgula ). This must be taken as the width of the upper digit of the thumb. This method of āṅgula measurement is still current. 'Aṅgula' therefore is the breadth measurement of the upper digit of one's own thumb.

But that also is a relative measurement only in theory. In practice it must have been a standardised unit of measurement. It therefore seems that of the two kinds of 'āṅgula' measurement the 'dehalabdha āṅgula' was used in working out the details of the images of which the height was primarily determined by the height of the temple door and the other the 'svanāṅguli' which was the width of the upper digit of the thumb of the artist or of the donor was in use for the measurement of smaller images. The latter was the same as the absolute 'āṅgula' for all practical purposes.

This is made more clear from what the Piṅgalāmata says about the measure of the three kinds of images, the Jyeṣṭhā, Madhyamā and Kanyāsā in terms of 'karamāṇa'. They are respectively as high as 1080 āṅg., 720 āṅg., and 360 āṅg. Such big images could not be conveniently measured by the standardised 'āṅgula' unit but by the 'dehalabdha āṅgula' of the image only. This could be obtained according to the present text by dividing the height of the image into $9 \times 12 = 108$ portions. This excludes not only the pedestal but also the 'mukuṭa', 'kīrtā' and the 'pāda' ( see infra under 'dirghamāṇa').

The Piṅgalāmata in some cases makes use of words that are indicative of numbers such as: netra for 2, vasu for 8, vāmā for 10, māsa for 12, guṇa for 3, tri-guṇa for $3 \times 3 = 9$, ṛtu for 6, ravi (=āditya) for 12 and paṅkti for 10 (?). Dr. Banerjea has collected such words from the later sources ( 'Development of Hindu Iconography' p. 352, n. 2 ) but none of the words used in our text is found in his list excepting probably paṅkti to mean 10. It should be noted here that the word 'netra' is used here not in the later sense of 3 but designates 2.

II

The Piṅgalāmata begins by giving a description of the trees that are to be selected in the forest for the purpose of image-making. The trees recommended are 'candana, śāla, nimba, arjuna, panasa, śrī-phala,
rakta-candana, simșapă, tindusa, kāma (?), khadira, piyäsāla, sarala,' and 'devadāru'. It is said that the wood selected must be substantial. It must not have knots, cavities or any other defects. Trees which are on the road-side, on the funeral ground or on the barren lands (ukṣita) should not be selected. When the tree has been properly examined and selected, the ground in its front has to be properly cleansed, and a sacrifice to be performed on the spot. The devotee then awaits a dream. As soon as he gets it, he goes to the wood, fells the tree and cuts it into pieces according to the measure of the temple door and then brings it to his atelier (karmaśālā).

1. Dvāramāna—or measurement according to the height of the temple door: Divide the height of the smallest door of the temple into 8 (vasu) parts. Leave out one part and divide the rest into three. (Of these three parts again) leave one for the pedestal. The image occupies the remaining two. This is the 'kanyasā' kind of image.

The 'madhyamā' variety is as follows: Divide the height of the middle-sized door into ten (vāmā?) parts. Leave out one part and divide the rest into three parts. (Of these three again) leave one for the pedestal. The image occupies the remaining two.

Divide the height of the biggest door of the temple into twelve (māsa) parts. Leave out one part and divide the rest into three parts. (Of these three parts again) leave one for the pedestal. The image occupies the remaining two. This is the 'jyeṣṭhā' variety.

2. Karamāna—or measurement according to the length of the arms: When the rays of the sun fall in a dark corner what we see are the 'trasareṇu' or the trembling particles of dust.

8 trasareṇu make 1 ānu
8 ānu make 1 keṣāgra
8 keṣāgra make 1 īkṣā
8 īkṣā make 1 yūka
8 yūka make 1 yava
8 yava make 1 āṅgula
2 āṅgula make 1 kalā
6 kalā make 1 vītasti
2 vītasti make 1 kara.

Measurement by such units is called 'karamāna'. This is the general
definition of ‘karamāna’. According to another opinion 1 ‘hasta’ ( kara ) is made of 24 of one’s own thumbs. The measure of 1 ‘hasta’ or more (?) is called Saṅkhyā. Thus the ‘kanyasā’ variety is of $3 \times 5 = 15$ ‘kara-saṅkhyā’ ( $15 \times 24 = 360$ anāṅg. ); the ‘madhyamā’ variety is of $3 \times 10 = 30$ ‘kara-saṅkhyā’ ( $30 \times 24 = 720$ anāṅg. ), and the ‘jyeṣṭhā’ variety is of $9 \times 5 = 45$ ‘piṇḍa’, i.e. ‘kara-saṅkhyā’ ( $45 \times 24 = 1080$ anāṅg. ). The images of 1 to 12 anāṅg. should be worshipped in the house and the larger images worshipped in the temples.

3. Dīrghamāṇa or measurement of the height

The height of the image is divided into nine portions, each portion is called a ‘tāla’. 1 ‘tāla’ is $6 \times 2 = 12$ anāṅg. Its synonyms are ‘mukha, vitasti, pradeśa’ and ‘ardhakara’. The mukuṭa ( crown ) is two ( netra ) ‘tāla’ ( 24 anāṅg. ). The ‘kiriṭa’ ( crest ) is excluded from the 9 ‘tāla’ measure.

The face is 1/2 hasta ( 12 anāṅg. ), the neck is 2 ( netra ) or $2 \times 2 = 4$ anāṅg. ; the distance from the region of the heart ( hṛt ) to the navel is 1 tāla (12 anāṅg. ); that from the navel to the ‘muṣka’ ( penis ) 1 tāla (12 anāṅg. ); the thigh is 2 tāla 1 kalā ( 26 anāṅg. ) and the shin ( from the knee to the ankle ) 2 mukha ( tāla ) or 24 anāṅg. The knee cap ( jānupalī ? ) is 2 netra ( 4 anāṅg. ), whereas the ankle is also 2 kalā ( 4 anāṅg. ). The foot is 1 golaka ( 2 anāṅg. ), 1 yava. Such is the measurement of the height. It is 9 tāla excluding the height of the foot.

4. Mukha or the measurement of the face

The face is divided into three parts. The first consists of the forehead ( lalāṭa ) and nose ( ghrāṇacakra ). The forehead is 2 golaka ( 4 anāṅg. ) in height and 4 anāṅg. in width. The ears situated at the ends of the ‘apāṅga’ ( outer corner of the eye ) are each 2 golaka ( 4 anāṅg. ) in width. Their measurement is taken sideways. In length they are half of that, i.e., 2 anāṅg. (?). The ear lobes ( udraka ) are 8 yava, ‘kakuni’ ( kakubhi, upper portion of the ear. ) is half of that, i.e., 4 yava. The sides are adorned with ornaments according to choice. The eyelashes ( bhṛū ) are each sideways 3 anāṅg. in length. The space between the two eyelashes is at the root 1 yava. The ends of the eyelashes are like bows and are each $1\frac{1}{2} + \frac{1}{2} = 2$ yav. in thickness.

The height of the ‘nāṣāgra’ ( top of the nose ) is 2 anāṅg. Its sides are
Each 1 yava... The two hollows of the eyes (puṣṭa) are each two angulas (tāraka) in width... The eyes (akṣi) are each sideways 1/2 + 1/4 = 3/4 tāraka, i.e. 1½ ang. in width... The cheek (kapola) on all sides is 4 ang. The cheek (gandha) should be raised to 1 tāraka, i.e., 2 ang. and 1 yav. The jaw (hanu) is 6 ang. in length and 1 golaka (2 ang.) in width. The hollow (garta?) is 1 ang. and the 'goji' is 1/2 ang. It is also called 'adha' (? i.e. lower point of the chin). The 'adhar' (lower lip) is 1 angula (netrārdha). Its outline (rekhā) is ½ yav. in width. The 'uttara' (upper lip) is 3/4 ang. and its outline (rekhā) is 1/2 yav. in width. The space between the two lips is 2 yav. The 'ṅṛṅkāra' (the lateral ends of the mouth) are each 1 yav. The width of the mouth is sideways 4 ang. The upper 'goji' below the nose is 2 yav., it is 1/2 yav. in width.

5. Sections of the face
The face (vāktra) is divided into several sections. The first is the hair-line (keśa-sūtra), the second is the line of the septum of the nose (vamśa-sūtra), the third is the nose-line (nāśa-sūtra) and the fourth is the chin-line (cibu-sūtra). The ears and the 'āpāṅga' therefore are included in the upper section. The fifth is the Brahmāsūtra which is the line of the joint of the eye-brows, the chin and the top of the nose. The hairy part of the head measures, from ear to ear, 8 kalā, i.e., 16 ang. The hair line (keśa-sutra) is 9×2 = 18 ang. (nava netra).

6. The vertical sections of the body
The middle line (madhya-sūtra) connects chin, heart, navel and the end of the 'muṣka'. There are two other lines, from the 'kakunis' to the nipples of the breasts. The two horizontal lines of the armpits are each 5 sankhyā (tāla), i.e., 60 ang. The nipples of the breasts and the middle of the heart; the navel and the hips (kaṭi) are in one sidewise line. The 'kūrparas' (middle of the arms) are removed from this by 1 kalā (2 ang.). The knee, the ankle (gulpha), and the end of the foot (pāḍāgra) are in one line.

7. The parts of the body (pratyavayava)
The distance from the neck to the top of the shoulder is 1/2 hasta or 12 ang. The space between the top of the shoulder and the armpit is 8 golaka, i.e., 16 angula. The upper arm (bāhu) is 6×2 = 12 ang. (śāntetra)
from its root. The inner side of the upper arm is 11 aṅg. (rudra). The lower arm (upabāhu) is $9 \times 2 = 18$ aṅg. in length. The joint of the two arms (sandhi) is $\frac{1}{2}$ golaka, i.e., 1 aṅg. excluding the sidewise measure. The sidewise measure of the lower arm at its back is 2 aṅg.; at the root it is 2 aṅg. 7 yav. (netra...muni yava). 'Aprabāhu' is sidewise 4 aṅg.; the 'kalāpi' is 1 aṅg. and the 'sandhi' (joint) is everywhere 3 times the former. So far about the lower arm.

Now about the fingers. From the wrist (manibandha) to the end of the fingers it is 1 tāla, i.e., 12 aṅg. The kara (? palm) is 7 aṅg. sideways in the middle; at the root it is 5 aṅg. 5 yav. (bhūta yava). Its width, higher up, is 6 aṅg. The middle finger is 5 aṅg.; the 'anāmā' (ring finger) and 'tarjāni' (forefinger) are each $5\frac{1}{2}$ aṅg.; the little finger and the thumb are of equal heights, $3\frac{1}{2}$ aṅg. each; the space between the forefinger and the thumb is 1 golaka (2 aṅg.). The length of the fingers is to be determined with reference to the 'deśini' (i.e., 'tarjāni' or the forefinger).

The root or 'granthi' of the middle finger is 2 yav.; its two middle digits (parva) are each 1 kalā less 3 yava, i.e., 13 yava. The other two digits (parva) are each 1 kalā less 4 yava, i.e., 12 yava. Each of the upper 'granthi' (knots) is one portion less than the previous one. Of the 'tarjāni' and the 'anāmikā' the knots at the roots are equal. The first digits are each 12 yav.; the second knots are $1\frac{1}{2}$ yav. each; The middle digits are each 11 yav.; the upper knots are each one portion less than the previous ones. The upper digits are each 10 yav.

The first and the middle knots (granthi) of the little finger (kaniṣṭhā) are each 1 yav.; the upper knot is $\frac{1}{2}$ yav.; The middle digit is 8 yav.; the lower and the upper one are half of that, i.e., 4 yav. each.

The knot at the root of the thumb (ānguṣṭha) is 4 yav.; the first digit of the thumb is 11 yav.; the second knot is 4 yav. and the upper digit is 12 yava.

The periphery of the first digit of the middle finger is at its root $3 \times 3 = 9$ yava (triguṇa). The middle digit is 1 yava less than that. That of the upper digit is 2 yava less than the middle one.

The periphery of the 'tarjāni' and the 'anāmā' is at the root $3 \times 3 = 9$
yav. each; in the middle 1 yūka less than that. The periphery of its upper digit is 1 yava less, i.e., 8 yava.

The periphery of the little finger at the root is 3×3=9 yava; that of its middle digit is 2 likṣā less and that of its upper digit 4 likṣā less.

The periphery of the thumb at the root is 3 kalā (i.e. 6 añg., or 48 yava); that of its middle digit is 2 kalā 2 yava (34 yava). It is 1 yava or 2 yavas less gradually as you go higher up.

The nails are to be made at the ends of the upper digits. They are a little depressed at their roots and raised in the middle. They have the colour of the morning sun and are sharp like steel. They are to be made nice looking.

In the second place make the arms below the neck. The two breasts are 6 (ṛtu) golaka, i.e. 12 añg. in a little sidewise line (from the arms) on the right and on the left. The two waists are 3 kalā, i.e. 6 añg. in a sidewise line. The upper part [of the thighs?] is 1 tāla, i.e. 12 añg.; the distance of the middle line (madhyasūtra) from it is 3 golaka, i.e., 6 añg. The 'madalas' are 2 yava each; the middle of the chin 1 yava; from the heart line up to the chin 4½ añg.; below the breasts 3 añg.; the two sides up to the waist line are 3 kalā, i.e. 6 añg.; from the heart line the sides (?) are upwards 3 kalā, i.e. 6 añg., and downwards 3 kalā, i.e. 6 añg.; the middle is 5 añg. sidewise up to the breast line. Such are the spaces between the two waists on two sides. The sidewise measure up to the end of the waist line is 5½ añg.; higher up it is 2 kalā, i.e. 4 añg. up to the middle line.

A line has to be imagined through the middle of the navel and the penis. The two sides are each 3×2=6 añg. distant from this line. The navel is a 'dakṣināvarta' ring; it is 1½ yav.; the two testicles are 2 añg. in length; their periphery is 2 kalā, i.e. 4 añg.; the penis is 2 golaka, i.e. 4 añg. in length. Its periphery is 3 kalā, i.e. 6 añg.; at the middle and the end it is 2 golaka, i.e. 4 añg. The thighs are at the root 1 tāla, i.e. 12 añg. in width. Up to the knee it is to be divided into 12 (ravi) parts. The width is 1 añg. less in each section than the previous one; so, at the end it is 3 kalā, i.e. 6 añg. in width. The circumference is everywhere three times of it and the sidewise measure is 2 golaka, i.e. 4 añg. The joint (sandhi) is 1 añg.; its periphery is 11 golaka, i.e. 22 añg.; below it
the shank (jaṅghā) is raised by 10 (paṅkti) kalā, i.e. 20 añg.; in the middle its periphery is 12 kalā, i.e. 24 añg.; the lower portion is divided into 10 parts; in each part 1 añg. is left out so that at the end it is 7 golaka, i.e. 14 añg.; the foot, in the middle, is 2 kalā 1 añg., i.e. 5 añg.; the forefoot (agrapāḍa) is 3 kalā, i.e. 6 añg.; the heel (pārśnika) is 2 kalā, i.e. 4 añg., the spaces between the gulpha (ankle) and the heels are each 2 kalā, i.e. 4 añg.

The big toe (aṅgustha) is 3 añg.; the ‘deśini’ is less: the ‘madhyamā’ is 1 kalā 6 yav., i.e. 18 yava; the ‘nirṇāmā’ is 20 yava, and the kanyā is 18 yava. The five toes together are 6 añg. (in width?). They should have the appearance of a serpent’s head. The protuberance (unnāha) of the big toe is 5 añg.; that of the ‘deśini’ is 3 añg., that of the ‘madhyamā’ is 3-3 añg. = 21 yava; that of the ‘nirṇāmā’ is 18-8 yava and that of the ‘kanyā’ is 16 5/64 yava.

The height (periphery) of the head is 36 añg.; the periphery of the thigh is 50 añg.; that of its lower portion is 42 añg., that of the navel region is 23 kalā i.e. 46 añg. Below it the periphery is 24 kalā i, e. 48 añg.; that of the waist region is 50 añg. Its appearance should be beautiful.

8. Images of irregular proportions

So far the characteristics of the images of compassionate gods only have been described. There are also images of irregular proportions. Irregular lines are to be conceived in their case (viṣamam śutrakalpanā). They are to be determined according to their positions. Their weapons are the bow and other things. They have for seats the lotuses and other symbols. They may be either standing, lying down or in an oblique position. They may be deformed, dreadful, goblin-like, hump-backed, of confused strength. This includes also those that are placed at the beginning of dramatical performances with some purpose. The images of such deities and of many others, tall, short-statured and emaciated are irregular images (viṣamam).

9. The images of female deities

[The instructions are of a general character and need not be summarised here. Some portions of the text are also very corrupt and cannot be followed.]
III

THE TEXT.

श्रीमण्डले नामः

पिढ़ोवाच

वनासुपवनें देव कार्य्यवने (?) तु सुचितम्।

तत् कष्टं विद्याधीवाहि वृक्षाञ्च लक्षणं यथा॥

व्यक्तानां लक्षणं नोक्तं मानोमानाध्यायः।

कामैं कर्मणि सौम्येऽ च कर्मं तत् क्रियते विमोऽ॥

मैरव उवाच

वनासुपवनें देवि प्राचीवेदो धार्मिकः॥

ततावलोकणेऽ वृक्षान्त प्राचार्यः सु यथिनिः॥

चन्द्रं चन्द्रं बृह सार्वं निम्बार्जनं महत्।

पनसं श्रीवल्ला बृहि रक्षचन्द्रः शिशा॥

किन्नुसा खाम-खविरा पीयासाँ तथो च च।

सरः देवदार्श च येस चाथ्ये सारस्मियाः।

निर्देशा प्रस्थिताद्वत हीरकोशर्वज्ञाः।

उपे बालिका के जाता भिटे जाता यदोऽस्मिः॥

बुज्जन्यं हृते तथा वेदावेदा वाचस्योऽविष्कित:॥

सुपरीक्ष्यं हुं भाद्री सुहुं व्याचिक्षित:॥

तस्माचास्ततं समं क्षत्रव भूम्यं बलेन देशेपते।

जपन्तं स्तं कुर्वित्त यथायोग्यं दुर्वायम्त:॥

दुं च वन्या संच्छादः होमं कुर्वतो शालितः।

द्विविधाः ततो दुष्टान्तां भावेते स्थानवासिनः।

छों श्रीमोक्तनमतस्तुस्तु (?) दशसंसधनन्ते।

संकाम्यविद्यति स्थानादुपवधान्मोचयम्॥
अन्य श्रीमान्विवादार (२) गृहस्वामीप्रेमदिवेश
युध्यां संकामितो भवति।
हर्षकुश समय सजलः स्वेदः वै प्राग्विवादानः।
ऊँ श्रीः हृः हृः चीपः। समामाणवः।
कथेत ख्रां प्रभाते तु पूर्ववेदविशिष्ठा प्रिये।
तीक्ष्णायसमय गुहा कुदारे चाल्मण्डितम॥
पुत्राको चूलुनिन्मयैः तस्य तु मन्त्येत।
आदिः चुचिकिर्ति इत्या बक्षांगों शिरपदाक्रम॥
अंगः शिरोदः पादः स्थादः पारः उच्यते।
प्रासादस्य यथा ह्वां तथा चक प्रकट्येत॥
प्रागोऽरोचशः पात्यः सोभ्यमकर्तियिमि॥
पत्रे ते यान्य चुनीं कर्त्तव मन्त्रे न देशिक।
ढो नमः श्रीवाय नमो नमः।
सा याश्वपण खाहा पत्रे ते यान्य विचार।
शाखाच्छेदे कुछ पक्षाधारी मांगविविक्ष्यन।
कामशाश्वां च आगीते आकारकण भवेत।
अद्वैतं वा प्रक्ष्ययं व्यक्ताचें तथे च च।
पूर्ववेद विचाराणेह स्मरणेत तत्र कौतितम।
व्यक्तं वाप्रक्ष्यं व्यक्तं कर्त्तवं ददुप्रक्रम॥
द्विषयेत तत् समाध्यायं द्वारहस्तकरतात्मन।
प्रसरामानि प्रक्ष्यं द्विषयेत तत भाषणम॥
प्रासादस्यामि द्वारं वसुमहामहमक्तोद्वयम।
भागनेकं परिश्वयं पुनः श्रेष्ठं दिया तुषः।
एस्ये पीठगतं कर्त्तवं हिमानं प्रतिमा भवेत्।
कालकीं समाध्याया मध्यमा श्रृणु सामाधाय॥
"सामाये मांजितं द्वारं महां व्यक्तं युनयुः।"
भागेवेत् भवेत् पीठं हिमागातु प्रतिमोर्यते।
प्रासादेत्रस्यामि द्वारं गुणाकरत्ये वर्षम॥
एस्ये पीठगतं कर्त्तवं हिमानं प्रतिमा भवेत्।
मार्गे येत्ता समा विषया कर्मणं तथोर्यते।
मलान्तरगते सूर्येन ते त्रावा रजमान्तः रागव्यः तुर्य-ञाप्तः चित्रीयते। वायुकां प्राप्ते केषाने तु तद्दानम्। केषाने स्तेस्तु दीक्षाम्। लोकानं तु समवेत यथा युक्ति स्यतं कल्याणः। खण्ड अर्थात् कर्मायेत्। खण्डं तेन मानेन या संख्या करसङ्क्रमणे। शान्तः सामात्य तहु्यानिर्धारी कर्मानमातीकत्वः। शैवः र्याहः होऽ तेहि चतुरां श्रेे अतु हस्तकष्टम्। अफळहस्तातू समर्थं नवानं यावा त्रिंगमरां। लिङ्क्यमन्मभवां तत्तत् संख्या प्रकृतिः। तिम अग्रप्रतिमां निद्रा देविः यथा भुतं। शुद्धकर्मचारं संवादं महाप्रतिमकन्यसम्। तितर ज्ञाने तिवा देविः चतुरां श्रेे अतु हस्तकष्टम्। अणुपढातु समारण्या यावत् तदु नाय्यांगुणम्। गुढे तत्व पूर्णेत् मध्ये उद्द्रालं भवेत्। ग्रामनां तु यहुः कर्ममानु पूर्णोपि वा। तेषां यत्व द्विंद्वमान स्वातं सर्वम्प्रक्ष्यते। नवानं यथा नवानं नवानस्वातं। प्रणेेंः को भवेत्। पर्यायं तस्य तत्तत् चोच्यते। वर्ती तात्तं मुखे वितरितं च प्रदेशाधिकरं च। प्रण्णं अघुः चावितस्यं तः। प्रमाणाद्विन्धोऽये। नेवयुक्तांदुंकेन किंसीत्वं तैततिक्यः। हस्तादुः भवेन अतु दिनेति गात उष्णेः। हस्तादुः तथा नामि मुक्तां तातात्तमिष्ठा। विश्वं कथिन्यं वित्तात स्यायूः। अग्नं मुक्तेः। तेन होरे च कर्मेऽ जातांद्रोवः दिनेति। कृष्णाः गुही कालाये हर्ते पावधी वायु हर्ते। सार्वतेः श्रेयसः समग्रर्वेः। यवाचक्राये विनिर्दिष्टी द्विंद्वमानं प्रकृतिः। तम। सजूदः तत्त्वम् तेन नवानं पार्वती तितुः। श्रीकृष्णः
मुख्यं विभाजितं काव्यं छत्राण प्राणचक्षुम्।
धीं ही धी गोदकमाणेन दीवरचैत्यां तु झुनूर्।
मिलता तिनकं छत्राण आपत्तिपुरुषम् युतमानं
आपि नैवाति। स्थिति करणं सबस्तिपाति शीघ्रनका नीन्दः
दीय तेन तदर्थं स्यादृ तिर्यकम्। नियन्त्रणे तथा
वो यथा कालं वचनं करक्षणं कुष्मण्ये भवेद।
पाणि श्लोककाली यक्षस्य यक्ष महाभागात्
साल्कारी तु पाणि स्यादृश्चायतंतु वरुणात्
वो छत्राणं सुवोमणं तिर्यवर्धृतं तिरुगं वंभ
तदन्तरं कलाणं स्याते। सुरूले रुपमे ववव्रतं
साणं यवाणं तन्यङ्ग भवेद नायकया।
वषोऽो लोचनेनाशयं पाणि च सावधी भवेद।
ज्ञात्विद्विज्ञावाही सुधा तारुविनुस्तूति
वो पुनान्ते भ्रांग दीर्घ च चापाद्वः सद्भार्य शुभे।
वचनान्ती। कम्बांवर्णं भं न भास कुछात्सोचरं (॥)।
वाणां भ्रमणं मन्त्रे तरं तु निन्द्रयम्
तिर्यवर्धृतं लोक्ष्मिनी कार्यं नेत्रवावधं विस्त्रते।
भौ तारावतर्कं दृष्टि ज्ञेतृवस्योत्तिरूपते।
यवावदोऽऽऽ गोरेखा तस्यायाद्विगाममेवत्
मानोभवने कार्यं तदर्थं च यवाववत्।
महस्तु तु कपोलायां समतावस्तुतुर्गुलम्।
तस्य सर्वथितं प्रकर्षणं सबां तारावतर्कं
हरस्य। गुले द्रेष्येऽर्गं चायमां मर्मे भवेद।
अं गुलेन स्वरूपी। गोरेखों गोरेखों तदाद् मयूरे।
अन्वं संहार च तस्यवर्तमानं नेत्रवादं चापां विशुः।
रेखा तस्यवर्त तत्र करणं यवाणं न तु झुनूर्।
वहं शुलीसृोऽऽऽ तु यववस्तुस्य रेखा।
तदन्तरं विवधं भद्र स्वस्तकणं तथा यवम्।
चतुरं गुलं तु विस्तारं तितंवक्तं प्रकृतितम्।
उद्ध गोधी तु नासापो हिरवं चाहि। बिश्वतम्।
उद्ध गोधी तु नासापो हिरवं चाहि। बिश्वतम्।
तुर्यसुलिपतितेन तितंवापानेन वक्तरं।
प्रथमं केशुलं तु हिरवीं चाहि। उद्ध।
नासापो तु चतुरं चित्मुक्तस्य।
उद्धं तदवं प्रकृतिः कर्णतं चापामोर्वपि।
महीन्द्राणीं चित्मुक्तस्य पश्चमं ब्रह्मस्य कर्मम्।
केशुलं वा हिरवां। कर्णतं।
केशुलं चापामोर्वपि।
सुभायंविद्यं सत्यं। शरीरात्मकं।
चित्मुक्तस्य पश्चमं सुतं। उद्धं तु मद्यः।
कर्णदिनेशकी च सुवधां प्रसाधेत।
कशी कर्ती तथा हे च पश्चात्येव गा सिखता।
शिष्यर्वं तस्मीं हुमानमे। नामी। कर्ती प्रसाधेत।
तितंवक्तं तथातुलं सुर्यरे। कर्ती कर्त्यं।
अजुनी च तथा गुलं। पादाम हुस्यस्याः।
समसुप्रत्यं समस्यं च गुलं।
प्रीत्यं आद्यं। करोधस्तस्य।
स्थानं आद्यं। करोधस्तस्य।
अंत्यं। या करोधस्तस्य।
उपवाहस्तु। दशं। नवनेत्रां।
गोळकान्तं। भेद्यं।
संपीत्यं विभावस्यायानितं।
तस्मिनं बोपवाहस्तु। नवनेत्रां।
गोळकान्तं। भेद्यं।
आपवाहस्तु। बोपवाहस्तु।
करोधस्तु। भेद्यं।
उपवाहस्तु। समायतं। करी समस्यायान।
मणिवण्टः पाठातं। कर। भागुसंस्कारं।
वें धनं विकलं तद्यथ चिन्ने दीया विरोढकम्।
लक्ष्यं वें धनं तद्यथ अरो विरोढकम्।
तां स्मृतं भवे दृष्टि महेश्वर तु विस्तरम्।
तस्याः रविवर्ज्ञो यावजात्वान्तगोचरार्।
मूलादरं गुरुं त्यज्य भागे भागे प्रक्षेपयेद।
तावद्व यावद्व भवे दृष्टि गोकलकलमेवहि।
संयोगे संयोगे तन्त्रगुणोज्जाहः तिथिपताः दिगोतिक।
सन्तिरेनकुला तल वेंश्न दद्रोहकले।
तस्याचस्तात् कठारं क्षणति नाहों जंगा प्रकाशितं।
मध्ये सूर्यक्षे नाहस्तस्यायो दयामालितम्।
न्यैिकमंगलं त्यको नाहस्त्वात परस्परम्।
तवद्व नामं मन्त्रेत् तिथिम् सांगुलं विकलं पुनः।
विकलं चापिप्राप्ते तु पारिष्ठं क्रिकंतु कुष्ठं।
न्यैिकमंगलं नान्तरक्षेत्रीयं विकलं तद्विष्ठः।
सत्सघ लंभुः गुणस्त्रीत्रो देशिनी मन्त्रेत्
रसयक्षा मध्यान्तरमो विचारितवाच।
वायुक्तवाचः कथ्या दीर्घ मानसुद्राहतम्।
न्यैिकप्रमाणे वेप्राप्ते मूलांतु तत्तोष्ठ तः।
दृष्टि वें धनं पुनः पश्चात्ततः शिरो यथा।
देशिनी लंभुः लंभुः शेयावान भगु साम्राज्म्।
पुनः लंभुः लंभुः शेयावान भगु साम्राज्म्।
तज्ञांशुभोयस्तु मध्यान्तरक्षेत्रीयं विचारित।
मध्यान्तरक्षेत्रीयं विचारित।
अनात्मानं हिन्दुस्तु कन्यानं’ प्रक्षेपयेद्।
सत्सघ लंभुः सत्सघ शिरो यथा।
लंभुः देशिनी लंभुः शेयावान भगु साम्राज्म्।
पुनः लंभुः शेयावान भगु साम्राज्म्।
पञ्चविशेषितमण्डैशाः सब्रेण’ मन्त्रेत्।
पञ्चविशेषितमण्डैशाः सब्रेण’ मन्त्रेत्।
लयोश्रेणियांतः नाही तस्याचार्यिण्यां शाखांपणे। प्रकाशादृश्येकारणो नाही कार्यमयीकोणी यथाशुरूः। खूलां सुक्लां अत्या यथार्थानस्तिपाणं। मित्रास् कलवीरी हु पुनः तुर्यज्ञमेषुप्रक्षेपं च। शूलां च वयसंक्षिप्तम् समसुगुह्यादृशयाः। प्रतिमायोऽस्मिन्व देवि विषम लघुकलंकनः। श्यामकैते निर्मितिकिर्म्या सार्वोपि बहुमात्रितां। आसनलयां च पदार्थां दुराहान्तव च सुविषयं। विहताः कृष्णेतरां कुज्जा विद्वान्वितिकोणमाः। नास्त्यारम्भित्यां चानुया यथार्थावेदार्थः। प्रभावास्त्वेकारणं दैर्घ्यस्तगुस्तास्तु निर्त्याः। विषमास्ति निर्दिष्टैर्या वास्तववर्ता समासिनः। विश्वाधर्मिकां अवस्थापितवार्षिके् विश्वासर्वार्थाः। तत्त्वं वैद्यास्त वाणिज्यं उच्चवर्त् वाणिज्यं च। कार्यमयी कर्मयेवार्हं जधने विस्तरं यत। मध्यवैद्यास्त वाणिज्यं तिथं कार्यगंगुलं यथा। स्तनीमें ही कार्यपेतु इत्यस्मातसहायं तुलकशी। कन्तदुर्दैवतो यमात्ती तथो श्रीमानोदुर्दैवतम्। हुयवरी महानुषी ती विषयी मध्यवैद्यास्त। हतुभयां मृत्युः हु पशुपतिः श्री पशुपतिः। चाँगुखूमूः तद्भवः स्मृतिः तथा। ताहिरामायनविवर्ताः लक्ष्यते चक्षः चक्षः। नाटोर्ताः ध्येयं निवा गुह्यं मृत्युः भगवान् न्यायेतु। मूलसाया: विवेके दैवी परम्पर्यं पूर्वम्। गस्तेश्वराः दृष्टं गुहाः एव। वेदोऽवै न्यायेतु। दैव्याः तद्व: विनयं कर्त्तव्यं च प्रशंख्ये। तदुपूर्वता च खंडोऽस्माः क्लीत्योऽस्माः। भूमिण्डामां तममतः तु गोपय्यक्षलोमे नवः। चराः पुष्पाक्षादेवे तिथिकं कर्णान्तः मूर्तिः। कठोरांक्तं कार्त्तकं तत्त्वं प्रभावान्तं संशयः।
क्षणी हीनां प्रकाशयो गोकालनं न नान्यथा ।
वाहो तैत्तिरियां कलं गुहयस्मिः (?) दुर्स्पकारणामु ।
श्रीवाहो गोलकादीना पुष्पस्ता दीर्घे तो न्येतु ।
प्रवाहुकान्त्या गुहा दैविः गोहकान्त्या ।
ऊँची रहतं गुठे व्यस्तं जाजुनी च तथेऽव च ।
प्रवाहुकान्त्याम् पुष्पस्ता यथो व घातं मंगलामु ।
पादो चोची प्रकाशयो अंगुलाम्यं न सुन्दरि ।
तत्र तत्त्वार्द्धम् काणां पाण्डरिकी यथे च च ।
अंगुलाम्यं सनातनं गुहावाणं शं मुखरि ।
दीर्घे च लोण न्येतु भ्रातः कर्मोस्तंदेवाः ।
शेषमयं यथोषििchilds क्षणं प्राक्षेकोंतत्पु ।
लक्ष्यं च संप्रवश्यामी श्रीमाने च यथा मधुत ।
विनाशित सती भवेत् एकानी चुमच्चा च हृषोभो ।
शुक्लोद्ध चुनदा च चुमच्चा मुदुर्वचा ।
अलकावतसमुंद्रवा विम्बोद्धवरा शुमाः ।
विन्यासवार्कत्रवा विशाला नेबुश्चान भुन ।
नितम्बे विन्यासवार्कत्रवा विशाला नेबुश्चानाः ||

[The text is corrupt in many places. I have not tried to introduce any correction. Except in some places the sense can be correctly made out]
ART FROM THE POINT OF VIEW OF THE ARTIST

by CHAITANYADEV CHATTOPADHYAYA

Art may be known in two ways; the one way is that of the artist, the other is that of the spectator. The enjoyment of the spectator proceeds from merely seeing, the artist enjoys in creating. The difference between the giver and the recipient which exists in ordinary life is also present in respect of these two kinds of men, the artist and the spectator. This difference has wholly vanished in modern times, specially in our country. This is the most serious problem of contemporary Indian art.

In every age, only very few persons possess creative genius. Artists are at all times a minority as compared with the number of spectators. But, for this very reason, in matters concerning art it is the artist’s opinion which should always be accepted, because art or creation of beauty is the highest and most difficult activity in life and not all are capable of such kind of work.

The function of the artist is to endow life with a new form, to transform his fellowmen, to put before this world full of conflict and contention a signal of release, to proclaim to it a message of assurance and joy: to present to it the beautiful pattern of life, strong and enduring, fierce and serene.

One who is merely a spectator and derives his highest joy in beholding the beauty of a work produced by an artist, who knows nothing of the how and why of the creation of beauty, who never felt impelled to artistic activity by any kind of original impulse, whose only reaction to art is a passive sensation of pleasure—if the taste of such a man prevail in art then we must think that art has really fallen on evil days. In the present-day art of our country it is the taste of the spectator that is prevailing.

That is the reason why a kind of spurious art has become current
today; sheer fashionableness is being practised in the name of art. Through the tyranny and hackneyed taste of these commonplace so-called lovers of art, art is degenerating into an article of drawing-room furniture. We see that modern artists are at a loss in a maze of views and opinions; this is the most serious disaster in the sphere of art. Modern artists, estranged from the traditions of India, in their effort to conceal the gaps in their training and the imperfections of their education are running after the crowd who have even less sense of beauty and feeling; they are eager to establish themselves by advertisements and by a loud appeal to the vexed, dispossessed, self-deceived mass of this age with their vulgar and undeveloped instincts; that is why a kind of superior affectation and showy style are so prominent in modern Indian art.

It is because art is judged from the spectator's point of view that the aim of philosophy, of religion, of nationalism, of history and of science—all this has passed for the aim of art. Artists nowadays in India are gratifying the absurd whims of so-called scholars, and readers of ancient history and poetry. In short, one of the many reasons which have romanticised the art of today in our country is the practice of appreciating art from the view-point of the spectator.

Like the human body, civilisation has its health and disorders as well. The highest skill and strength of a people, the nobler tendencies of its art come to an expression when its life has not weakened being subject to unnatural conditions. It is then that a sense of vigour, naturalness and certitude born from an accepted scale of values by the people and by the artist become manifest in art.

There was a time in our country when the highest skill and ability of our people were represented in art. The Vedas, ancient Indian paintings, architecture and sculpture, the Hindu temples and Buddhist monasteries—all are examples of a consistent and noble art. To realize the divinity in life and its transforming power, this is the fundamental aspiration and knowledge of the artist. The non-existence of this kind of aspiration and knowledge is the remarkable feature of modern art in this country.

The kind of romantic art or the representation of sentimentalism current as they are today in India are symptoms of disorder. In certain pathological states the present appears to be extremely painful; the mind
does not feel contented with that which is and so creates in its afflicted fantasy the unreal or the remote. By this kind of romantic art or representation of sentimentalism we mean the illusion created by an emphasis on false realities charged with emotions in disorder. Such imagination or creative impulse does not indicate health; it rather suggests poverty of feeling and resentment at being deprived of the abundance of life.

We had deviated from the tradition and current of the higher forms of our art and had been obliged to live in the dark for quite a long period of time. The advent of Abanindranath Tagore in the first decade of the twentieth century and the revival he brought about of Indian arts and crafts mark the dawn of a new morning. This event may also be regarded as a clear sign of our desire to regain our integrity. In this first decade of the history of the art of "young India", in this twilight of a new morning, we find in the works of our artists a desire of exploration, but also a mistiness spread over scenes drawn from nature, and one can see signs of groping in uncertainty in their execution of shapes and forms. It is like the slow, dragging walk of a convalescent depending on his stick, or like the first attempt at walking of a baby, its swaying movements, its uncertain footsteps. A sense of want of ease due to lack of habit is also evident. For this reason the first chapter of modern Indian art is emotional or romantic. Due to the predominance of this groping character and incertitude, this kind of art is not self contained; it has also a strong literary flavour.

The functions of one kind of art have been imposed upon art of another kind. There is nothing surprising in this as it was an age of self-exploration. In the case of Abanindranath who had been reared in the midst of plenty and was endowed with an extremely sensitive, luxurious mind, it is but natural that his art should be influenced by the desires and passions, manners and customs of men of a past culture, specially because at that time there was no current standard of great art in our country. Unnaturalness, imitation and vulgarity were the prevailing forces in his social surroundings. For this reason he had to forsake the present and turn toward the past. He had to enter through the help of books into a very remote, prehistoric or mythologic world and take his joy there. If for once, by means of literature, entrance into this world is achieved one believes that one can paint with new colours,
dream of an even more remote world and one can also disregard, as some of his pupils did, the fulness and beauty of life on the pretext of good taste.

The paintings of Abanindranath in the first and middle periods of his career are re-creations of a dream-picture of Moghul and Rajput life derived from books, illustrations of the Arabian Nights or Omar Khaiyyam. Influences of ancient and mediaeval literature, novels, lyrics, mythology, history, etc., are evident in them. The wondrous beauty that is in the form of the men and women around us today as ever, this we scarcely come across in the paintings of the school of Abanindranath Tagore.

It is the nature of romantic art to represent a beauty which is exotic and remote as conceived by a mind nourished upon the study of literature or other modes of expression. In the classification of art, Abanindranath, the founder of the art of ‘young India’ will be recognised as a romantic artist.

If we regard the advent of Abanindranath as the sprouting of the seed of modern Indian art, then the great responsibility of nurturing this seedling and rearing it into a tree must rest on the artists who succeeded him. To discharge this responsibility, contemporary artists must at the outset forsake the current fashion of regarding art from the spectator’s stand-point. Artists would have to remember that art is a means of realisation of the ultimate Self; it is the form of our approach. Like hermits they must be preoccupied in purifying their selves. They must do what artists had been doing all these ages, i.e. achieving perfection in some technique of art and mastering it fully.

To artists the staple of art is body, form and shape. Beauty is not perceptible to the eye without a body, a form, a shape. Until the vision of a thinker or an artist attains a definite, limited and beautiful form or body, it cannot be regarded as art. On the other hand, a copy of forms and shapes of ordinary and natural life cannot be called art. Art is that presentation of life and the world which is begotten of a happy union of the mind of the artist with that of nature and the entire universe. His extra-ordinarines remains in his execution, his skill and technique. Upon the just combination of skill or technique and the clarity of mind depends the expression of the uniqueness and beauty of form of all works of art, architecture, sculpture, music, painting, etc. Hence in order to understand art fully we will have to judge three principal factors: (1) the artist, (2) the world and life composed of the five elements: ether,
air, fire, water and earth and endowed with a visible form, and (3) the warm union of the two and the resulting internal and external reactions of the artist.

However much we may ask as to who is the creator of the world, we receive one answer: the creator is non-existent to the physical eye or invisible. The same is the answer with regard to our body—there is no artist who made it and who could be named. Yet art is manifest in it. But from the representation of art we can very easily conclude that someone called an artist must be existent. In solving any problem of art our chief consideration is the primordial Being which constitutes the artist in his art; we must then consider what type of man the artist is and how many types of artists there are in this heterogeneous multitude of human beings and also in what proportion is the form and quality of art dependant on the growth and make-up of the mind and body of the artist.

We call a man an artist who possess great skill and ability, who is calm, tranquil and fearless and is able to solve all kinds of complex problems; who with excellent skill can present a simple, beatific and charming form before a terrified and vexed humanity shackled with the fetters of life and death. In short, religion, philosophy, literature, science, ethics are all one and the same voice of assurance for man and express the artistic impulse, the impulse of the acceptance of life. That is to say the artist has a transparent personality so that one can easily see through him. The artist has a distinctive point of view from which vantage-ground all the forces and fundamental elements, all the pristine impulses of nature may be observed as well as the variety of religions, philosophies and ethics may be studied and their real nature comprehended.

The artist is an exponent of abundant, expansive power (śakti). He feels an inundation of energy in his mind and just as to a child play is good, so to the artist the superfluous and the playful are good. This play of the artist is as it were the child-likeness on the part of the creator.

Whatever object of the world the artist lays his hand upon becomes beautiful.

To call an object beautiful or non-beautiful is to approve or disapprove of it, to ascribe one's sense of values to it, to project upon it the fulness and love of life in one's own mind.
The artist's outlook on life is normal, so too are the activities of his mind and body; his personal notion of good and evil is also normal. Normality means living and acting in conformity with the laws of the universe. To understand the import of the term 'artist' we must realise his difference from the common or sub-normal man. This difference is included in the term 'rupabheda' or distinctive form used in the aesthetics of our country.

The majority of the people in the world constitute an average type; they are bound by social and temporal conditions; owing to their ignorance and lack of realisation they are accustomed to accept the modes of life derived from others to be divinely ordained; they are more in favour of the preservation, than of the knowledge of life. Their common outlook is crude, opaque, roughly suited for working purposes; it has not at all any sense of certitude; it is wholly deficient in a conception of good and evil. The common mass are victims of conflicting impulses and qualities of their character; their will-power and passion being weak they are not strong enough to influence others; it is their nature to be led by others. To them the artist appears to be a citizen of a topsy-turvy world; so that in order to judge of the good and the bad in art, it is incumbent upon us to have a clear knowledge of our work and our inner and outer activities.

The primary element in art is Rasa. It is difficult to explain or describe Rasa. Its function is to rouse an ideal feeling of energy in our mind. This impulse of inspiration first appears in the mind of the artist at an auspicious moment and carries him away and makes him play whether he be willing or not, and either obliges him to dream or intoxicates him with an overflow of emotion. For this reason there is a two-fold expression of art: the one as if dreaming, a vision of subtle splendour; and the other a dancing, rhythmic expression. The nature of this world composed of the five elements has rhythmic and dancing qualities. The primordial and original impulse (hldinī śakti) is called the energy of the joy of inspiration which appearing in the mind of the artist charges

1. Rasa means Sap, of the French 'savoir', the Latin 'sapientia'. 
his nerves and his senses with a kind of activity never felt heretofore, and endows all his functions with Rasa and rhythm.

But though there is a certain difference between a state of dream and a state of fine frenzy, both of them release the various creative forces in our mind. The splendour of vision gives us imagination, the power of inventing similes and metaphors, the power of producing poetry; frenzy begets out of our passion music and dance. The primal sexual impulse of the average man belongs to the category of wild dance; yet even in his visions or dreams there is no lack of sexual impulse. The difference between these two states is one of degree only. There are certain states of frenzy in which there is a kind of peaceful tranquillity, there is felt an alteration of the sense of space and time. In all the great works of art in the world are found the qualities of serenity and simplicity due to concentration and the highest awareness of causality and there come into play in an ordered manner the noblest faculties of the mind and its inspirational energy. Such art is potent with calm activity and has a consciousness of the Real and knows no weariness.

The state of fine frenzy and the strongest resurgence of this energy are felt in the spring. In such an eternal spring the artist has his being. Beauty, adornment and grace are the realisation of a vow performed, an integration of the inner consciousness, a co-ordination of the strongest instincts, a stable equilibrium;—the simplification of logic and geometry is also a resultant of this enhanced energy. On the other hand, the mere sight of this simplification and strength is apt to give rise to in the spectator's mind of a sense of enhanced energy.

Ugliness means lack of this feeling; it indicates infirmity attaching to a creative act, opposition or a false co-ordination of impulses, feeble will, i.e. a lack of the power of integration.

That state of delight which we have designated as frenzy is the realisation of inspired energy, a state of consciousness when the sense of time and space undergoes a change; when an impossible distance can be traversed by the eye and it is only at this time that very remote objects come within the range of sight; one's vision is spread out over a large field; the sense which perceives the minutest can penetrate the heart of illusion; the power to fathom the depth by means of a
small indication, the faculty of understanding, become awake and the latent divine energy is roused. The onset of this inspirational energy makes itself felt in the quickening of the nerves, in changeableness and love of change, in delight of the self and in a love of perilous adventure without any fear.

Every genuine artist is a man of strong and sublimated desires, with abundant energy, virile and passionate. Our presiding god of beauty, Paśupati, Śiva, Lord of the 'animals', the souls in bondage, appears seated upon a bull.

The creation of poetry or painting, music or any other achievement of man's effort is in a way allied to procreation. Chastity is a consideration of the artist or the religious aspirant because all creative impulse suffers diminution through an excessive procreative activity.

It is not the function of the artist to portray a thing as it actually is in nature; he should paint it stronger, simpler and fuller than it is for a kind of eternal youthfulness, and abiding intoxication are distinctive characteristics of his life. In them it has its simplicity and steadiness.

If in the future we would like to surpass the whirl of passions, vulgarity and sentimentalism, if life and art are to attain nobler qualities then we must realise that a peaceful tranquillity, simplicity and severity are always indissolubly associated with noble taste. The prime conditions of the ideal expressions of art is that there must be purity, animation of the rational faculties, equilibrium of the three inner qualities (guna), concentration, and an aversion to all kind of sentimentality, evasion, excessive decoration, external prettiness and showiness. Artists must live a life which would reflect the sublime forms created by art. Like the simplification of logic the beauty of great art is associated with strength which is the blending of the sublimity of the deity with the magnitude of the demon; this is severely simple. Such art abjures all exaggeration of details, complexity and indistinctness.

Pl. I. ARDHANĀRĪŚVARA by Chaitanyadev Chattopadhyaya. (Kindly lent by U. P. Mookerjee)
Pl. II. RATHAYĀTĀ by Chaitanyadev Chattopadhyaya.
THE 32 SCIENCES AND THE 64 ARTS
by DURGĀDATTĀ TRIPĀTHĪ

Looking at the programme of study in ancient India we can realise how complete and comprehensive is the scope of traditional sciences. Much material about sciences and arts can be found in the Epics such as the Rāmāyāna and the Mahābhārata, in the mythological books, the Purāṇas, and in poetical works. A brief classification of them is given by Śukrācārya in his 'Nitisāra'. Although theoretically sciences and arts are innumerable, thirty-two prominent sciences (vijñāna) and sixty-four prominent arts (kalā) are generally classified. Śukrācārya defines the difference between a science (vidyā) and an art (kalā) saying: "that which can be entirely explained with the help of words is a science, while that which even a dumb man can do is an art."

वह यत् स्वादी वाचिकं सम्बकूम्भेष विद्यामिलावतम्।
शालको मूकोपिध्य यत् कलां कलामिलावतं तत् ह्यतम॥

THE THIRTY TWO SCIENCES

The thirty two sciences are as follows:
'Primordial Knowledge' (Veda) is conveyed through four different forms: (1) metres (Rk), (2) substance (Yajus), (3) sound (Sāma) and (4) subtle correspondences (Atharvā).

Corresponding to these four different forms are four 'applied aspects of Primordial Knowledge', the Upavedas: (5) 'Knowledge of Longevity' (i.e. Medicine, Āyurveda); (6) Knowledge of weapons' (Military art, Dhanurveda); (7) 'Knowledge of the Heavenly songs' (Music, Gandharva Veda); and (8) 'Knowledge of the Natural laws' (i.e. Magic, Tantra).

There are six appendices of Primordial Knowledge (Vedāṅga):
(9) Śikṣā, recitation; (10) Kalpa, ritual; (11) Vyākaraṇa, philology and grammar; (12) Nirukta, symbolic etymologies; (13) Chanda, poetical metres; and (14) Jyotiṣa, astrology.

There are six orthodox 'points of view on the doctrine' (darśana): (15) Mīmāṃsā (or Pūrva-Mīmāṃsā) 'the primary scholastic point of view', interprets Knowledge (Veda) as a guide to ritual action; (16) Nyāya, logic; (17) Sāṁkhya, (Numbers), the cosmological point of view, studies the twenty-five 'forms of existence' (tattva); (18) Vedānta (the End of Knowledge), the metaphysical interpretation of the Vedas; (19) Yoga (Identification), the point of view of re-integration, i.e. the actual realization of the metaphysical definitions of Vedānta; (20) Vaiśeṣika (Study of the particular), the naturalistic (or "scientific") point of view.

(21) Itiḥāsa ('As it happened'), the Epics; (22) Purāṇa (the ancient books), mythological books (there are eighteen Purāṇas); (23) Smṛti ('Remembered'), traditional moral code and legislation; (24) Nāstika-mata (the opinion "nothing else is"), anti-traditional philosophies; (25) Artha śāstra (the rules of wealth), economics-politics; (26) Kāma śāstra (the rules of lust), erotics; (27) Śilpa śāstra (the rules of building, etc.), architecture and the arts; (28) Kāvyā: Poetics; (29) Desa bhāṣā (Local languages), living languages; (30) Avasarokti: ready made answers to philosophical difficulties; (31) Yavana mata (Ionian philosophy), foreign philosophies; (32) Desādī dharma, local and familial religions and rites.

The Vedas are divided into two parts:

One 'Hermetic part,' the Śamhitā, and a 'Sacerdotal part,' the Brāhmaṇa.

A. In the Hermetic part, the Śamhitā, are collected the rhythmic-formulae, the 'mantras' used in 'japa' (repetition of mantras, or rosary) and also in 'homa' (ritual oblations), 'pūjana' (worship), and other rituals by which deities can be propitiated.

B. In the Sacerdotal part, the Brāhmaṇa, is explained the use of mantras and the technique of their employment.

1. The 'Knowledge of Metres', the Rg Veda, is the Veda in which is collected the greatest number of Hermetic-rhythmic-formulae (mantra) in verse form, the rhythm (chanda) mostly used being the Gāyatrī metre. These rhythmic-formulae are used mostly in ritual sacrifices (yajñya), and for oblation (hautra).
2. In the 'Knowledge of Substance', the Yajur Veda, are found sequences of rhythmic-formulae, but without regular metre. These are uttered by the Adhvaryu (the priest who performs the sacrificial preparatory rites).

3. The 'Knowledge of Sound' (Sāma Veda) is made of rhythmic-formulae in the shape of hymns chanted for certain rituals. During the sacrifices these are sung by the chanter and other attendants.

4. The "Knowledge of Subtle correspondences" (Atharva Veda) is that part of or the Primordial Knowledge in which are found the mantras by which deities can be evoked. Its name is also sometimes given as Atharvāṅgirasa. These four aspects of Primordial Knowledge, the four Vedas, are considered eternal, without beginning, supra-human, and self-proven.

These four Vedas are divided into many branches, many of which are now lost, the only valid transmission of which is oral transmission.

For each of the four Knowledges (Veda) there is an 'applied Knowledge', an Upaveda. The 'Knowledge of Longevity' (i.e. the Āyurveda, or medical science) is the applied aspect of the Knowledge of Metres, i.e. the Upaveda of Rgveda. In it are described the symptoms of diseases, their cause and their cure. The man who regulates his habits according to the rules of this science remains healthy and sees the length of his life increased. Hence its name Āyurveda, "the knowledge of long life".

The 'Knowledge of weapons', Dhanurveda, or military art, is the applied aspect of the Knowledge of substance, i.e. the Upaveda of Yajurveda. Here are explained the various possibilities for the making of arms and projectiles, the means for throwing them, and all the kinds of war tactics.

The 'Knowledge of Heavenly songs', the Gandharva Veda, is the applied aspect of the Knowledge of Sound, i.e. the Upaveda of Sāma-Veda. In it are given the rules for producing the seven notes, Śādja (C), Rśabha (D), etc., either on string instruments (vīṇā) or vocally, in their three possible relative positions, higher (udatta), lower (anudatta) or 'in one pitch' (svarita), following regulated rhythms.
The 'Knowledge of [natural] laws', Tantra, is the applied aspect of the 'Knowledge of subtle correspondences', i.e., the Upaveda of Atharva Veda. It gives the rhythmic formulae (mantra) by which many sorts of subtle entities may be worshipped; it explains the benefits to be obtained from these beings, the rites to be used to worship them or to drive them away; it explains also how to obtain and how to counteract the six magical powers: death-dealing, creating discord, instigating discouragement, hypnotizing (bringing under one's control), petrifying (rendering unconscious and insentient) and appeasing.

* * *

The six appendices of the Primordial Knowledge (Vedāṅga) are:

1. Recitation (Śikṣā), which deals with the method of reciting, with internal as well as external control, according to the difference of pitch (raised, lowered, etc.), of rhythm (fast, slow, etc.), and of place (gutturals, palatals, etc.). By Śikṣā is also meant the teaching and transmission of the sacred books. The Śikṣās are found in each Veda and are of many kinds and in great number; they are called 'the organ of smelling' of Knowledge (Veda).

2. Kalpa, ritual, is of two kinds: one heard, or primordial (śrauta) is part of the Primordial Knowledge, the Veda, and the other revealed, or traditional (smārta), is based upon the later Revelation, the Smṛti.

The 'Primordial Ritual' (śrauta kalpa) explains the technique for the performance of the ritual described in the Sacerdotal part of Veda, the Brāhmaṇa. The 'Traditional Ritual' (smārta kalpa) describes the rites of sacraments (sāmskāra), the investiture of the sacred thread for example. All the branches of this Traditional Ritual are separated in different Sūtras; these are called 'the hands (the organ of touch)' of Knowledge (Veda).

3. Vyākaraṇa, grammar, explains the use of words according to differences of roots (dhātu), suffixes (pratyaya), euphonic coalition (sandhi), compound words (samāsa), gender (liṅga), etc. On this basis we can find out whether words are correctly used (śuddhi) or incorrectly (aśuddhi). In ritual utterance, it is essential to know which words are correct and which incorrect. Grammar is the mouth, 'the organ of speech', of Knowledge.
In ancient times there were several grammars current under the names of Aindra, Candra, Kāśakṛtsna, etc., but now the names alone remain; only the grammar of Pāṇini is in use.

4. Nirukta, symbolic etymology, gives the etymology of words, and analyses the significance of their different elements. In Nirukta, sentences are collected and classified according to their meaning. It explains the symbolic meaning of Vedic words. It is therefore called the 'ear' of Knowledge (Veda). Formerly there were several Niruktas but now only that of Yāskācārya is available.

5. Chanda, the science of Rhythms, gives us, under the form of axioms, the principles of poetical composition according to the different syllabic feet such as Ma-gaṇa (3 longs), etc. It distinguishes two kinds of metres: Vedic metres such as Gāyatrī, and profane metres such as Āryā.

Rhythms, Chandas, are called the 'feet' of Knowledge (Veda), the most important of the books of Chanda is the Piṅgalakṛta sūtra.

6. Jyotiṣa, or astrology, with the help of the 'Hermetic part of Veda' (Saṃhitā), of observations about the rising of zodiacal signs, and of calculation, determines, from the position of constellations and planets, the different periods of time. Because it gives the knowledge of time with the help of the 'lunar houses' (jyoti) it is called Jyotiṣa. The exact knowledge of time is indispensable for the performance of sacrifices and other rites. This science is thus called the 'eyes' of Knowledge (Veda). The most famous book on the 'astrological appendix of Primordial Knowledge' (Jyotiṣa Vedāṅga) is that written by Lagadhacārya.

* * *

The six 'philosophical systems', or 'points of view' (darśana) from which the traditional doctrine can be approached, are:

1. Mīmāṃśā, 'the first scholastic point of view' which tells us how to interpret the meaning of the text of Veda through the critical methods of apuruṣa (no precedent), niyama (choice of an alternative), parisaṇkhya (limitation to what is expressly enumerated or mentioned), arthavāda (illustrations not to be taken literally) and other methods of criticism. This Mīmāṃśā is also called Pūrva Mīmāṃśā, or First Mīmāṃśā, and, without its help, it is not possible to establish the coherence between certain
passages of the Vedas. Its great exponent was Jaimini, the disciple of Vedavyāsa Bādarāyaṇa, and the author of the "Athāto Dharmaṇijñāsa" and other sūtras on the scholastical science. Śabara Swāmī made the commentary to these sūtras, and among other exponents of this science, was Kumārila Bhaṭṭa.

2. Nyāya, Logic, discusses, with the help of deduction and ‘means of proofs’ (tangible, etc.), the fact of Existence in its six aspects, substance (dravyā), quality (guṇa), action (karma), generality (sāmānya), particular (viṣeṣa), and correlation (samavāya), as well as non-existence (abhāva). In Logic (Nyāya) are utilized two different methods, one of which is called Logic proper, the other Naturalism (Vaiśeṣika), but, since the difference is relatively small between these two methods, Śukrācārya includes them both in Logic. The great exponent of Logic was Gautama, and that of Vaiśeṣika was Kāṇāda.

According to Logic, final realization can be achieved through knowledge of the sixteen ‘elements of existence’ (tattva), the means of proof (pramāṇa) and the objects of proofs. Kāṇāda admits the possibility of liberation through knowledge of the six aspects: substance (dravya), quality (guṇa), etc. Gautama accepts four means of proofs, i.e. direct perception (pratyakṣa), inference (anumāna), analogy (upamāna) and word (śabda); but Kāṇāda, accepting only two kinds of proofs, direct perception and inference, says that the others are implied in them.

According to Gautama, among the fifteen ‘elements of existence’ (tattva) twelve are demonstrable (prameya); these are: self (ātman), body (śarīra), senses (indriya), aim (artha, i.e. viṣaya, purpose), intellect (buddhi), mind (manas), inclination (pravṛtti), defect (doṣa) condition after death (pretya bhāva), result (phala), pain (duḥkha), and final beatitude (apavarga).

Kāṇāda recognizes, besides the six aspects of existence enumerated above, a seventh stage which is non-existence (abhāva). Among these:

- substance (dravya) is of nine kinds: Earth, Water, Fire, Air, Ether, Time (kāla), Space (diśa), Self (ātmā), and Intellect (buddhi).

Qualities (guṇa) are twenty-four; shape, taste, smell, touch, number (saṅkhya), dimension (parimāṇa), difference, unity, fraction, proximity (paratva), opposition (aparatva), superiority (gurutva), velocity (dravatva),

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body, word, intellect, pleasure, pain, desire, enmity, effort, 'conformity to eternal law' (dharma), and 'divergence from eternal law' (adharma).

Action (karma) is of five kinds: throwing up (utkṣeṇa), throwing down (avakṣeṇa), contraction (ākuñcana), expansion (prasāraṇa), displacement (gamana).

Generality (sāmānyā) is of two kinds: beyond (para), or not-beyond (apara) according as to whether its limit can be perceived or not.

There is no end of the particular (viṣeṣa). Correlation (samāvāya) is only one.

Non-existence (abhāva) is of four kinds: non-existence in the past (prāgabhāva), non-existence by annihilation (pradhvaṃsābhāva), non-existence in something else (anyonyābhāva), and absolute non-existence at all times (atyatābhāva).

3. Sāṅkhya (numbers) studies, from the cosmological point of view, the twenty-five 'principles of existence' (tattva). It is so called because it considers these elements as limited in number. Its chief exponent was Kapila who, in his Sāṅkhya-sūtras, exposed its principles. He considers the aim of human life (puruṣārtha) to be complete detachment from suffering, which can be either spiritual (ādhyātmika), supernatural (ādhidaivīka) or physical (ādhibhautīka).

The twenty-five 'principles of existence' are, according to Sāṅkhya:
1. 'Supreme Person' (Puruṣa), or the principle in opposition to Prakṛti, Nature. Puruṣa, ever unchanging, is neither the evolver of anything nor evolved from anything.
2. From Root Nature (Mūla Prakṛti) are manifested in hierarchy:
3. The 'first principle of existence', Mahat tattva. i.e. Universal Intellect (समधित बुद्धि).
4. The 'principle of individual existence' (Ahaṃkāra).
5-9. The Tanmātāras, the five spheres of perception, speech (śabda) touch (sparśa), shape (rūpa), taste (rasa), smell (gandha).
10-14 And from them five distinct perceived aspects of the universe, or elements (mahābhūta) called Ether, Air, Fire, Water and Earth.

To these correspond:
25. Mind.

The Sāṅkhya recognizes three means of proof: perception, inference, and word.

The metaphysical 'End of Knowledge' (Vedānta) recognizes only one true reality, the Principle, the Brahma, envisaged as an immense (bṛhat) shape of Truth-Consciousness-Bliss, either one in kind or multiple in kind (sajātiya, vijātiya). It describes it as self-moving (svagata), pervading all kinds (sarva-vidha), undifferentiated (bheda-rahita), non-dual (advaita), eternal (nitya), and supreme (niratāśaya).

In comparison with the Brahma, all the universe is mere appearance, belief in it being the effect of Illusion (Māyā) in the guise of Ignorance (avidyā). By Ignorance only does the world appear real, like the rope which appears to be snake.

"The Principle is one without second, there is here no sort of multiplicity. In the opinion of the metaphysicians (Vedāntins) all is illusory and appears merely by Ignorance."

The chief exponent of Vedānta is ever the All Powerful, the Universal refuge (Nārāyaṇa), the Pervader Viṣṇu. Among written treatises the Vedānta sūtra of the Arch-seer Bādaraṇyaṇa is the most celebrated.

Yoga details the means necessary to control the inclinations of the mental (citta). The inclinations of the inner faculties (antaḥkāraṇa) controlled through the observance of certain restrictions (yama), observances (niyama), sitting postures (āsana), respiratory control (prāṇāyāma), emptying the mind from external objects (pratyāhāra), then concentrating it (dharāṇā), maintaining it concentrated (dhyāna), and dissolving it into the object of its concentration (sāmādhi).

The five restrictions (yama) are: non-violence (ahimsā), truth (satya), non-stealing (asteya), chastity (brahmācāryya) and renunciation (aparigraha).

The five observances (niyama) are: purification (śauca), contentment (santoṣa), penance (tapāsā), study (svadhyāya), Divine contemplation (Īśvara-pranidhāna). The sitting postures (āsana)
are many: padmāsana (lotus posture), svastika-āsana (svastika posture) etc.

Respiratory control (prāṇāyāma) has also many ways corresponding to differences in the rhythm of inhaling, exhaling, and holding the breath.

In the state of identification (samādhi), Supreme Person and Nature (Puruṣa and Prakṛti) being perceived as separate, dealings with Nature (Prakṛti) can be stopped, and, thus liberation (mukti) realized.

By the realization of Yoga, the eight magical powers (siddhi) can be obtained: e.g. becoming very small (aṇimā), etc., and through these extraordinary things can be done. But these magical powers are obstacles on the path of supreme power; and wise men are not entrapped by their seeming brilliance, and concentrate all their efforts on the realization of the supreme power: final liberation (mokṣa). To practice yoga from books, without understanding perfectly or without the help of a responsible guide (guru), is extremely dangerous.

1. The Epics (Itihāsa), such as the Mahābhārata, the Rāmāsvamedha, etc., while relating the story of some king or hero, unfold the history and the knowledge of ancient ages.

2. The Ancient Books (Purāṇas), the books of mythology, follow Itihāsa. The Purāṇas mainly describe the formation (sarga) and desaggregation (pratisarga) of the Universe, the genealogies, the cyclic periods (manvantara), each corresponding to the rule of one Manu, the story of the great dynasties (vaṇśānuvarita).

The names of the eighteen Purāṇas and their respective number of stanzas (ślokas), according to the Brahmavaivarta Purāṇa are as follows:

Brahmā Purāṇa 10,000 Brahmavaivarta Purāṇa 18,000
Padma Purāṇa 59,000 Liṅga Purāṇa 11,000
Viṣṇu Purāṇa 23,000 Varāha Purāṇa 24,000
Śiva Purāṇa 24,000 Skanda Purāṇa 81,000
Śrimadbhāgavata Purāṇa 18,000 Vāmana Purāṇa 10,000
Nārada Purāṇa 25,000 Kūrma Purāṇa 17,000
Mārkaṇḍeya Purāṇa 9,000 Matsya Purāṇa 18,000
Agni Purāṇa 15,400 Gāruda Purāṇa 19,000
Bhaviṣya Purāṇa 14,500 Brahmāṇḍa Purāṇa 12,000

The Devibhāgavata is considered by some to be one of the Purāṇas in the place of the Śrimadbhāgavata.
The total number of stanzas is 432,900.

Besides the main eighteen Purāṇas, are many Upapurāṇas (secondary Purāṇas) composed by the Arch-seers (rṣi).

The names of the Upapurāṇas are: Sanatkumāra, Narasinha, Brihannārādiya, Śiva or Śivadharma, Durvāsana, Kāpila, Mānava, Auśanas, Vāruṇa, Kālikā, Śamba, Nandikeśvara, Saura, Pārāśara, Āditya, Brahmāṇḍa, Māheśvara, Bhāgavata, Vāsiṣṭha, Kaurma, Bhārgava, Ādi, Mudgala, Kalki, Devi, Mahābhāgavata, Brhaddharma, Parānanda and Paśupati.

Modern scholars have as yet paid little attention to the Purāṇas; they have often been spoken of as meaningless tall stories. Yet they are a very rich source of information regarding social regulations, history and civilization. The English scholar Pārgiter has made some attempts in this direction, but because of a wrong approach, his efforts brought no result.

In the Smṛtis, the traditional moral codes, are explained the rules of life for the priestly (Brāhmaṇa), warrior (Kṣatriya), trader (Vaiśya) and working (Śūdra) class and other secondary castes, and duties during the four stages of life: celibate student, householder, hermit, and Sannyāsī, in conformity to the rules laid down by the Vedas. In the Smṛtis is also included Arthaśāstra or the traditional economics and politics.

To decide questions of duty or morals, the authority of the Smṛti comes directly after that of the Veda. There are many Smṛtis but the twenty chief ones are: Manu, Atri, Hārīta, Yājñavalkya, Uṣanā, Aṅgirā, Yama, Āpastamba, Sanvarta, Kātyāyana, Brhaspati, Parāśara, Vyāsa, Śaṅkha, Nikīta, Dakṣa, Gautama, Śatātapa and Vaśiṣṭha.

Next comes Nāstika Mata, “heterodox philosophy”. Here predominance is given to reason. In opposition to all orthodox philosophy this system does not recognize the existence of God, nor Knowledge (Veda) as the origin of the world. It considers everything to be natural (svabhāvika); it believes that everything, of its own accord, becomes what it is. It is Manu who defines as heterodox (nāstika) those who reject the existence of Primordial Knowledge (Veda) नास्तिको बैद्य निन्द्वक: “An heterodox is he who denies Veda”. His point of view is that knowledge of Divinity, of evil and good, heaven and hell, is obtained from the Primordial Knowledge, the Veda. Only from Primordial Tradition (Veda) or from Later Revelation (Smṛti) and other such
scripture as are based upon Veda, can we get proof, tangible or by
inference of the existence of Divinity. This implies that one who
denies the existence of a Primordial Tradition, Veda, can, logically, have
no belief in God or in other worlds. Other names for this point of view
are atheism, philosophy of Cārvāka, materialism (lokāyatika), etc.

Heterodox philosophy accepts only direct perception as a means of
proof. It recognizes only four elements, earth, air, fire and water. Just
as the wild fig kept for some time by itself ferments and becomes
intoxicant, so the body, mixture of earth and other elements, develops
the power of consciousness. The self (ātman) is the union of the body with
consciousness; independently of the body there is nothing named self.
Death is liberation. The aim of human existence (puruṣārtha) is
comfort and pleasure. Modern western civilization is an example of
Śūdra philosophy put into practice. In the culture of ancient times, the
study of heterodox philosophy was considered an essential; its chief
exponent is Brhaspati.

Arthaśāstra, the rules of wealth, comes next. There it is explained
how a king should manage his affairs and his kingdom without being in
opposition with the rules of Vedas and Smṛtis. In it are also described
the proper ways of administration of wealth. Thus both politics and
economics enter into this science.

Kāmaśāstra, the rules of lust, comes next. The Erotic science
differentiates between the various types of men classified as the hare-
type, deer-type, horse-type, elephant-type, etc., and, according to type,
their differences as lovers: faithless, deceitful, etc. It likewise gives
the difference between types of women, lotus-type, (Padmīṇī), artistic
type (Citriṇī), mother of pearl-type (Śaṅkhīṇī), and elephant-type
(Hastīṇī), and their qualities as mistress, as one’s own wife, as another’s
wife, as loose woman, etc. Such subjects as mutual affection, etc., are
also described. The rule of lust, Kāmaśāstra, can help us greatly to
understand the psychology of men and women.

The rules of building, Śilpa śāstra, come next. This science defines
the ways of building and repairing palaces, forts, houses, gardens, wells,
reservoirs, tanks, etc. Civil engineering is also included and the art of
making images (mūrti kalā), so that both architecture and sculpture
come into this scripture. Its peculiarity is that it also describes the
influence of the buildings on their inhabitants, according to the ways they are built and their proportions. A few books of this Sāstra exist, but it is a matter of regret that, as a rule hardly any one studies them.

Kāvya, poetics, is the combination of sound and meaning to express emotions (rasa) such as love, etc. (there are nine rasas), embellished with ornaments such as rhyme and comparison (upamā), and void of defects, such as harshness.

The aim of the institution of poetry is not only to charm for a moment or gain renown, but also:

काव्यं यशस्वेत्यं हते व्यवहारविवेदे विवेकतरस्तते।
सचं परिमं तथे काव्यासमितियोपवेश्युज॥

"poetry [] helps ] to acquire fame and riches, to know how to behave, to suppress ill-luck, to please quickly, to teach as does a lovely woman".

The ancient poets of India have gathered an immense and unparalleled collection of stories of great deeds in the literary as well as the popular languages, deeds which brought to the sensitive hearts of those ancient days storms of emotion and which, were they properly retold, would still have a profound effect.

The science of living languages (desabhāṣā) or dialects (daiśīkī), follows. This science deals with the words used by the various inhabitants of different countries.

Avasarokti, the art of ready made answers comes next. According to the definitions of the dictionary and other authoritative books, this art explains which words can be used in each circumstance to express one's meaning with perfect clarity. It is of great value in teaching; very learned people even are sometimes unable to find correct answers quickly to difficult questions. This helps them greatly.

Yavanamata, barbarian (Ionian) philosophy, is next defined in the following way:

अङ्गे: कारणं यस्तुवयोस्वति जगतं: सत्यं, शूनिःशृंगूर्तिः बिना धर्मस्थानं स्तस्तत्वायाम, शृद्धार्थवर्धितम च चारों स्वति यथावत्स्तम।

"Where Divinity is not seen as the cause, the world is considered permanent. Where without Vedas or Śrīmṛta good and bad is discussed, these are the barbarians. Where there are moral laws different
from those of the Primordial Traditions (Veda) these are the barbarian philosophies”.

These philosophies, while they do not assert, like Cārvāka, that the world has no cause, and accept the idea of God, believe him as unknown and unknowable; furthermore, while believing in morals they do not accept the Vedas and Smṛtis as the moral guides; and thus these philosophies teach religious forms in opposition to those taught by the Vedas. These are called barbarian philosophies, or the philosophies of the Ionians (Yavanas), their most characteristic school.

The word Yavana is later often used in the sense of ‘foreign’; but many believe that Yavana originally meant Ionian, and refers to the Ionians (Yunani), the ancient Greeks.

Desādīdharmā, popular religions and rites, is finally named by Śukrācārya as the thirty-second science. Its object is described as follows:

कथ्यत सुतियोऽकाली लोकेष्य त: सुवा।
वेशादि चर्मः सम्यो देवो देवे कुरै कुरे॥

“That which is at all times believed by people whether on the basis of traditional scriptures or without scripture, this is popular religion; it is known to exist in all sorts of countries and among all sorts of races”.

We must understand by ‘popular religions and rites’ those religious practices which appear to have been in use from time immemorial in different countries, families and castes, whether they be based on the Primordial Knowledge (Veda) or later Revelations (Smṛti) and other scriptures, or not.

These vary not only with country and race but even with family, caste, etc. Much importance is attached to the observance of these customary morals. Full of doubts on the outcome of war, the fair Arjuna, troubled, asked the Dark Lord, Kṛṣṇa:

द्वैदैत्यः कुलाणां वर्गंसंकार्तकः। उल्लसायम्येन जाति धर्मः कुलात्मकं शाश्वतः॥
उत्सवं कुलांकाणा मनुष्यां जनादीनं। नन्देन्ति वासी भवतीस्वयम्युक्तम॥

“From these faults which lead to the mixture of castes, the family virtue and the caste virtue of these family-destroyers is destroyed. O Tormentor of men (Janārdana)! I have heard that those men whose family virtues have been destroyed dwell in Hell for ever”.

From these faults which lead to the mixture of castes, the family virtue and the caste virtue of these family-destroyers is destroyed. O Tormentor of men (Janārdana)! I have heard that those men whose family virtues have been destroyed dwell in Hell for ever".
Manu, Yājñavalkya, and others, strongly warned the kings, that should a king impose his rule upon any other country,  

"One should, while ruling a country which has come in one's power, respect the morals, customs and family system prevalent in that country". Whatever may be the religion and customs, the family and caste regulations of the vanquished country at that time, the king should respect them when he establishes his rule.

Thus have been related in detail the thirty-two sciences. We shall now summarily describe the sixty-four arts.

THE SIXTY-FOUR ARTS

According to the Śukranītī, as has been said before, the number of arts (kalā) is unlimited; their very names cannot be counted. But, among them, sixty-four are more prominent and a short account of them will be given here.

In his commentary on Vātsyāyana's Kāmasūtra, Jayamaṅgala describes two kinds of arts or crafts: first, those which are related to the art of love and its scriptures, and secondly, those related to magic (tantra). In each of them there are sixty-four arts or crafts, some of which are common to both kinds, while others differ.

Of the arts of love, twenty-four are related to action; twenty connected with gambling; sixteen with the management of sexual pleasures; and four are higher arts, making a total of sixty-four main arts. Other minor arts of which the description is available number five hundred and eighteen in all.

Of the crafts related to magic (tantra), there are likewise sixty-four in common use. Śrīdhāra Svāmī, in his commentary on the Bhāgavata-Purāṇa has also enumerated these crafts, and some of the crafts described by Śukrācārya in his 'Nītisāra' coincide with those given among the arts of love.

We shall first give the names of the arts and crafts as enumerated in the commentary of Jayamaṅgala and, afterwards, give a brief description of them according to their order in the Śukranītisāra.
The arts according to Jayamangala are as follows:

1. Singing गीत
2. Playing of instruments वाद्य
3. Dancing नृत्य
4. Painting अलंकार
5. Making of printing blocks or the cutting out of shapes, in paper, or 'leaves' for applying sandal-paste to the forehead विशेषक्रिया
6. Drawing ritual and symbolic figures on the ground with coloured rice or barley, and flowers in all sorts of patterns तप्पुद्र कुष्मालिणि विकार
7. Flower carpets पुष्पास्तरण
8. Colouring the teeth, clothes and parts of the body वशनवसनावकरण
9. Jewelling of the floor (some part of the flooring of a house is set with pearls and jewels) मणि पुुःिका कारी
10. Arranging couches शयन रचन
11. Playing of music on water bowls उदस्व वाच
12. Battle of water; throwing water at each other by hand or with syringes उदकाबाल
13. Witchcraft on images; the preparation of many different things or drugs, to use with spells to weaken one's enemy and to harm him चिन्माश योगा
14. Composing of flower garlands माल्य रवण किं कहः
15. Head-ornament of flowers (for women) शेषका पीड्योजन
16. Costume; the decoration of the body with cloth, ornaments, flowers, etc. वैदेश्य प्रयोग
17. Ear ornaments in mother of pearl, ivory, etc. कर्ण पति भद्र
18. Perfumery, preparation of scented incense गव्देश यूकित
19. Jewel making भूषण योजन
20. Illusionism प्रेत काठ
21. Preparation of aphrodisiac drugs कौषुमार योग
22. Dexterity of hand; precision in handwork हस्त ठाट्य
23. Vegetable cooking; the process of preparing vegetables, jams, syrups, sweets विभिन्नशाखाप्रवृत्तिविकार किया
24. Preparing drinks, sherbets, alcoholic drinks, etc. पानकसर गालस्योजन
25. Needle-work (including fringe-making and knitting) सुचीवाल कर्म
26. String play (marionette play) सूच तोड़ा
27. Drum-lute (viṇā-ḍamaru) playing वाणा डमब वाण
28. Riddles प्रेडाङ्खा
29. Diction प्रक्तिमत्ता
30. Difficult prononciations; the reading of verses whose meanings and pronunciation are both difficult दुर्बाचक योग
31. Reading aloud (प्रस्तक वाचन)
32. Visualizing the narrative of a drama नाटकास्वाथ्यायिका दर्शन
33. Completing problems of rhyme काव्य समस्या पूरण
34. Vannery; the weaving of leaves, grasses, rattan cane, etc. into mats, stools, chairs, beds पिठीका बेंव वान विकाय
35. Sculpture; carving wood, stone, chiselling metal, etc. तक्षकम
36. Wood work; carpentry तक्षण
37. Planning houses वास्तु विधा
38. Examining precious stones or coins रुपयार्थिष्ठका
39. Metallurgy; the mixing and purifying of metals धातुवाद
40. Knowledge of the shapes and colours of precious stones, and their mining मणिरामाकार बाण
41. Knowledge of medicinal trees भृकुट्युद्धिकाय
42. Cock-fighting; how to organize fights between frogs, partridges, cocks, etc. मेयकुखुकलालाक पुलु-विचि
43. Talking birds; teaching parrots, Mainas, and other birds to talk शुक्ल सारिका प्रशापन
44. Massaging, shampooing, the rubbing in of unguents with the help of hands and feet उत्साह- सर्वांन-केश- मदान-लोषाद
45. Secret speech; to speak in such ways that only those who know them can understand उस्कर शुचिका-कथन
46. Barbarian’s deceit; hieroglyphics or code writing मेयचित्त विकाय
47. Science of dialects देश सागा-विधा
48. Toy flower-chariots गुष्प शकरिका
49. Knowledge of omens निमित्त बाण
50. Principles of mechanics; the making of all kinds of machines यन्त्र-मालुका
51. Memorizing भारव मालुका
52. Reading together संपाद्य
53. Impromptu rhyming; improving the rhymes missing in any verse मानस्तः काम्यामित्ता
The Arts in the Śukra-Nītisāra:

According to Śukrācārya, all the crafts have not separate names; they can be described only by their aim, for it is the difference in practice that makes the separate arts. When an individual practises a certain craft, his caste is that of the name of his craft.

1. Dancing:

The first of all the arts is dancing śūty. To move with grace and expression is called dancing; action, brilliance, magnificence, emotion, sympathy and all the moods (rasa) can be expressed in dance. Dancing is of two kinds: 'dramatic' (nṛtya) and 'non-dramatic' (anṛtya). Representation of the actions of the inhabitants of heaven, hell and earth is called 'dramatic' dance, and without imitation it is called 'non-dramatic'.

In each season of the rains, many have seen the peacock dance enthralled by the roar of the thunder. Dance is a natural thing which, when the heart is full of joy, manifests itself outwardly, and artists give the shape of art to this natural dance by painting its innumerable expressions. In the wild society of forest tribes or in the polite society of civilized cities dance, in some form or other, is found everywhere. In ancient times the learning of this art was considered essential even for princes. The story of Arjuna in the Mahābhārata is famous: how during his concealment under the name of Brāhannala, he taught dancing.
to Uttarā, daughter of King Virāt. In South India, even today, this ancient art still partly survives and in Kathākali we see a reflection of it.

2. Playing of instruments: The making of all kinds of musical instruments, and knowing how to play them, is an art. There are four main types of instruments:

(a). String (तत्) (b). Flutes (वसुरी) (c). Drums (अनतं) and (d). Massive percussion (घन) (cymbals, gongs, bells, etc.) instruments.

(a). Instruments in which strings or wires are used are called string instruments (tata). Such are today the Viṇā, the Tambūrā, Sārāngī, Belā, Sarode, etc.

(b). Instruments whose inside is hollow and in which air is used are called wind instruments (suṣīra). Such are: flutes (bānsurī, alagojā), clarionets (sahnāī), the brass instruments, harmonium, conches (sāṅkha), etc.

(c). Those instruments in which parchment or leather is struck are called drums (avanaddha). Such are the Dhola, Nagāḍā, Mrdaṅga, Tablā, Dafa, Khaṇḍaḍī, etc.

(d). Those instruments played by striking one part against another are called percussion instruments (ghana). Such are cymbals (jhāṅjha), rattles (maṅjirā), castanets (kartāl), etc.

This art is connected with that of singing; without instruments, sweetness lacks in the song.

In ancient times the main instruments in India were string instruments, the Viṇās; mention of these is found in the most ancient Sanskrit books. Every Hindu has heard of the Viṇā of Sarasvati and of that of Nārada, of the flute of Sīre Kṛṣṇa and of the small drum of Śiva.

There are numerous Sanskrit books on instrumental technique describing the different instruments and methods for making and repairing them.

On auspicious occasions, such as coronations, pilgrimages, festivals, marriages, initiations, etc., all kinds of instruments have been played in all times. Also in war, many varieties of instruments were used to raise the courage of the army.

3. Costume

To dress men or women with clothes and ornaments of a lovely shape is an 'art'.

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4. Changing one's appearance (metamorphosis)
   To appear under all sorts of different forms is an 'art'. Use of
   this art was made by Hanumān when, at the time of his first meeting
   with Rāmacandra, he took on the appearance of a Brāhmaṇa.
5. Arranging of couches
   To fix couches and coverings beautifully, and to arrange flowers in
   all sorts of ways, is an 'art'.
6. Gambling
   To entertain people by gambling and other such amusements is
   an 'art'. In ancient times, all kinds of gambling were practised. Amongst
   them the game of dice is the most famous. Nala, Yudhiṣṭhira, Śakuni,
   were all accomplished players.
7. Sexual enjoyment
   Knowledge of sexual enjoyment through different bodily postures
   (āsana) is an 'art'.
   A description of the above seven arts is given in the Knowledge
   of Celestial Music, the "Gandharva Veda".
8. Agreeable Drinks
   To make liquors and wines distilled from all kinds of flowers is
   an 'art'.
9. Surgery
   To remove pain from a thorn prick or to remove the thorn, to open
   the veins or to lance boils is an 'art'.
10. Cooking with aromatic substances
    To cook all kinds of food with the juice of 'hing', 'asafoetida', and
    other aromatic plants, is an 'art'. Even such men as King Nala and
    Bhimasena were proficient in it. See Mahābhārata.
11. Horticulture
    The planting of trees, bamboos, creepers, to take care of trees
    and make them produce fruit and flowers, is an 'art'. In ancient
    books much is written about marvellous parks and gardens and from
    them we know that, even in very ancient times, this art was highly
    developed.
12. Metallurgy
    To mine stones, gold, silver and other metals, and purify them is
    an 'art'.
13. Sweet making
   To make all possible preparations of sugarcane-syrup, molasses, sugar loaf, crystallized sugar, powdered sugar, sugar candy, etc., is an 'art.'

14. Medicinal use of metals
   To know how to mix gold and other metals with all kinds of medicinal plants is an 'art.'

15. Analytic metallurgy
   To know how to separate mixed metals is an 'art.'

16. Synthetic metallurgy
   The primary mixing of metals is an 'art.'

17. Salt extraction
   The science of extracting salt from the sea, or from mud or other substances is an 'art.'

   These ten arts are related to medicine and are therefore included in Āyurveda, the science of long-life.

18. Archery
   To aim the weapon at a target and to throw it with the proper special movements of the feet or other parts of the body is an 'art.'

19. Wrestling
   The fighting of two wrestlers by manoeuvering the different parts of the body is an 'art.' From ancient times to this day, India has been outstanding in this art. The Dark Lord, Sire Kṛṣṇa in the court of King Kansa beat famous wrestlers like Cāṇūra and Muṣṭika. The Mahābhārata tells the story of the wrestling of Bhīmasena and Jarāsandha which lasted for several days. Fisticuffs (bāhuyuddha) is a particular form of wrestling. In this form fighters fight with no weapon of any kind save their fists alone. Śukrācārya condemns those who die in fisticuff contests: मृतस्य तस्य न लगोः यशो नेहाविद्धते | वज्र्यन्तिबिनाशायं नियुक्तं यशोऽयशोऽर्जुने ||
   न कस्यविधि कुपालौ प्राणोऽत्त्वं बाहुयुक्तम् | "For him who dies in these prizé fights there is no heaven nor even fame in this world. Fight should be for the sake of glory, aiming at the destruction of the pride and strength of the adversary. One should not, in fisticuffs, fight to death."

20. Boxing: the fight where, directly or in return, a man suddenly strikes at his opponent with terrific blows of the fist delivered in many different ways, or catches him in an unguarded position, holds him there and pummels him, etc., is called 'nipiran' (making to suffer); the
protection against such ‘nipiran’ practised by one’s opponent is called ‘counter-action’ (pratikriya). Hence, to protect oneself while dealing one’s opponent terrific blows with the fists is an ‘art’.

21. Mechanical warfare; To throw weapons by all sorts of mechanical devices onto an objective, and to direct the strategy of the army with sound and other signals is an ‘art’.

We learn from this that in ancient times weapons must have been thrown by machines, but seeing the great destruction they could cause, their use was restricted. Manu thus prohibits the making of large machines.

22. The making use in warfare of elephants, horses, chariots, etc., according to their respective speed is an ‘art’. These five arts are connected with the knowledge of weapons, Dhanurveda, the applied Knowledge (Upaveda) concerned with military art.

23. Postures: (आसना) To establish favourable contacts with supernatural beings by the use of the psychic effect of different bodily postures (āsana) and finger postures (mudrā) is an ‘art’.

The art of mudrās is almost lost today, most people do not even believe in it, yet few individuals who know it can still be found. In ancient times it had great renown and in many Sanskrit Tantras and Āgamas descriptions of mudrās can be found. Hypnotists are seen who make use of mudrās; through them they induce the passage of their own will-power into the subject of their experiment.

24. Manège: To drive a chariot and to teach horses, elephants, etc., their paces is an ‘art’. The study of this art was at all times considered an essential part of the education of princes. Had Arjuna not been accomplished in this art, when Duryodhana came to steal the cows of Virāt, how could he have offered them a contest in chariot driving? In the Mahābhārata war, how could the Dark Lord, Sire Kṛṣṇa have driven the chariot of Arjuna, or Śalya that of Karna?

25. Pot fashioning: To make pots of earth, wood, stone, brass and other metals is an ‘art’.

26. Painting and Drawing: Drawing and painting was so widespread that in every part of the country, in every house, it was practised. And it is still customary to-day, almost everywhere, to have the image of Ganesa or other deities painted above the lintels of houses. On the occasion
of certain social functions such as weddings, the women of the house make pictures and designs on the walls and the ground. In South India it is also still customary to draw a design, often very elaborate, before the threshold of the front door. In ancient times, the women were very expert in this art. Citralekhā, the friend of Uśā, daughter of Vānāsura had a most expert hand, and having seen someone once only, she could afterwards make a perfect likeness of him.

There are six parts to painting:
(a) Differentiation in shape (mixing of colours, brush strokes) हल्पकेर
(b) Proportionate measurement प्रमाण
(c) Unity of expression and beauty भाव लालपण्य योजना
(d) Likeness सार्वभूत
(e) Harmony of colours वर्णिका
(f) Composition मंत्र

27. Architecture: The making of tanks, wells, monuments, buildings, etc., and the levelling of earth is an ‘art’.

28. Instruments: The making of instruments to measure time, etc., and all sorts of instruments, is an ‘art’.

There were various instruments in ancient times for the measurement of time: water clocks, solar quadrants and devices with sand, of which the modern hour glass is a relic. Although these instruments have almost gone out of use, on account of modern watches, astrologers still use the water clock to determine, starting from sun-rise, the auspicious time for marriages, etc., and we may still see, under the porch of some old Rājā, a bell sounded to mark the time according to an old water clock, an hour glass or sun-dial quadrant. With such machines the ancient astrologers managed to have an accurate knowledge of the divisions of time, necessary for the making of horoscopes.

29. Dyeing: to colour clothes and other things, in different shades, or by mixing different colours, is an ‘art’.

30. Steam engines: To recover the steam born of water, air and fire, and to utilize it for various works is an ‘art’.

जलक्षणिकांगतिमाणोगिनिरूपिकाय किया कथा

“The work done by controlling the combination of water, air and fire is an ‘art’.

31. Conveyances: To produce boats and chariots and other means
of travel on land and water is an 'art'. While assuredly ancient peoples
knew how to make vehicles for land travel, horse carriages, bullock
carts, etc., of the best materials, equally they knew how to make many
kinds of ships, strong, beautiful and practical. We even find mention
of the use of ships in the Vedas. Great trade was done with these ships
with far distant countries, and taxes were imposed on goods coming and
going in these conveyances.

32. Rope making: To make ropes of cotton, wire, or jute is an 'art'.
33. Tailoring: To cut garments of any kind of cloth is an 'art'.
This art also was most highly developed from the most ancient times,
and very beautiful, strong and fine clothing was made which was never
surpassed in any country.

34. Precious stones: To recognize precious stones and pierce them
is an 'art'. In ancient times, the people of India could distinguish stones,
and knew their influence, on those who wore them. To counteract the
evil effect of certain planets, the scriptures teach that certain stones
should be worn.

35. Metallurgy: To know the purity of gold and silver is an 'art'.
36. Imitation jewellery: To produce imitations of gold, silver,
pearls, or jewels is an 'art'. We are told of the ancient alchemists who
were able to imitate gold, silver, etc. Precious stones were also imitated
in ancient times. With sugar, such diamonds were made that even
jewel experts could not easily detect them.

37. Jewellery: To make ornaments of gold and silver and to do
gilding and enamelling is an 'art'.
38. Leather work: To skin a dead animal and cure its hide, and
39. Tanning: to soften leather and make therefrom useful and
necessary articles is an 'art'.
40. Dairying: to know all the processes of dairying, from the
milking of cows or buffalos, the scalding of curds, to the churning and
clarifying of butter, is an 'art'.
41. Dress-making: to stitch shirts and clothes is an 'art'.
42. Natation: to swim, using all kinds of bodily movements with
the feet, arms, etc., is an 'art'.

43. Domestic science: to know how to clean household utensils is an 'art'.
44. Laundry: to clean clothes by expert washing is an 'art'.
45. Barbering: to shave well is an 'art'.
46. Oil extraction: to extract oil from sesamum, linseed, castor oil seed, ground-nuts, etc., is an 'art'.
47. Agriculture: to plough a furrow is an 'art', and
48. Tree climbing is also an 'art'.
49. Service: to know how to serve others in a manner pleasing to them is an 'art'.
50. Vannery: to make baskets of bamboo, palm leaves, date fibre, jute, is an 'art'.
51. Glass blowing: to make recipients and other objects of glass is an 'art'.
52. Irrigation: to give water to the fields is an 'art', and
53. Channel making: to collect water from small streams and swamps and bring it for long distances to where it is required is an 'art'.
54. Utensil making: to know how to fashion utensils from iron is an 'art'.
55. Saddlery: to make the proper riding saddles for elephants, horses, bullocks, camels, etc., is an 'art'.
56. Nursery: to take care of children,
   to feed them
57. to make all sorts of toys for them is an 'art'.
58. Punishing: to decide upon the punishment proportionate to the guilt is an 'art'. According to the guilt, whipping, flogging, casting down from cliffs, trampling by elephants, impaling, suspending by ropes, all sorts of punishments were decreed.
59. Calligraphy: to write beautifully the script of many countries is an 'art'.
60. Keeping Betel leaves fresh for many days and prevent decay for is an 'art'.

Thus we have sixty-one arts. But there are two further arts, which can be considered the soul of all the other arts.

62. Skill (आदान): this is said to be the quickness with which any work is done. And
63. Patience (प्रतिद्वार) which is the capacity to persevere with a work for a long time. Without these two qualities no art can be good.

Thus briefly are the sixty-three arts.

The nature of men varies; some have tendencies in one direction, others in another. He who has a tendency in one direction, with practice becomes proficient in it.

Hence Śukrācārya wrote:

यां यां कठोर समाधिभ्य (नेपुषो यो हि मानवः। नेपुषोकरणे सम्यक्त ता ता के वात्तु स पव हि।

The man who has become proficient in the practice of a craft, he should always practise it for the sake of efficiency"
ON THE ANTIQUITY OF IMAGE-WORSHIP IN INDIA

by B. M. BARUA

The worship of idols as cult images is as old as the Indus Valley civilisation, and this is unmistakably proved by figurines of deities on early Indian seals unearthed at Mohenjo-daro and Harappa. In the considered opinion of Sir John Marshall "the people of Mohenjo-daro had not only reached the stage of anthropomorphising their deities, but were worshipping them in that form as well as in the aniconic". Mackay traces images of certain household gods, in many of the numerous terracotta figurines. Ramaprasad Chanda went so far as to observe that "excavations at Harappa and Mohenjo-daro have brought to light ample evidence to show that the worship of human and superhuman beings in Yoga posture, both seated and standing, prevailed in the Indus Valley in the Chalcolithic period." And one may readily agree with J. N. Banerjea in thinking that the ideology which underlay many of the Indus valley divinities "does not correspond to the same at the root of such Vedic deities as Indra, Mitra, Agni, Varuna and others," in spite of the fact that "apparent reproductions of mythical scenes on these prehistoric objects might also have contained the germs of different mythologies of the later period.

Dr. J. N. Banerjea's thesis 'The Development of Hindu Iconography' contains the latest pronouncement on the evidence of the Vedas and Vedic texts concerning the prevalence and antiquity of image-worship in India as well as on the trend and ultimate form of the controversies that have been conducted thereon by

the previous scholars. I need not reiterate the points raised by Dr. Banerjea and discussed threadbare by a competent body of Vedic scholars. Here my concern is to draw attention of the scholars and researchers interested in the problem of the antiquity of image worship to certain references in Sanskrit and Pāli texts. The interest of the references I propose to consider lies not only in the fact that they throw light on the state of things which existed in India before and at the time of the rise of Buddhism but also in the fact that they help us to understand the nature of the perishable material used before King Aśoka came to substitute stone for it.

The prose treatise of the ‘Arthaśāstra’ recommends the allocation of such tutelary deities as Aparājita, Apratīhata, Jayanta, Vaijayanta, Śiva, Vaiśravaṇa (Kuvera), Āśvins, Śrī and Madirā in separate chambers of a fort. Among them, Jayanta finds mention in Āpastamba’s ‘Gṛhya-
sūtra’ (vii 20-3) and Śrī in several ancient texts, Vedic and Buddhist. The goddess Madirā may be identified with Āpastamba’s MIDHŪSI, while Śiva is no other then Īśāna mentioned in Āpastamba’s work (ib., vii. 20-3).1 The Jaina ‘Uttarādhhyayana-sūtra’ mentions by name Vijaya, Vaijayanta, Jayanta, Aparājita and Sarvārthasiddha as five classes of superior gods (anuttara sura).2 The ‘Jñātādhammakathāsūtra’ makes mention of Indra, Skanda, Rūdra, Śiva, Vaiśravaṇa, and Nāgas.3 The ‘Arthaśāstra’ refers also “to the figures of the goddesses and altars which were to be carved on wood door-frames of the royal underground chamber”, “to the images and flags of the gods (deva-dhvaja-pratimābhīh), and to going frequently for the worship of the shrines (caityyas), stūpas and images of deities (ib. xiii. 2). Manu, too, recommends the circum-
ambulation of images of deities (iv. 139) and going on ‘parvan’ days for the worship of images for protection (iv. 153), and penalises the destruction of images, flags and posts in a temple (ix. 285). The Devalakas as a class of temple priests are condemned (xii. 52). Dr. Banerjea rightly opines that the data furnished thus by the Arthaśāstra and ‘Manusamhitā’ go to prove “the prevalence of image worship in India of the 1st and 2nd centuries B.C., if not of an earlier period.”

The worship of images was undoubtedly prevalent in India of pre-Aśokan and pre-Buddhistic times. Pāṇini in his 'Aṣṭādhyāyī', devotes five aphorisms (v. 3. 96-100) to the topic of 'pratikṛti', a word which may be taken to mean an image, a portrait, in short a figure or concrete representation. In the very first of the five aphorisms, he defines a 'pratikṛti' as figuration in the likeness of something or some being ('ive pratikṛtau'). By the second aphorism he lays down the rule governing the naming of the concrete representation of a likeness (samjñāyām); in the third, he speaks of figuration in human or anthropomorphous forms (manuṣye). The fourth 'sūtra' bears testimony to the use of the images as a means of livelihood, though not as articles of trade ('jīvikaṭhe cāpyane'), while the fifth one refers to the 'pratikṛti' of the heavenward path and the like (devapathādibhyah). As the commentators rightly point out, the fourth aphorism distinctly speaks of the profession of the Devalakas who used to beg alms from door to door by showing images or portraits of deities to the people.

One of the 'anuṣṭubh' verses cited in the prose 'Arthaśāstra' (IV. 13) prescribes that a thoughtless man who indulges in sexual connexion with (female) brutes should be fined 12 'paṇas', and that the amount should be doubled in the case of a person who commits the same offence with the idols of goddesses:

"Maithune dvādaśapanaḥ tiryagyonisvanātmanah | daivata-pratimāṇam ca gamane dvīgūnas śrītaḥ"

This stands at the end of other prescriptions in prose providing punishment in varying degrees for a culprit who commits adultery with women of different social grades and ranks.

As for the bearing of the quoted 'śloka' on the age to which it may be referred, attention may be drawn to the first 'pārājika' rule of the 'Bhikkhu Pātimokkha' which is embodied and annotated in such an ancient 'Pārī' text as the 'Suttavibhaṅga'. The 'Pātimokkha' code prescribes almost in the same language an extreme form of punishment for a male member of the Saṅgha who indulges in sexual connexion with women, nay, even with female brutes: "Yo pana bhikkhu...methunaṃ dhammaṃ paṭiseveyya antamaso tiracchānakatāyapi pārājiko hoti asāmvāso".

To the same effect it is enjoined in the 'Vinaya Mahāvagga' (cattāri akaraṇīyāṇi):
“Upaśampannena bhikkhunā methuno dhammo na paṭisevitabbo antamaso’ tiracchānagatāyapi”.

With regard to persons having sexual connexion with the idols of goddesses, it is laid down in the 'Suttavibhaṅga' (Vinaya Piṭaka, III, p. 36) that a Bhikkhu committing this act with a female portrait in painting on plaster (lepacittā) or a female figure in wood (dāru-dhitalikā) is equally liable to expulsion from the Saṅgha under the Pārañjika section of the Pātimokkha code.

The Pāli scholiast Buddhaghosa defines 'lepacittā' as 'cittakamarūpa', a (female) portrait in a piece of painting (lepacittavatthumhi lepacittannāma cittakammarūpa). Similarly he defines 'dāru-dhitalikā' as a female figure (itthirūpa) carved in wood (dārudhitalikavatthumhi dārudhitalikā nāma kaṭṭharūpa). To this he adds that the same rule applies "just as in the case of these two (viz., 'lepacittā' and 'dārudhitalikā'), so also in that of female figures carved in ivory, made of or drawn on cloth, or carved on iron and such other substances". ("yathā ca imesu dvīsu evaṃ aṅgīresu pi dantarūpa-potthakarūpa loharūpādisu anupādinnakesu itthirūpesu" ('Samantapāsādikā', i, p. 278).

The Pāli 'potthaka' is the same word as the Sk. 'posta' which according to the 'Amarakośa' (Śūdravarga, 76), means painting or relief work on plaster and such other works ('tulye pustāṃ lepādi-karmam'), while the words 'pāṅcālikā' and 'putrikā' (corresponding to the Pāli 'dhitalikā' or 'dhitalikā') denote dolls or idols made of cloth, or carved in ivory and such other substances (ib., 77). As the commentators point out, by other works are meant the making of dolls or idols with such materials as earth, wood, cloth, skin, iron, and jewels. The Pāli 'lepacittā' is evidently the same technical term of Indian art as the Sanskrit 'lepyacitra' which is met with in much later works as the 'Hayasīrṣa-paṅcarātra'. The 'lepyacitra' is aptly distinguished from the 'jekhyā'. The 'cārancitra' or 'karaṇacitra' praised by the Buddha as the most superb of all pictorial art of his time may be cited as an example of 'jekhyā citra'. The 'lepacitta' or 'lepyacitra', literally as well as technically denotes a form of painting for which the ground (vatthu) had to be prepared by means of plaster on wall, wood, cloth, or some such substance.

CHAMBĀ RUMĀL

by KALYAN KUMAR GANGULI

Chambā rumāls are cotton textiles decorated with figures and designs embroidered with silk threads of various colours. The rumāls are oblong or square and their side length is usually between 2 and 3 feet; fairly large pieces (5' square, etc.) are also fully embroidered. They derive their name from Chambā, the place of their origin, an Indian state in the south western Himalayas, within the province of the Punjab. This, along with a number of other Himalayan states like Kāṅgrā, Basohli, Jammu, etc., came to be noted for the schools of painting which flourished there during the last two or three centuries. These paintings are known as belonging to the Pāhārī or Hill schools of Indian painting.

The rumāls bear a close affinity to certain paintings of the Pāhārī school. The cloth which serves as the ground is usually a piece of hand spun and hand woven cotton often used after a certain amount of bleaching. The outlines of the figures and patterns are first drawn by an artist and finally a thread is run along them in one direction. Then, once again the thread is run along filling up the gaps between the stitches. This process makes the lines continuous and similar on both the sides. The space within the drawn outline, however, is first filled up with close, overlapping parallel stitches. Front and back are almost alike.

Some motives of the rumāls have parallels in the Kanthās and Bāluchar Sādīs of Bengal and the shawls of Kashmir; the wavy floral scrolls and the life-tree, known as 'kalkā' are common to the Chambā rumals, the Kashmir shawls as well as the Bāluchar Sādīs. In the latter, human figures preponderate whereas the Kashmir shawls show them but rarely and then mainly in embroidered and not in woven specimens. The scheme of decoration in the Kanthās is of a specific order although the
Kalkā again is a very commonly used motif in the decoration of the corners. Besides this, there are geometrical and pictorial patterns consisting of human beings, animals and plants.

The Kanthās have little in common with the sophisticated rumāls, shawls and the Bāluchār Sādhis. They are made of waste, worn out cloth; even the threads used in making the embroidery of the Kanthās are taken from the ends of the used cloth. The patterns or the motifs, whether these are human beings, animals, trees or any other object, are generally arranged round a central lotus. Little regard is shown to any kind of perspective, and though the effect becomes to some extent pictorial, the Kanthās can in no way be compared to any picture.

The decoration of the Chambā rumāls is essentially pictorial. The ground of the rumāls is plain, it is formed by the white or cream cloth itself. The figures are bound by lines and their surfaces are filled up completely with the colour of the embroidery. Dr. Kramrisch observes that the rumāls are translations of painting into embroidery. They resemble very closely the Kāṅgrā paintings among those of the western Himalayan hill schools.

Kāṅgrā painting is a provincial expression of Rājput painting in which has been traced the survival of Indian pictorial traditions from very early times. The themes of Rājput painting have a wide range. In the Pāhārī schools the subjects that enjoyed widespread popularity were from the epics, the Rāmāyaṇa and the Mahābhārata, and the Purāṇas principally depicting the life story of Kṛṣṇa, and others depicting Rāgas and Rāginīs, etc. In the rumāls also we find the same subjects, the scenes from the Rāmāyaṇa and the Mahābhārata, but none rival the popularity of the Vaiṣṇavite theme of the Kṛṣṇa līlā. Among the Rāmāyaṇa motifs are frequent the seated figures of Rāma and Sītā installed in an arched pavilion situated in a wide courtyard ornamented with trees; the coronation of Rāma or the epic battle of Rāma's forces with those of Rāvana, taking place on the sea side beside the walled city of Laṅka. Of the episodes taken from the life of Kṛṣṇa the scene of his birth in the prison of Kaṅsa, his journey on Vāsudeva's lap from Mathurā to Gokul, miracles

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1. 'Kantha' by St. Kramrisch, JISOA, vol. VII.
of his early life, his sports with the Gopinīs of Vṛndāvana and his return back to Mathurā, are often shown in the same rumāl; of the miracles of his early life those at Govardhana dhāraṇa, Kaliyadamanā, Śakaṭa bhaṅga, Yamalārjuna, and the destruction of demons like Putanā and Dhenuka, etc. are very common. His sports with the cow-boys of Vṛndāvana known as Goṣṭha līlā also have their place in many of the rumāls but none of these subjects has the popularity of the Rāsa līlā.

Rāsa līlā indicates Śrī Kṛṣṇa’s sports with the milk-maids or the Gopinīs of Vṛndāvana. The Bhāgavata Purāṇa tells that Kṛṣṇa had taken a pledge to dance with the Gopinīs. On a full moon (purnimā) night of a cloudless autumn season he remembered his promise and began to play on his flute calling the Gopinīs near him. The flute had an irresistible charm for the maids of Gokul who left their homes and their husbands and assembled on the bank of the Jamunā to attend the call of the flute. Kṛṣṇa, however, put them to test to be sure of their devotion and through suffering the Gopinīs proved themselves purified and worthy of dancing with Kṛṣṇa. Rādhi was his chief favourite with whom, hand in hand, he began to dance and the other Gopinīs danced round them in the form of a circle, the Maṇḍala, Kṛṣṇa by power of yoga multiplied his form and each Gopinī in the Maṇḍala found herself next to Kṛṣṇa.

The circular motif created by the dancing cordon appears to have a peculiar significance. In the Kanthās the motifs usually are laid round a large circle of the form of a lotus which generally covers the central space. It is as if the lotus keeps the otherwise not always connected figures related to its own shape and bound up with it.

In the Rāsa scenes the case appears to be almost the same. At the centre of the Rāsa scene there is Kṛṣṇa or Kṛṣṇa dancing with Rādhi. Round this couple dance the Gopinīs and Kṛṣṇa’s multiples forming a close circular pattern. Animals, birds, female figures, find a place in the entire scheme, arranged according to each individual motif’s relation to the main circle. There are rumāls in which more than one event of Kṛṣṇa’s life are shown. In such rumāls also the scene of Rāsa finds a prominent place and the other incidents of his life are arranged around it.
In other, less formal, designs, the Rāsa dance is shown without the Gopiniś forming a closed circle. Their figures fill the entire space within the border (Pl. III).

Usually the entire face of a whole rumāl is considered as one compartment bound on four sides by a border. Not infrequently, however, the surface of the rumāl is divided into more than one compartment. Sometimes these are parallel oblong rows (Pl. IV; only half of the rumāl being reproduced). In one such compartment a male figure with turban and ‘chogā’ is seated on a six legged stool attending to the dancing performance of a girl who balances a number of superposed pots on her outstretched arms and on the head. Two musicians, one with a drum, (mṛdaṅga) and the other with a lute (vīnā) are playing to the dancer. On the right hand side of them are a male and a female figure talking to each other. Besides these there are a few plants and animals including birds neatly arranged around the dancer. The lower panel is subdivided into smaller compartments by broad leafed trees. Division of the surface of the rumāl is frequent where the life story of Kṛṣṇa is depicted, each incident being shown in an independent panel. This is also common in the scroll ‘paṭs’ of Bengal. There too, the life story of Kṛṣṇa, usually shown in successive panels, is a very popular theme.

Among the recurrent motifs the following may be enumerated: trees with pavements round their trunks, arched shapes depicting clouds, pavilions and courts with surrounding walls, rooms with arched porticoes, balcony windows with faces of women and always trees, flowering plants, peacocks, deers and varieties of birds and animals interspersed everywhere. The outline of the figures are usually drawn in threads of black colour. The coloured, glossy silk threads which cover the surfaces are mellow: pink, red, sky blue, light yellow, deep yellow, silver white, orange, brown, light green, white and grey. The human faces are seen in three quarter profile or profile and back views also occur.

The costumes worn by the figures are rich and varied. Male figures, most often than not, wear some sort of a head cover. Figures of Kṛṣṇa are distinguished by his peculiar peacock feather crown. Various types of turbans are worn by different classes of men; conical caps with a fillet around grace; the heads of cowboys. On the upper portion
of the body, Kṛṣṇa has a yellow piece of cloth slung round. Other figures are mostly clad in some sort of tailored and stitched garment. A tight garment, called the ‘jāmā’ fastened at the side, at the shoulder and above the waist, is very common. A long coat, tight fitting over the chest and with a wide, skirt-like end is also frequently met with. This type of coat is usually known as ‘achkān’. Garments of the lower portion of the body comprise of the ‘dhotī’ and ‘pāijamās’ of different types. Male figures wear as ornaments, earrings usually known as ‘bālā’ or ‘birbali’; armlets called ‘bhuj-band’ and bracelets called ‘kaṅkan’ and anklets in case of figures of Kṛṣṇa. Women wear scarfs called ‘orhīn’, a tight fitting bodice called “aṅgiyā”, or a full sleeve, shirt like garment called ‘kurtī’ or ‘pānjābī’; wide, gathered skirts called ‘ghārā’ of different types, and a ‘pāijmā’ often worn under the ‘ghārā’. The ‘ghārās’ worn by the girls in the Rāsalīlā dance ( Pl. III ) illustrated here, appear to have an opening at the front and an additional piece of cloth like the ‘kochā’ which covers this opening. The ‘pāijmā’ and this slit skirt can be seen where the figures are shown in poses of dancing. Many of the female figures are shown wearing a ‘sāḍi’. The ‘sāḍi’ is worn like a skirt having a ‘kochā’ or tuft in front and the ends are drawn over the head and across the breast. The ornaments of the female figures consist of ‘karn-phul’ or earrings, ‘hāra’ or necklace, ‘bhuj-bandh’ or armlets and ‘kaṅkaṇa’ or bracelets. The ‘bhuj-bandh’ or armlets have often tassels hanging from them.

The figures of the animals, trees, clouds, the architecture, pavilions and porticos, the motifs like the Kālīyadāmana, Goṭhālīlā, and Rāsalīlā, and the costume and ornaments of the figures bear a close resemblance to those in the paintings of the Kāṅgrā school.

Of the Kṛṣṇa Līlā scenes, a large rumāl, a part of which has been reproduced here, is of considerable interest ( Pl. V ). At the centre of the scene is shown a dwarfish tree with a square pavement round its trunk. On the left of the tree there are portions of a palace with people on top of the roof playing on various musical instruments. Streamers are fluttering from the top of the turrets, and faces are seen peeping through windows. On the right ( not shown here ), evening time is indicated by a descending sun and cow-herds are shown returning from the grazing ground. ‘Below’ the palace there is a number of female figures returning to the palace after filling their pitchers in a
stream shown along the lower end of the surface. On top of the tree there are two couplets sewn in black thread which read thus:

देखा देखी माहे तै साकु शव छुटि गई मिरो कुल कानि है सौ घास लै बोली

हयारंकरे जब मिरो चकड़ी गात घड़ी मात छब्बी ऐसे नहीं कहे उड़िथे।

बीतै सहे काटें टोटे तहे कासीराम नैक न परवाह लाख होगन की ठीकी

कंसी सोधी नाराजगी सुधिते नागरी की सुधिते नागरी की मरीजी।

"The moment they (Radha and Krishna) met (and were smitten with the arrow of love) they lost all sense of scrupulous shyness. Radha would no longer draw her veil over her face. Love-full eyes would continue to look at each other in constant gaze and the throbings of the heart were almost stopped. Both remained standing like two pictures without having any care for the innumerable crowds standing nearby. Sri Krishna forgot to play on his flute and Radha to fill her pitcher."

The couplet evidently gives the identification of the scene.

The rumal is about a hundred years old. The tradition of making such rumals is still maintained in Chamba but the quality has deteriorated to a great extent. The subjects are still the same but the embroidery is careless. The front and back of it are no longer practically identical in the neatness of execution. Only the front is meant to be seen; the surfaces are covered with coarse stitches in aniline-dye coloured silk threads. The desire to suit the vulgar taste of the present day has resulted in an irrecoverable loss of beauty.

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1. Reading and translation by L. Sükul.

The rumals, Pls. III and IV, are in the collection of Mr. Percy Brown; the original of Pl. V, is in the Lahore Museum.
THE NATURE OF TIME

II काल तत्त्व II

From the teachings of
Śrī Bhārgava Śivarām Kinkar Yogatrayānand Ji*

The Nature of Time-Energy

Bhartṛhari—his feet be worshipped—once said that although all that is evolved eternally dwells, according to the hierarchy of potentialities, in the womb of its evolver, yet since it cannot remain constantly manifest, its manifestation ultimately depends upon Time (Kāla). All the energies which have a beginning and [an end] are dependent; they have to operate within the limits of some independent energy and are ruled by it. This independent Energy is called Time-Energy (Kāla Śakti). Nāgeśa Bhaṭṭa explaining this in his book "The [jewel] casket" (मज्जयः), wrote that Time (Kāla) is the principle (हेतु) of the rise, enduring and destruction of Existence itself. It is Time (Kāla) which, as winter, bars the power of bringing forth flowers and fruits in the mango tree, and again Time (Kāla) which, as spring, unlocks the power of procreation. The energies, ever present in a subtle shape in the causal-womb, are not free to manifest themselves in any order. They have to wait for the pleasure of some independent energy. And this energy in the control (बश) of which they exist is but Time-Energy, Kāla Śakti.

What is Time?

In the hermetic parts of the Primordial Knowledge of subtle correspondences (Atharva-Veda-Saṃhitā) it is said:

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* Extracts from the Hindi version of विन्द तथा विन्दर्थन तत्त्व (the original being in Bengali).
Translation and notes by Śiva Śaraṇ.
Vedie words and mantras interpreted by Paṇḍit Vijayānand Tripāṭhi.
"From Time did heaven rise, Time engendered this earth, in Time
dwell past and future and their oriented motion. In Time exist the
elements of the spatial universe; in Time does sight see; in Time
dwells mind, in Time life breathes. All is supported by Time. Time
is the Divinity of all, the progenitor even of the Ruler of Creation.
The universe is by it oriented, it is by it engendered, and stands within it.”
Time, thus pervades the dualism subject-object, enjoyer-enjoyed. Time
is the nourisher, the support, the creator of all the spheres (धृवन्)
pervading them. Time is everywhere present; a father, a son are but forms of
Time. Time is the cause of the universe, yet the resulting universe is
nothing but time.

Thus, we can understand that in the Primordial-Knowledge the
word Time (Kāla) is used to represent the union of the ‘Auspicious
unmanifest principle’ (Śiva) and [ his Power ] Śivā, [ the eternal
auspicious night in the womb of which the universe dissolves into
sleep, ], that is the Illusionist (Māyā), the Principle of all, united to
his Power of Illusion (Māyā).

The Two Forms of Time

The Primordial Knowledge, the Veda, and the other scriptures
based upon it, speak of the dual shape of Time (Kāla). In the
“[mystical] ‘forest teachings’ of the Primordial Revelation” (Āranyaka
Śruti) called Taittirīya, it is said that2 “springing out [ from a never

1. The word Śiva comes from the root स्व to sleep.

That in which all goes to rest, which is the support of all is Śiva. His Energy, by which the
universe is put to sleep, is Śivā, the Eternal night.

( 2 ) नरदिव प्रभवान् कान्तिसः। धृवादा भवन्ते यथा तौ मदीर्षि समायति। चीर्षः सति न निर्मल्लेत। एव
शान्तसहस्त्यानः। कालः स्व कर्तर् निवातः। विषयं सहस्रं सर्वं समस्ययति। स तैः गंगेः। समाचिं।। खद। चगं
निर्मल्लेत।

(Taittirīya Āranyaka 1/3/3-5)
the river [ of Time (kāla nadi') ] flows ever evenly and, just as [ by the reunion of many small rivers ] this [ great river ] expands and never recedes ( never dries ), so also the small [ divisions of ] time, [ the instants (kṣaṇa) and moments (muhūrta = 40 minutes), ] and the greater [ rivers of ] Time, [ the days and fortwnights, ] all contribute to the [ flow of the ] year. All [ small or great parts of Time, ] unite in a vast uninterrupted flow." When the small instants and moments, carried upon the greater divisions of Time (kālābhyva) assemble to form the year, the shape of Time becomes perceptible and its reality can be understood.

The 'higher reality' (abhisambhava) which gives rise to the tangible (sūkṣma) Time, which can experienced (abhavārkina) is, in many a sacred verse, spoken of as the Duration of Time (kālakāla). This inflexible unfragmented Duration of Time, likened to an indivisible rod (alakṣṇa durdāyaman) cannot be perceived by any sight other than that of Primordial Knowledge—the Veda—and the correlated scriptures. Its one indivisible reality, circumscribed (paricharana) by the Power of Illusion,—Māyā, appears to take multiple forms. The spatial Universe's sphere (vibhūtisvan) is but a particular state of indivisible Existence-Consciousness-Bliss [ apparently ] divided by the power of Illusion.

( Atharva Veda Samhitā, 19/6/53/3 )

"In the full chalice of [ Eternal ] Time; verily are kept the multiple shapes [ of fragmentary time ] which the sages can truly see. This inner Time pervades all the worlds [ and ] is said [ to dwell ] in the supreme firmament, [ the Pure Principle, Brahma ]."

The book of Astrology called "The Solar principle" (Sūryya Siddhānta) also explains that Time (Kāla) is of two kinds, the one 'like a rod indivisible and inflexible' (alakṣṇa durdāyaman) and the other 'the
nature of which is to measure' (कलनात्मक). The Duration (काल, cause of the rise, enduring and destruction of the moving universe based upon the [dualism] inertia-motion, the Duration without an end (अक्षय) is "the partless rod-like Time" (अब्रस्तं दुष्कायमान) while the Duration which can be experimented (निष्ठृत्व), which is the object of perception, is Time, the measurable Duration (कलनात्मक काल).

(Śūryya Siddhānta)

"Time by which the worlds come to an end is one time; whose nature is to measure is the other. This one is also of two kinds, gross and subtle, hence called tangible (मूत्र) and intangible (अमूत्र).

In the part of the metaphysical "nearest approach" (upaniṣad) called the Śvetāsvatara, the Supreme Self (परमात्मा), the Duration of Time (काल काल) is spoken of:

(Śvetāsvatara Upaniṣad)

"He is the builder of the spatial universe, the knower of the spatial universe, the Self, the knower of the womb, the maker of time, having [all] qualities [he is] the knower of all, the first evolver, the master who knows body and mind, the lord of [the three fundamental] qualities, the cause of the liberation, the enduring and the cohesion of the universe."

The hermetic 'Suṣrutasamhitā' tells that Time is not produced through anyone's agency and is not a development (परिपत्र) [from something else].

( Suṣruta Saṃhitā, Sūtrasūtra)

"Time, O Lord! is self-born, beginningless, middle-less, endless; in it dwell the scarcity and abundance of things and the life and death of men". The 'Kāla Mādhava' makes a distinction between two sorts

1. A treatise on the Dharma Śāstras.
of Time on grounds of measurability (कल्पितत्व) saying: That by which the physical existence of living beings can be measured (कल्पन), counted (संख्य), known (हेव), in terms of past-present-future, is called "mere Time" (केवल काल) and that by which this "mere time" can be measured (कल्पन), known (हेव), in terms of rise-enduring-destruction, is the Duration of Time (काल-काल). From the "cosmological point of view (सांख्या दर्शान) also, Time (काल) is of two kinds, perpetual (नित्य) and fractional (खर्च); fractional space-time (खर्च विना काल) is considered implied in the element Ether. The speculative philosophers (तार्किक गण) such as Raghunātha Śiromāni,¹ say that the essential-nature of Space-Time (विना काल) is Divinity and nothing distinct from Divinity (इश्वर).

The Cause of the Different States of Existence according to the Vākyapādiya

Bhartṛhari—his feet be worshipped—said that: "the uncontrollable (अव्याहत) portions (काल) of Him [the all-powerful Supreme Principle, which is Existence-Consciousness Bliss,] when surrounded by uncircumscribable (अपरिचित) eternal energy (नित्यः) which is Time-energy (कालशक्ति), [and as a result of its action] shelter [i.e. are apparently] transformed (विकर्ष) into the six states of existence, (भाव विकार) [taking birth,] enduring (स्थिरति), evolving (विपरिताम), growing (उद्धर्थ), declining (अपाश्चय) and being destroyed (विनाश)."

अव्याहतः काल यस्य कालशक्तिः पुष्पाश्चर्यः

मन्मद्यो विकारः पद्म भावमेदेस्य योरः

(Vākyapādiya)

The six forms of existence thus represent particularized states of the Energy, circumscribed by Time (कालविना), of Supreme Divinity, itself in no way limited (अपरिचित). Energies can abandon one form of existence to evolve other forms or states, but they neither increase nor decrease. There is no variation in the total energy which ever remains the same. All forces, the mechanical, chemical, electrical, vital, are interconnected. Each one

¹ A famous logician from Bengal.
can take the form of the others, each can exist of the existence of the others; this is why, in the universe, constant transformations take place, although it remains itself unchanged.

The Nature of Fractional Time

Before defining the words ‘instant’ and ‘sequence’ (काम) one should first understand the nature (स्वरूप) of fractional Time (स्वरूपकाल). As was said before there are two kinds of Time, the one fraction-less, rod-like and the other fractional. Instant, moment (muhūrta), day, fortnight, etc., are particular states of fractional time. To explain the intrinsic shape (स्वरूप) of fractional time (the time which we ordinarily understand as such) the Taittiriya Āraṇyaka tells:

सृष्टिं मरीचिमातृले सत्वं स्वादु सुवनाधिक ।
तत्त्वं पाकविशेषण स्वातं काठविशेषणम्।

(Taittiriya Āraṇyaka, 1/2/2)

"The Sun [in the beginning] poured forth radiations (मरीचि) [cause of all activity], upon all the world. Revelation tells that to differences in the heating action of these [radiations] are due the differences of Time."

From the seed springs a germ, and from the germ grows a branch, the branch produces leaves and flowers, the flower evolves into a fruit, and the fruit again gives a seed. On whichever side he may look, man sees coming towards him, the endless flow of transformation (परिणाम प्रवाह).

Everything in the world is incessant transformation. It is to explain this that the mystical Taittiriya Āraṇyaka tells that the solar rays themselves—the heating power (संतापनी शक्ति) of the sun—are the cause of all transformation. The Sun-god, by his heating energy, incessantly burns the world. The world’s transformation is the effect of this heat. Rice and other substances, when cooked, are transformed into food by the heat of fire. Water, when heated, becomes steam. All action or transformation in the world is similarly due to heat. Wheresoever transformation appears before us, we should understand that its cause is necessarily the heating Power of the Sun.

What is Heat?

When any substance (द्रव्य) is heated, two kinds of actions take place in it proportionately to the quantity of heat. First, in the mass
of atoms, the expanding tendency (rajo guna), i.e. motion, increases; secondly in the substance acted upon (विशिष्ट) by the heat there is atomal disaggregation (विभ्रंश) ; the atomal power of attraction of the atoms becomes weak and from this follows a transformation (परिणाम) in the properties, the characteristics and the state of that substance. This is what is called a cooking. In this connection the Revealed Word (श्रुति), in the [mystical] 'forest teachings' (आरण्यक) called Uddhṛt, explains that the cooking-action of the heat projected from the solar sphere (सूचयं मण्डलं), upon the mass of the elements (सूक्ष्मज्ञात) contained in the world's sphere (सुवन) according to its relative intensity, determines the particularized Duration, the length of the instants (क्षण), moments (सुदृंच), etc. Through it the divisions of time from 'a wink of the eye' (निमेय) to the half-life-time of the Creator (पराठ) can be known. The author of the Mahābhāṣya, Patañjali, in his commentary of the Pāṇini Sūtra (कालं परिमाणिनं) 'Durations are measurable limits', says that the power by which trees, grass, creepers and other formal (सूचिमत्त) substances (द्रष्य) are seen sometimes to grow, sometimes to decline, is called Time (काल). If the increase or decrease of formal substances could be the result of non-particularized Duration (अविशेष काल) such divisions as day, night, fortnight, month, equinoxial half-year, year, ages (yugas), etc., would never have existed. We know them to be the different parts of Time; but how partless Duration possibly came to be so divided, remains to be explained.

How can Partless Duration be Fractioned?

Answering this question the divine Patañjali says that although Time (Kāla) is eternal (लित्व), although Time is without a second, is an indivisible (अलेक्क) ruling (विचु) principle (पदार्थ), although it knows no real differentiation, yet, through a difference of attributes, its differentiation is supposed (कल्पना) as is also the case with the all pervading Ether. Fraction-less, rod-like Time, when all the forms of action (लित्व) are associated with it, seems to take different shapes. Associated to a particular form of action, Time becomes day; associated to another form of action it becomes night, with another action it is month, with another year, with yet another an age (yuga). By association with what sort of action does Time take the form of day? the answer of
Patañjali is that, associated to a particular motion of the Sun, Time takes the shape of day.

चेन स्मृतानामुपचार्यायाय पद्यन्ते तेन तालमित्याहुः। तस्येव क्याचित्तु किवा युक्ताय तरिकेय च भवति तलिरित्य च। किवा किवा? आदिन्याय। तस्यावस्तुत्वादाशयं
मात्र हित भवति संवत्तरह इति च भवति।

(Mahābhāṣya)

"That through which can be recognized the increase and decrease of all that has shape is called Time. In connection with a special action of this [Time] day exists and also night. This [special] action is the motion of the Sun. Through its periodic revolution the month comes to exist, and the year."

The hermetic (samhitā) Suśruta also says that

संवत्तरत्वायेकक्षवानावियो गीतविशेषे निषेध काशा काश्चुत्तोरातिकालंसत्तवैवः
समवत्तरयुगप्रविभागं करोति। ... स एव निषेधदियुगपयत्त काश्चकावतु परिवर्त्तमानः काल
ब्रह्मचक्षुश्च इति।

(Suśruta Saṁhitā, Sūtrasthāna)

"The special motion of the all powerful Sun, intrinsic shape (क्षत्र) of the year, creates the division of the 'wink of eye' ('nimēṣa' = ⁹⁄₁₀ of a second), the 'limit' ('kāṣṭhā' = 32 seconds), the 'portion' ('kāla' = 96 sec.), moment ('muhūrta' = 48 minutes), day and night ('ahorāra'), fortnight ('पक्ष'), months ('मास'), season ('मौसूम'), half-year ('युग'), year, and age ('युग').

Since [measurable] Time from 'wink of eye' to 'age' revolves like a wheel, these are called the cycles of Time".

In the 'nearest approach' called "the Sun", Sūrya (Upaniṣad), it is said that all things are born from the Sun (Āditya).

कालचक्र प्रकटतामे श्री सूर्यनारायणम् एवं बेद स वै भ्रमणं:

(Sūrya Upaniṣad)

"The Originator of the cycle of Time is Sire the Sun, abode of all creation; whoever knows it knows the Principle of all."

Definition of the Instant (kṣaṇa)

Just as one supposes the existence of an element of matter (द्रव्य) which can no more be divided, and which is called the atom (प्रमाण)
similarly the 'smallest possible' (अपकर्ष काल प्राप्त) element of Time is called 'instant' (खण्ड).

The expression 'smallest possible element' is made from the word (अपकर्ष) "to divide, to make small, to decrease" and the word (काल) "extreme". It means that dividing Time into smaller and smaller fractions, a limit is reached when it can no more be divided. This indivisible fraction of Time, corresponding to the atom, is called 'smallest possible element'. It corresponds also to the time in which a moving atom moving by its own length occupies, in space, the place immediately adjacent to that it occupied previously.

Definition of Sequence (क्रम)

The uninterrupted (अविनियंत्य) current, continuous like the flow of oil, of the instants, its never ceasing (अवि-राम) oriented motion (प्रकृति), is called "sequence" (क्रम). The world cannot for one instant even remain without transforming itself; without changing it cannot exist; transformation is the world's nature, transformation its intrinsic form (स्वरूप). After one instant comes another instant, after it another, then again another and, in this way, moves the endless current of time. Whatever we experience is transformation, is change or action. The passage or step from one state of existence into another is transformation (परिताप) or change (परिवर्तन). From the root 'kram' (stride, step) the word 'krama' (sequence) is made. It has been said that the reality of sequence (क्रम) is only grasped at the end (अपरांत) of the transformation (परिताप).

नवस्थापकर्षयें उपस्थितं जञ्ञान च विभेदमिव परमाश्रेयोमयापकर्षयेत: काल: क्षण: यादवत वा समेतैन चालित: वर्णया पूर्ववेदं जञ्ञानान्तर्ब्रम्हसम्भवित स काल: क्षण: तत्त् प्रवाहाविचेतस्तु क्रमः।

"Just as the limit of the division of matter is the atom so also the limit of the division of time is the instant. The time in which the moving atom leaving its previous place reaches the adjacent one is the instant. Its uninterrupted flow is sequence (क्रम).

क्षणनान्तर्वत्ता परितापस्यावसानन्तः अवसानन्तः गृहयते क्रमः"

1. Commentary of Vyāsadeva on Pāṇiniśa dharmāna (भीः पाणीः) 52nd sūtra.
2. Commentary of Vyāsadeva on Pāṇiniśa dharmāna (भीः पाणीः) 53rd sūtra.
“Sequence, the nature of which is the uninterrupted flow of instants, is grasped at the end of the transformation.”

All transformation (परिणाम) is the cumulative effect of the operation (व्यवर) of sequence (क्रम) ; only at the final limit (अपरात्त), the end (अवसान) of a transformation, can it be inferred (अनुमान) that a translation (पीच्यापच्य) which is sequence has taken place. The word ‘sequence’ thus, represents the transformation which will be experienced (अनुभूत) only at the final instant through the cumulative faculty (संकल्प) of the Intellect (बुद्धि). Bhartṛhari explains that knowledge of action is but knowledge of instants, moments and other aspects of fractional time. He says:

गुणसृतएवं समूहः कमजन्मनामः। बुद्धया प्रकल्पितमेवं कविष्ठति व्यपदिष्यते

(Vākya padiya).

“The assemblage of that which exists within quality, has [distinct] parts, results from sequence and is conceived by the intellect as one thing, is commonly spoken of as ‘action‘.” For a whole year I wore the same clothes, then, one day, some part of it tore away. Thus only did I know that my garment had worn. Yet it did not wear in a day. Its wearing began from the very instant when its shape was evolved. From that instant it began to burn (पाक क्रिया). When the wearing of this cloth, passing through extreme, relative and mere subtleness, reached the gross stage, then only did I know that wear had come. This transformation (परिणाम) experienced only at the last instant through the cumulative faculty of the intellect, is ‘sequence’.

Nature, Person and Time

प्रत्येकमिति वा यस्य पायो न वध्येत तत्वं विद्विन्ति वेदेन तत्मात्तै वेदेन वेदताः।

“That which is not known through ‘sensorial evidence’ (प्रत्ययक), nor inference (अनुमान), nor any other means, that is known through Veda, this is why Veda is Veda’.

If we want to know the real essence of things, no one has the power to explain it except the Primordial Knowledge, the Veda and the other scriptures based upon it. The Primordial Knowledge tells that upon Time (काल) depends the creation, standing, and destruction of the world. In the Viṣṇu Purāṇa also it is told that “The Principle, the Supreme Person, [the Pervader (Viṣṇu)] is the agent (शौक) and [is also under
another shape,] the thing agitated. Within the two states of Contraction (संकोच), i.e. the state of equality of the three qualities and expansion (विकास), the state of agitation (शोभ) of the three qualities). He ever remains present (विद्यमान) as the ‘First evolver’ (प्राण) [or ‘Basic nature’ (प्रकृति)].

स पव क्रोधको भ्रमणः क्रोधको पुष्योत्तमः ।
स सुभोविकासयां प्राणान्तिपि च स्थितः ॥

(Viṣṇu Purāṇa, 1/2/31)

Here the moving universe is shown as a development (परिधान) from Nature, made of the three qualities—the ascending, expanding, and descending tendencies—resting upon the Conscious; Nature is the Energy of the Supreme Self, of the Pervader (Viṣṇu), cause of all; but Energy cannot be separated from him who possesses it (सक्तिमान); the Nature (प्रकृति) or Energy (सक्ति) of the Supreme Self is subject to contraction or development (संकोचविकासशोभ). In the Śrīmad Bhāgavata also it is said that Nature (Prakṛti), Person (Puruṣa) and Duration (Kāla) constitute the shape of the Principle, the Brahman. They are not entities separate from the Brahman. Nature (Prakṛti) is the Energy inseparable and of one essence (सामान्यकार्य) of the Supreme Self; and Person (Puruṣa) and Time (kāla) are its particular states (विद्यमानेन).

प्रकृतियां स्योपास्तानमाधारः पुरुषः परः । सत्रेष्ठित्वमः कालो भ्रातात्त्व बितत्तत्वहम् ॥

"Nature is the substance and Supreme Person the support of this [universe], Duration is its manifest, and I am this triple shape, the Principle".  

(Śrīmad Bhāgavata, 11/24/19)

Description of Time in the Viṣṇu Purāṇa and Atharva Veda

In the Viṣṇu Purāṇa it is said that Time has no beginning, no end; when the three fundamental qualities—the ascending, expanding and descending tendencies (sattva, rajas, tamas) become equalized (साम्यावर्धयत्) the universe is destroyed. Then Nature and Person stand apart. At that time, to support Nature and Person (Prakṛti and Puruṣa), now separate, the Supreme Principle, the Para Brahman, remains manifest under the shape which is called Time (Kāla). The shape of the Supreme Self which, at the time of creation, unites Nature to Person, Prakṛti to Puruṣa, and separates them at the time of destruction, the shape upon which flows the breakless current of creation-enduring—
dissolution of the space-motion universe, is the shape of the Supreme Self called Time. Nature (Prakṛti), Divinity (Īśvara), Time (Kāla), Law giver (नियति), nature (स्वभाव), etc., are one in their reality. Through Time all the visible moving universe is polarised (द्रवत ), sexualized (कामित ); therefore Time's will is the very will of the space-motion universe. Through Time is the space-motion universe procreated, in Time is the space-motion universe established; Time is the 'Supreme Principle of existence' (परमार्थतत्व ), Existence-Consciousness-Joy. Time supports and maintains the supremely august (परमेवी ) (he who stands in the highest place (परमस्थान ), the sphere of truth, Satya Loka), the four-faced creator, Brahmā.

( Atharva Veda Saṁhitā 19/53/9 )

"by it it is polarized, from it it is born, in it it stands. Time becoming the Creator, supports the Supreme August ."

अज्ञातां जनकः काली जगतामधये मतः

"Time is the progenitor of all that is born, Time is considered the abode of the universe."

( Bhāṣā pariccheda )

Thus atom, electron, heat, electricity, earth, water, air, ether, planets, constellations, lunar fortnights, solstitial half years, year, life-breath, mind, intellect, 'I'-ness, living individuality, gods, heavenly beings, elements, all are but particular states (अबस्था ) of Time, all are particular aspects of the reality of the Supreme Self, Time, circumscribed by Illusion (Māyā). This is explained in the Bṛhat Pārāśara-horā :

श्रीशक्ति सहितो विष्णुः सतः पाति जगतावर्यः भूशक्ति खुजते विष्णुलोक शक्या वेलोविष्ठिः || सच्च्छु चैव जीवेयु परमात्मा विराजते। सच्चाहि तदवर्य ब्रह्म निष्ठरं हि परमात्मानि। सच्च्छु चैब जीवेयु निष्ठरं सांशक्यव कवचित। जीवांशक्यनि तदवर्य परमात्माविष्ठ किं च|| चामः कृष्णश्च भो विच नृसिंहः सुकृष्टस्था। पते पूर्णात्मार्थ छान्ते जीवांशक्याच्छितैं! ||

अवदार्शनेनेकानि हाजार्य परमात्मनः !

"United to Fortune-Energy (Śrī Śakti) the Pervader, Viṣṇu, always protects the three worlds; united to Earth-Energy (Bhū Śakti) the Pervader, Viṣṇu, creates; united to the Dark-Energy (Nīla Śakti) he devours. In all living beings dwells the Supreme Self; and all stand
in the Principle, the Supreme Self. In all living beings there are two parts. Those in whom the living part is predominant are such [i.e., living beings]; those in whom the Supreme Self part is predominant are only ‘apparitions’ (किल्ल). Rāma and Kṛṣṇa, O priest! the man-lion and the boar, these are total incarnations. The others are in part living beings. There are many incarnations of the unborn, the Supreme Self.”

Measurable Time and its Shape

Measurable time (कल्पानोत्तम काल) is of two kinds, tangible (मूर्त) and intangible (अमूर्त). The Sūryya-Siddhānta takes the vital-breath as the unit of tangible time. The time necessary in a healthy body for inspiration and expiration is called vital-breath (प्राण). One vital-breath takes about four seconds (of the Western division of time). The ‘Time-atom’, the ‘त्रुि’, is the unit of intangible (अमूर्त) Time. It is the 33,750th part of a second.

Vital-breath (प्राण) is said [to embody] tangible (मूर्त) [Time]; time-atom (त्रुि), etc., are called intangible [time];

6 vital-breaths (प्राण) make one Vināḍi or Pala) [24 seconds];
60 Pala make one Nāḍi (or daṇḍa, or ghaṭikā) [24 minutes];
60 Nāḍi make a sidereal day and night (नक्षत्र अहोरात्र);
30 [sidereal days and nights] make one [sidereal] month (नक्षत्र मास).

Similarly, the time extending from one sunrise to the next is a terrestrial day (सावन अहोरात्र), and 30 terrestrial days make a ] terrestrial month (सावन मास). The time elapsed between the beginning and the end of one node of the moon is one ] “tithi” or lunar day. [30 lunar days] make one lunar month (चान्द मास). The time which the Sun requires to move from one sign of the zodiac to the next is called solar month (सोर मास). Twelve solar months make one solar year. And one solar year is one day of the gods.

(Sūryya Siddhānta)

The Sūryya Siddhānta also explains that “हतादीन्न व्यवस्थिते धर्मपाद
"on the basis of the institution of the 'four feet of Eternal law' (धर्मपद्) is based the development of the four ages or Yugas". The Lord Manu tells that the natural opening or closing of the eyelid is called one 'wink' (nimesa);

18 Nimeṣa make one kāṣṭhā (limit)
30 Kāṣṭhā make one kalā (portion),
30 Kalā make one muhūrta (moment),
and
30 Muhūrta make one day and night (अष्टोत्तर)

One month of man is one day and night of the Ancestors (पितृ) and one year of man is one day and night of the Gods. The Northern course of the sun (Uttarāyana) is the day of the gods and the Southern course (Dakṣīṇāyana) is their night. All what I have told and shall further tell thee about the 'Scripture of the Luminaries' (astrology), which is the eye of Knowledge (Veda-nayana), is based upon the 'Primordial Knowledge', the Veda. Many hermetic-utterances (mantra) confirm the saying of the Sūryya Siddhānta that "the development of the four Yugas rests upon the institution of the four feet of Eternal Law (Dharma)", showing that it is based upon the Primordial Knowledge of subtle correspondences, the Atharva Veda.

शंसे ते युक्तः हायानासः युगे लोणि चत्वारि कृपमः

(Atharva Veda Saṃhitā, 8/2/21)

"I make thee [live] for one hundred years, for two Yugas, its triple, the quadruple."

This is the hermetic utterance used to bless the young man wishing him long life. From it is inferred that तद्विष्णु-सहस्राणि चतुर्युः स्वयंसत्तमः सुर्यायंसत्तमः श्रीमान्तश्रीमान्तम्

(Sūryya Siddhānta)

"[by dividing] the four ages (yuga) which comport 12,000 years of the gods (the number of solar years is obtained by multiplying by 10,000) [by 4+3+2+1, i.e. by 10; if the result of the division is then] multiplied [successively] by 4, 3, 2 and 1, one can know the length of each one of the four ages, Satya Yuga, etc. including their dawn and twilight." The commentary of Śāyanā adds:
हे वालक! ते शत हायनान् कृप्म:। तानेव अशुर्व च हायनान् कृप्म:। तानेव हे युगे
कृप्म:। त्रीणि युगानि कृप्म:। चत्वारि युगानि कृप्म: इति।
(Commentary of Śāyāna).

"O lad! I make thee live a hundred years; this I make into ten thousand years; this I make into two yugas; I make it three yugas; I make it four yugas. This is all." O lad! the special rites of this sacrament will make thee live one hundred years, which is the normal length of life for all men. Then shall I increase this number up to ten thousand. And thus, gradually, shall I extend the length of thy life till it fills up the four ages, the four yugas.

That one of our years is one day of the gods is told in the sacerdotal Taittirīya Brāhmaṇa (3/9/22).

एके पत्रे बाना महः यत् सम्रस्तसरः;

"That which is a year that is a day for the gods".

The Cycle of Day and Night

Day and night are the two wheels of the year's cycle. The complete rotation of these two wheels closes the year's cycle.

पते सम्रस्तसरस्य चक्रं यहोरात्रि ताभ्यामिव ततु सम्रस्तसरसरे

(Aitareya Brāhmaṇa, 5/5/30)

"These two, night and day, are the cycles of the year, by these two the year exists."

In a clock, while the seconds' needle revolves sixty times, the needle of minutes revolves one time, so, also, when the cycle of day and night has completed its circle thirty times, the cycle of the month is formed. The month's cycle, like that of day and night has two parts, the clear and the dark fortnights. Just like the minutes' needle of a watch which, by revolving sixty times, causes the hours' needle to move round once, the month's cycle, by revolving twelve times, causes the year's cycle to move round. The year's cycle is not the largest cycle. In the Scripture are further described the four cycles of ages (yugas), Manus (manvantara), aeons (kalpa) and 'universal destructions' (mahā-pralaya) with their rhythms or revolutions.

Instants, moments, days, fortnights, seasons, equinoxial half years, years, ages, periods of one Manu (manvantara), aeons (kalpa), and universal destructions, in the view of the Primordial Knowledge, are but particular conditions, particular moments of divisible time.
True History

To understand the real history of the world it is necessary to know fully the beginning and the end of divisible time and the real nature not only of the earth but of the three worlds. The history in which are told the periods of all the cycles from that of instants to that of universal destructions and the natural results which necessarily follow the revolution of a particular cycle, is the real, complete and the only permanent history.

The Planets are the Shapes of Viṣṇu

( Brahma Parāśara Horā )

The 'giver of rewards', (Janārdana = Viṣṇu), taking the shape of the planets gives to living beings the fruits of their actions. So that ritual action, through which the strength of demons (daityas) is destroyed and the power of the gods increased, may be established the auspicious planets arise one after another. Rāma is the incarnation of the Sun, the Ruler of Jagu-land (Krṣṇa) is the incarnation of the Moon, the man-lion of the 'son of earth' (Mars), Budha of the 'son of the moon' (Venus). The beings in whom the Supreme-Self part is predominant are called planets (वर्चर) while those in whom the living part is predominant are known as living beings. Thus the planets possess Consciousness, have power to act (कारकता शक्ति), they have presiding deities and act in obedience to their presiding deities. They give to beings the fruits of their sins or good deeds.

( Brahma Parāśara Horā )

"And the Ruler of Day—the Sun—is the Self of Time; the 'Kinsman of the Lotus'—the Moon—is Mind; the son of earth (कुज) Mars—should be known as life-energy (सर्व), as force (वस्त्र); Mercury is [the power of speech (Vāk Śakti) or ] the giver of Word; Jupiter
(Bṛhaspati) gives knowledge (दान) and happiness; and Venus (Bṛṛgu) is the giver of sperm.

What are Presiding Deities?

'That which does not possess the faculty of Consciousness' (अचेतन) cannot independently—at its own instigation—do any action. Action requires the support of consciousness. In the third chapter of the second part of the 'metaphysical point of view on the Doctrine' (Vedānta Darśana) is demonstrated, on the basis of Primordial Revelation as well as through argument, that the Unconscious, the inanimate, cannot, at its own instigation, without the support of a faculty of consciousness, do any work. With the help only of physical evidence and inference based upon it, there can be no certain solution of the question "can the unconscious, the inanimate, be independent or not?" Simply looking at the outward aspects of Nature, many instances can be found from which it is evident that "the unconscious, without the guidance of a faculty of consciousness, cannot of itself begin any work, nor free itself from it. By comparison with works in which the action of a faculty of consciousness is evident, the necessity of a faculty of consciousness can be inferred in works in which this action might otherwise be doubted. Works in which the action of a faculty of consciousness can be doubted are such as the growth of trees or creepers, the rising of mountains, the formation of vapour into clouds, and their descending upon the earth as rain, the multiple displays of chemical and physical energies, the strange dealings of vital energy, earthquakes, etc. Whether such actions are due to the instigation of a faculty of consciousness or not cannot be determined through (physical evidence. And those who believe) only in physical evidence (स्थूल प्रत्यक्षवादित्य) usually deny the reality of all that cannot be demonstrated by such means. The 'believers in revelation' (आसित) however, tell that the facts that the existence of certain things cannot be demonstrated through physical evidence cannot be considered a proof that they do not exist. There is no doubt that things which are not subject to gross physical evidence also exist: The atom is not physically perceptible, yet its existence has to be admitted. That all work is due to the action of a faculty of consciousness has to be acknowledged from the 'metaphysical point of view' (Vedānta) and the 'point of view of logic (Nyāya darśana). Even among the
adepts of the modern particularized science some do recognize that, without the support of a faculty of consciousness, the unconscious cannot act by itself. Vācaspati Miśra in his “Bhāmati” raises the question “why should I accept that the senses have presiding consciousnesses” and, in a few sentences, gives its solution, saying: “the conscious instigation of the ‘thing presided over’ (अविभेद). to follow its own nature and the devising of the means to fulfil its aim constitutes the presiding (अविभेदात्मक) over it.” The driver is the presiding consciousness (अविभेदात्मक), the chariot the thing presided over (अविभेद). There is no doubt that before presiding over the chariot, the driver knew the nature (खायु) of the chariot and the means to fulfil its aim. There is no doubt also, that, without the presiding (अविभेदात्मक) of a faculty of consciousness, the inanimate cannot, of itself, do any intelligent action. If this is acknowledged, one will be compelled to recognize that wherever intelligent and regulated action can be observed, a presiding consciousness must be present, otherwise one will be led to accept that in the inanimate there is power of doing intelligent or regulated work, that the inanimate has the capacity to discern what should not and what should be done, i.e. the inanimate has knowledge of space and time, i.e. the inanimate is conscious.

Presiding Deities and their Power

The Primordial Knowledge—the Veda—tells of presiding deities (अविभेदात्मक) of the planets and constellations and explains that under their influence men are inclined towards propitious or unpropitious (शुनाशेष) actions. The Time principle is said by the Primordial Knowledge to be the cause of the rise, enduring and dissolution of the universe. Can anyone seriously believe that this Time principle can be a mere unconscious energy? The Śvetāsvatara tells that Nature, (Prakṛti), i.e. Illusion (Māyā) which is made of the three fundamental qualities and is inherent (अत्मभूता) to the Supreme-Self—i.e. has no existence separate from that of the Supreme-Self—is the cause of the ‘space-motion universe’ (कस्मवजगत). The Supreme-Self is the presiding [consciousness] of Time, nature (खायु), Ether, and the other ‘elemental principles’ (सूत्र). He is

1. The two words Viśva and Jagat are used to mean the universe. But Viśva (that in which one enters) refers to the space-aspect and Jagat (that which moves) to the motion-aspect.
their ruler, he ‘holds their command’ (निदेशवति); by his order they do their work, as was explained in the auspicious Brhat Pārāśara Horā. In the Brhad Āraṇyaka also, Supreme Divinity is said to be the inner ruler of all things.

From the study of the Knowledge of subtle correspondences, the Atharva Veda, it is clear that the zodiacal signs have presiding deities and that some of them have a favourable, sympathetic power and dispel pain, while others have an antipathetic power and destroy happiness.

Auspicious Times

The Primordial Knowledge and all the scriptures based upon it, acknowledge that in auspicious instants, auspicious moments, auspicious week days, auspicious zodiacal signs, auspicious lunar fortnights, auspicious months, auspicious seasons, auspicious equinoxial half years, auspicious years, lies a better opportunity for doing auspicious works, while in inauspicious instants, etc., lies the power of producing unfortunate results. Those who search for truth with adequacy can easily observe that in auspicious or inauspicious times lies the potentiality of fortunate or unfortunate results, that this is an absolute reality, and that although we are not always able to understand it, this belief is not mere uncivilized superstition.

Presiding Deities of the Planets

In the “Hermetic text of the Boar” (Varāha Samhitā) it is said that lunar days and zodiacal signs have presiding deities and that these presiding deities have the power of making [things] auspicious or inauspicious. If on the lunar days or under the zodiacal signs which have auspicious presiding deities actions are done which come within their sphere of influence fortunate results are sure to be obtained.

यत् कायम् नक्षत्रे तदैः वर्त्तात्। तिष्ठिषु तत् कायम् मू।

करण मुहूर्तेःचिप तदृ सिद्धकर देवतानाथ॥

(Varāha Samhitā)

“Upon the power which is in a planet, depends the fortune of the actions done on corresponding days. The power of realization which is in ‘moments’ (muhūrta) and their divisions (करण) constitutes their deity”.

The Arch-seer (Mahārshi) Nārada explained that
"A deity is truly nearer on the day dedicated to it."

Further, in the Agni Purāṇa it is said that by worshipping Fire (Agni) on the first lunar day, Brahmā on the second, Yama on the tenth, Ganeśa on the fourth, Śiva on the eighth, fourteenth and eleventh, and Viṣṇu on the thirteenth, special results are attained.

The Svarodaya

The Svarodaya is a part of the 'Scripture of Re-integration' (yoga śāstra). It explains many aspects of the astrological theory. It tells that certain works (kārṇ) should not be done while the light of certain ethereal luminaries (śar) is flowing and certain works can only succeed if performed under the influence of certain ethereal luminaries especially the moon and the sun. If one follows carefully the instruction given by the 'Scripture of the Rising of Ethereal Light' many diseases, generally considered incurable, can be checked.

Re-integration and Astrology are but the Two Aspects of One Thing

Although Re-integration (yoga) and Astrology at first appear to be completely different things, yet, seen from a more subtle point of view, they are not intrinsically distinct. In the treatise upon Re-integration [called] 'the Rising Ethereal Light' (Svarodaya Yoga) has been shown the complete interdependence of both Re-integration (yoga) and Astrology. This treatise describes the six zodiacal signs, Taurus (Tārā), Cancer (Kāstika), Virgo (Kātya), Scorpio (Drīgāv), Capricornus (Makara) and Pisces (Mīlan), as the zodiacal signs of the Moon; and Aries (λέος), Leo (Śīrṣ), Aquarius (Śrīva), Libra (Thata), Gemini (Śīrṣ) and Sagittarius (धनु), as the six zodiacal signs of the Sun. From their adequate knowledge the auspicious and the inauspicious can be determined. Particular lunar days or lunar mansions are the givers of fortunate or unfortunate results; for that reason, when the two ethereal luminaries (śar), sun and moon, enter them, fortunate and unfortunate results are obtained. In the Sacerdotal part (Brāhmaṇa) of Knowledge called Taṛtiṛiya it is said that the deity of Kṛttikā (the Pleiades, the 3rd lunar mansion) is Fire (Agni); that of Rōhini (the fourth lunar mansion) is the Ruler of Creation (Prajāpati), that of Mrṣaśiṣa (the 5th lunar mansion) is Soma; that of Ārdha (the 6th), Rudra; that of Punarvasu (the 7th), the Sun (Aditi); that of Puṣya (the 8th);
Bṛhaspati; that of Aśleśā (the 9th), the Serpents, that of Magha (the 10th), the troup of the Ancestors (विद्वान); etc.

The Knowledge born of Discernment

The Divine Patañjali said that "by concentrating the mind upon the "instant" (क्षण) and its sequence (क्रम) arises the knowledge born of discernment (विवेक)."

 kali क्षण: संयमन्त्र विवेककेतु श्रास्म (पा. 90 वि. पा. 90 रक्त सूत)

This knowledge through which the essence (तत्त्व) of all becoming (परिप्रेक्ष्य) starting from the becoming of the "instant" (क्षण परिप्रेक्ष्य) comes to be known, i.e. the knowledge through which can be discerned with absolute certainty what everything was, will be, and is, the knowledge from which, as soon as it rises, nothing remains unknown is the knowledge arising from discernment (विवेकशास्त्र). This knowledge has for its object all things (सव विपय) at all times (सव था विपय) and is sequence-less (अक्रम). It arises from its own reflection (प्रतिभा) and is untaught (अनीपदेशिक). There is nothing which is not subject to this knowledge, nothing which cannot be known through it. Past and future are present before it. To say that it is sequence-less (अक्रम) means that, through the mystical experience (संयम) of the becoming (परिप्रेक्ष्य) of a single "instant" (क्षण) of anything, knowledge of all its becoming is realized as one present. This is why the knowledge born of discernment is said to be the knowledge which leads to the other bank (तारकः)

तारक सव विपय सव था विपय क्रमशः ति विवेककेतु श्रास्म (Pa. Da. वि. पा. 94 सूत)

"The knowledge which leads to the other bank, which has everything as its object and all times as its object, and which is without sequence is the knowledge born of discernment."

Śaṅkara himself told that the man whose mental inclinations have thus been turned inwards, attains through devotion, direct experience of the "transcendental principle of existence" (परतत्त्व): O' Brahmā, son of the lotus! Only by [constantly] thinking of me, dissolving the self into me, in a [continuous] flow of love (भावना) [or contemplation (ध्यान)], can man achieve total-knowledge (सव ब्रृह), supreme royalty (परिशद्य), capacity of doing
everything in every field (सब्ज सम्पूर्णशक्तिः) and unlimited power (अनन्त शक्तिमयं).

(कृतिक तरं तष्कमलधीने चेतस | भावना मात्रायेतां कारणं पञ्जानमव ||
मामिनवनं दीविद्यते मयं वाचते विदृढ़ते | सवर्णमयं परेशतं सवर्ण सम्पूर्णं शक्तिः ||
अनन्त शक्तिमयं च मद्युम्नवानाद भवेत् | (Yogaśikha Upaniṣad)

The Astrologer can through Calculation tell The Past and The Future.

The man who knows Astrology, that is who knows the Scripture of the determination of time (काल विधान शाखा) can tell by calculation events in the past, present and future: in which year, which month, which fortnight, which day, which moment, an event has taken place or shall take place, at what moment a certain planet shall meet with other planets in a certain constellation, and what, in Nature, will necessarily result from it; what shall be the future life of a certain child; which actions should be done at a certain time to achieve certain results. All this the man who knows Astrology can tell beforehand. If there is no mistake in the calculations, the prophecies of the future-teller can never be wrong.

Each transformation is dependent on the pre-ordained law all of transformation and takes place in pre-ordained sequence. The cause of all effects is fixed (क्षयः) ; the effects accumulated by the implications (समवाय) of the cause, will always develop from these implications. This is the only reason why scientists can foresee the future, or the mathematician, by calculation, can tell how far an object will fall in three seconds.

The Prophets also use Subtle Calculation.

The knowledge of the events which the makers of the Scriptures had described long before their happening was also based on subtle calculations. It is through calculation that they knew the events of the future. Through the practice of the ‘method of re-integration’ (yoga), the re-integrated yogi, who can control his mind, can see, before his eyes, all things at all time. There are two sorts of yogis, the re-integrated (yukta) and the one ‘on the way to re-integration’ (yunjana). The re-integrated yogi, without mental concentration, without any effort, just sees all things as if they were before his eyes, but the re-integrating yogi has to remove his mind from other things and firmly concentrate upon the thing he wants to know, before he can see, gross or subtle, past, future or far distant things.
"The re-integrated knows at all times; the other by mental effort [only]."

Bhartṛhari—his feet be worshipped—said that for the man in whom illumination has arisen (आविष्कृत प्रकाश), i.e. in whose Mental (विज्ञ [the faculty upon which the imprint of memory takes place]), ever free from impurities, full knowledge has arisen; whose mental is undisturbed (अद्वितीय विज्ञ), the knowledge of things past and future is in no way more remote than the things before his eyes. Past and future become as if they were present. The knowledge of the Seers, the Rṣis, who witness the universal law (dharma) and perceive the essence of all things, is thus without sequence (a-krama). This is not magic, it is not super-natural, it is but a purer knowledge, based upon subtle mathematical laws.

The Lunar Day (tithi)

तद तिथि शनिमोृतेनैर्नोूतिणयत:। तनेति विस्तारयति वषो मानाक्षीयमानां च चन्द्रकालमेका व: कालविशेषः सा तिथि:। यद्वा वथेकल्लया तन्येत् इति तिथि: (काल माधव)

"The word “tithi” (lunar day) is obtained from the root “tana” which means “extension” (विस्तार). The particular extension of time in which the moon increases or decreases by one portion (kalā=1/16th) is [called] lunar day”.

Or, also, as was explained, that which expands by one portion is a lunar day” (Kālamādhava)

In the book of astrology called Siddhānta Śiromāni is also said that, "because their extension is determined by the “portions” (kalā=one sixteenth) [of the moon] the [days of the lunar month] are called 'lunar days' (तिथि).

( Siddhānta Śiromāni)

The Skanda Purāṇa says:

"She, The Arch-power-of-Illusion (Mahā Māyā), [the Universal supporting Energy (आधार शक्ति)] is established in “the embodied” (वैदिनाम्) as “She who upholds the body” (वैद्यारीण). She, [who is recognisable (परिचित) in] the sixteenth part [of the lunar sphere, is the upholder of the lunar body (चन्द्रेश्वरीण). She is the New-moon
(Amā), the goddess spoken of as the Arch-portion (Mahā-kalā). [She knows of no rise nor decline. She is the eternal lunar day (नित्य तिथि)]. From the new-moon to the full-moon the [other fifteen] lunar portions (कला) [which have for their shape the first and other lunar days, subjected to decline or increase, and used to count the days] are known as lunar days (तिथि), and the sixteenth even. O lovely visage!"

अमातृत्विस्तिनित्यायादितत्सास्तिथिः।

In the sacerdotal (Brāhmaṇa) Aitareya and Taittiriya it is said that the name of Time...

यो पद्यंस्मिर्द्यूधिद्यान्ति सा तिथिः।

(Aitareya Brāhmaṇa)

बदन्मा वै पद्यंस्मिर्द्यूधिद्यान्ति पद्यंस्मिर्द्यामुप्तेयं।

(Taittiriya Brāhmaṇa 1/5/10).

"from one rising [of the moon] to the next rising is a "lunar day", "The moon has fifteen, the fifteenth never declines, the fifteenth is never completed".

अति प्रथम कला क्रियाकृति प्रतिपत्तः एवं द्वितीयादि कला क्रियाकृति द्वितीयादि (Tithi tattva)

"The first portion (kalā) in its active form (क्रियाकृति) is [called] Pratipat (the first day) and the active form of the second and other portions is the second and the other lunar days.

Action (क्रिया) is Time (कला). The knowledge action (क्रियाशास्त्र) is the knowledge of Time (कालशास्त्र).

"Made of [the months, the number of which is] twelve [or of] wheel's spokes (वर्त) [which are the zodiacal signs, Aries, etc.,] the cycle [of the sun (आदित्य चक्र), intrinsic form of] truth, (सत्यचक्र), [eternal and] immutable, constantly moves round; in it, O Agni! existing in a mutual copulation (निथुतिमूत्र) [like that of a woman and a man], stand the [children-like] progeny [of the sun] which number seven hundred and twenty and are the days and the nights (360 days and 360 nights). Thus are divided the 'lunar days' (तिथि)].

1. Amṛta means here "the sun" that is truth (satya).
The word 'amā' (new moon) means "together" (सहित). The 'lunar day' in which moon and sun are together is called new moon (amāvasyā). In the Aitareya Brāhmaṇa it is said that

"The moon, on new moon day, enters the Sun, and from the Sun the moon is born again." (Aitareya Brāhmaṇa)

Full Moon and New Moon

In the Gobhila Grhyasūtra is told that "when Sun Moon are nearest to one another, it is new moon (amāvasyā). When Sun and Moon are farthest from one another, when the Moon stands in the seventh zodiacal sign counting from the Sun, this is full moon (पौरणमासी).

Astrology

In the words of Lagadha, the aim of the Primordial Knowledge, the Veda, is the accomplishment of the ritual sacrifices. But, if the ritual sacrifices are not performed in the prescribed time, they cannot yield the result for which they are done. Thus the Science of the luminaries, Astrology, is the eye of Primordial Knowledge. It is this Science of Luminaries which rules the process of Time. It was created so that we might know which action shall, when performed at a certain time, necessarily produce a certain result. Those who fully know this Scripture know everything. This is explained in the book of astrology called the "Principles of the Arch-father" (Paitamaha siddhānta)

"The Primordial Knowledge has for its purpose the ritual sacrifices, and the ritual sacrifices are to be performed according to Time. He who knows Astrology, the Scripture of the process of Time, knows everything."
Astrology cannot be understood without the Science of Numbers

Praising astrology the "Principles of the Arch-father" explains:

अश्व संश्चलित संहारकर श्री कुलापर्वक भृगुसिंह हाॅपवामास।
भववियोधितपयस्य श्रीकुलसिंहाफः तुमवाच भृगुसिंह पितामहाः।
यद्वां मै तवं कर्मादी हायबाजजात्वतां मया ते श्रृंगङ्कालाः।
चतुष्कंश्य रशिः रशिः ज्योतिष्यमुक्तं तदविस्तिं चादरेण यहेः।

महादेव शापेन ज्ञातां सिद्धा विनिगतस्य जन्मान्तरोपत्त्वस्य स्वीकार्य ज्योतिष्याणमाविनिविष्यति...।

अथ भगवतं सुरस्वतिविद्वितिसहस्तारकं चतुष्कंश्यमक्षित्यशं समाधिगतं
भृगुवियोधितपयस्य श्रीकुलसिंहाफः पितामह गणितीति सुविचारिनां
तुमवाच श्रीभगवतस्य बलसं गणित शान्त। अनि निधन कालप्रज्ञापतिविख्यतस्य
श्रीब्रह्मानुसारेण शान्त गणितमू।

(पैतामह सिद्धान्त—विभु धर्मन्तर)।

"[The world teacher and world friend] Bhṛgu asked Sire Brahmā, the Protector and destroyer of the whole moving Universe: O Lord of the Powers! I wish to be taught this Astrological science. The Lord of the Powers, the Arch-father, answered:

In the beginning of the first age thou wert born from my heart. At that time I taught thee the 'science of the luminaries' in twenty-four hundred thousand verses. Now that as a result of the curse of the Arch-god, Mahādeva, piercing the tongue of fire in the ritual sacrifice of the Waters (वाहन यज) thou hast come again—hast been born again—[I shall again instruct thee in the whole of the astrological scripture. (The story of the divine Bhṛgu being reborn after piercing through the tongue of fire is found in the Aitareya Brāhmaṇa and in Nirukta); By listening to this concise teaching] will arise in thee [the full memory of] the [complete] Astrological scripture which was told to thee [in thy previous life]. Then approaching the Lord, the celebrated teacher of the animate and the inanimate by whose power the spheres are born, last, and are destroyed, Bhṛgu asked: O Lord of the Powers! without the science of numbers, the science of luminaries (i.e. the applied knowledge of the astrological scripture and the science of results) is not possible. Teach me the mathematical science. The Sire Lord of the Powers then told him: Listen, O kinsman, to the science of numbers.
The Pervader, Viṣṇu, lord of the creatures, without beginning or end is Time. Knowledge of Him, in accordance with the movements of the planets, is the science of numbers."

The Scripture and Knowledge of The Motion of Planets

This calculation of celestial bodies (श्रृङ्ग गणित) is the fulfiller of all desires and is all auspicious. By carefully studying the motion of one of the planets, a man obtains that planet’s sphere as heaven; there is no doubt about that. Those who will know the motion of all the planets shall gain the Creator’s paradise (Brahma-loka). Those who possess the knowledge of the motion of the planets, if they wish for righteousness obtain righteousness, if they wish for wealth get wealth, if they wish for pleasure get a life of pleasures, if they wish for liberation will obtain that supreme stage. By a thorough knowledge of the motion of planets a twice-born becomes qualified (पालता). And if, instead of making his livelihood from it, he gives up this means of livelihood, he becomes most qualified among the qualified.

( Viṣṇudharmottara )

The Purpose of The Astrological Science

Once a complete knowledge of the motion of planets has been acquired, through the ‘Scripture of the process of Time’ (कालविधान शाख) or ‘Science of the Luminaries’ (योजित), next to be known is which action done in which way and at which time will yield good results, which instants, moments, etc., are favourable, which lunar day, which week day, which conjunctions, which zodiacal sign, which month, which equinoctial half-year, which year, may be the cause of success or failure; which constellations are generally unfavourable and which constellations are generally favourable; the influence of which planet is good or bad for a certain country, and produces droughts, floods, volcanic eruptions, earth-quakes, forest fires, tempests, revolutions, wars, and other misfortunes. There are many conjunctions of the Earth and the planets the effect
of which may spread upon a large expanse of time—this has been experienced by many. When Mars or Saturn in their orbit come nearest to the Earth, revolutions, fearful wars, and all kinds of mishaps take place in countries and races upon which they happen to rule. Yet, when, in the terror of death, thousands are before their time devoured by Time, it is ever impossible that all planets having become unfavourable the whole human race should come to its end.
THREE NEWLY DISCOVERED DATED
BENGAL SCULPTURES

by N. K. BHATTASALI

A comprehensive history of Bengal sculpture has yet to be written. There are already some notable contributions on the subject, viz. (1) R. D. Banerjee's "Eastern School of Mediaeval sculpture"; (2) R. P. Chanda's "Mediaeval Indian sculptures in the British Museum". (3) Kramrisch's "Pala and Sena sculptures"—Rupam. 1929. (4) S. K. Sarasvati's "Early sculpture of Bengal" J. D. L. Calcutta University, Vol. XXX. (5) Also the present writer's "Buddhist and Brahmical sculptures in the Dacca Museum.

Fortunately, during recent years, three dated sculptures have been discovered from different parts of Bengal. They carry the study of the subject a little farther, and as they are excellent and well preserved specimens and can be fairly accurately dated, they are likely to serve henceforth as so many sign-posts for the history of Bengal sculpture.

A. The Kulkudi Sun-God image of the 12th year of King Govinda Candra

The image, in black chlorite, 3' 3" in height, is now in the Dacca Museum, having been presented to the institution by its owners, the Guha brothers, Durgamohan, Harendra, Nibaran and Nagendra of the village Kulkudi, P. S. Gossainhat, Dt. Faridpur. The mother of the donors, now about 90 years old, reported that her father-in-law had rescued the image from the deltaic island of either Hatiya or Sondeip, at the mouth of the mighty Meghna where he found it in danger of getting lost through erosion of the river bank on which its temple stood. He rescued the image in time and brought it to his village home at Kulkudi. The

\[1\] Annual Report of the Dacca Museum, 1941-42, Pl. I.
inscription on the pedestal caught the eyes of an agent of the Dacca University, in search of manuscripts, and the donors were persuaded, without much difficulty, to present the image to the Dacca Museum.

The image is an excellent specimen of the sculptor’s art of Eastern Bengal of the period. The figure wears all the distinctive dress and ornaments of the Sun-god, including the breast-plate, the daggers and the top-boots. The figure of the god is flanked by twelve circles of foliage, six on each side, each circle containing an Āditya or Sun-god in miniature. The lowermost circle on the proper right is occupied by a bearded male figure, holding a lotus in the right hand and a ‘kamaṇḍalu’ in the left, probably Vidhātā, or Brahmā, who, according to some texts has a place on the Sun’s chariot. Underneath the lowest circle on either side, two spirited female riders on horses,—a rare sight in images—are depicted shooting Sun-rays in the form of shafts. Two more standing female figures, underneath, are similarly engaged. A remarkable omission is the standing miniature figure of Uṣā, who is generally found on Sun-god images of this period, just before the figure of the god himself. The seven horses drawing the Sun’s chariot as well as the single wheel on which it moves forward, are all there; the bearded Pīngala on the proper right has lost his ‘pen’ hand, but Daṇḍa on the proper right is intact with his staff and sword. The half-bodied charioteer Aruṇa with his ‘nāga-rajju’ and whip, is in his proper place, while the two wives of the Sun-god, Sureṇu and Chāyā stand on either side of the god as inconspicuous figurines. The conical top of the slab has a prominent Kṛttimukha on it.

The inscription on the pedestal says that the image was installed by the leper Dina in the 12th year of King Govinda Candra, presumably the very same king who fought the South Indian invader Rajendra Cola in about 1023 A.D. Assuming that Govinda Candra had come to the throne of Vaṅga only a few years before this event (an assumption for which there are some grounds), say in 1015 A.D., the image can be definitely dated in circa 1027 A.D.
Fortunately, the discovery of another inscribed image dated in the 23rd regnal year of King Govinda Candra became known almost simultaneously with that of the Kulkudi image. This image is described below.

B. The Betkā Vāsudeva image of the 23rd year of King Govinda Candra.¹

Betkā is a village, now almost on the bank of the Dhaleswari river, on the northern boundary of the Pargana of Vikrampura, District Dacca, Sub-division Munsiganj, P. S. Tangivadi. Some families of betel-planters (bārai) reside in the village from time immemorial. On re-excavating an old tank in the locality, a fine image of Viṣṇu came up some years ago and was taken later on to the Pallikalyaṇa āśrama in the village of Outśāhi, three miles to the south. Here, the inscription on the pedestal began to attract attention, and Sj. Jogendra Nath Gupta, author of the ‘Vikrampurera Itihāsa’ (History of Vikrampura) obtained rubbings of the inscription and handed them over to Dr. D. C. Sarkār of the Calcutta University for publication. Dr. Sarkār has published two articles on the inscription, one in the Bengali Journal ‘Bhāratvarṣa’, Jaiṣṭha, 1348 B. S., pp. 769 ff.; and the second in ‘Indian Culture’, Vol. VII, 1940-41, pp. 405 ff. The inscription says that the god Vāsudeva was installed by Gāngadāsa, son of Pāradāsa, belonging to the ‘Bālajika’ = Bārajika, i. e. the Bārai (betel-planter) community in the 23rd year of King Govinda Candra. According to our previous calculation, the sculpture is, therefore, dated in circa 1038 A. D.

The image is in black chlorite, about 4’ 8” in height. It is a very good specimen of the sculptor’s art of Eastern Bengal. The slab is conical at the top and has a prominent Kṛttimukha at the top, showing that these features, generally considered rather late, are not later than about 1000 A. D. The face of the god, though rather soft and feminine for the August Ruler of the Universe, beams with an expression of purity, beauty, innate goodness and benevolence. The faces of the two goddesses on either side are equally expressive.

C. The Rājibpur Sadāśiva image of the 14th. year of Gopāla III.

For details regarding the image and the inscription on its pedestal,

² See Annual Report of the Dacca Museum, 1941-42, Pl. II.
readers are referred to the late Mr. N. G. Majumdar's article in the
'Annual Report of the Archaeological Survey of India', 1936-37, pp. 130-133,
and the present writer's contribution published in the 'Indian Historical
Quarterly', Vol. XVII, 1941, pp. 217 ff. As made out both by the late
Mr. N. G. Majumdar and myself, the inscription is undoubtedly of the
14th. year, and it is difficult to understand Dr. R. C. Majumdar's
hesitation in accepting the date (JRASB., 1941, p. 216 and 'History
of Bengal', Vol. I, ed. Dr. R. C. Majumdar, pp. 167-68, f.n. 4). The
14th year of Gopala III must be very near 1140 A.D.

This image, also, as is usual with the images of the period 1000 A.D.-1200 A.D., is in black chlorite. It is a fairly large image, 3' 2" in height with a prominent Kṛttimukha at the top. It was discovered at Rājibpur, P. S. Gaṅgārāmpur, Dāt. Dinajpur, close to the ruins of the once famous city of Koṭivarṣa, now known as Bāngād. The image is now exhibited in the image gallery of the Indian Museum, Calcutta.

The god Sadāśiva is here depicted as a ten-armed, four-faced deity (the fifth face is not depicted) with all the usual attributes. The heaviness of the composition and the over-ornamentation mark it as a late piece of sculpture, akin to those of the Sena period and the inscription also confirms this ascription. Dr. R. C. Majumdar's attempts to suggest that the inscription may be of Gopāla II (accession circa 940 A.D.), i.e. 200 years earlier, does not take note of the chronology of the evolution of sculptural types of Bengal.

Now that we have finished describing the three new finds, undoubtedly
dating in the period between 1000 A.D. to 1200 A.D., the great change
that came over Bengal sculpture can be very well understood from a
comparison with the frequently illustrated Bāghāūrā image of Viṣṇu
dated in the 3rd year of Mahīḍhala Deva. We need not enter here into
the vexed question of who this Mahīḍhala was—whether a Pratihāra
or a Pāla. I myself have, in more places than one, maintained that he was
Mahīḍhala I of the Pāla dynasty, but I now consider the claims of the
Pratihāra Mahīḍhala superior. Mahīḍhala I finished his reign about 1026
A.D., and judging from the style, it is impossible to date this sculpture
about 1000 A.D. We have, therefore, to shift this Bāghāūrā image back-
wards by about a century, to accommodate the Sun-god image from
Kulkudī dated about 1027 A.D. The ascription of the inscription and
the image to Pratihāra Mahīpāla who reigned in the beginning of the 10th century A. D. thus becomes incumbent, and this is the outstanding service done by the two dated images of the reign of Govinda Candra. We can now clearly see that the transition from the rounded top of the slab and the sober workmanship of the relief to the conical top and a tendency towards over-ornamentation was effected roughly during the period 900 A. D. to 1000 A. D.
ICONOGRAPHY OF VĀYU
AND
VĀYU-WORSHIP IN GUJARĀT

by M. R. MAJMUDĀR

The gods of the Rgveda, whose number is stated to be thirty-three, were worshipped not in temples but in the open air on a sacrificial ground. When Agni, as Fire before the eye of the worshipper, was prayed to, any definite image was out of question; Of Vātā (wind) poet of the Rgveda says: “One hears him, roaring, but his form one does not see”. The Rgveda does not contain any evidence of iconographic representations of any of the gods.

In the Vedas, the principal places are assigned to Agni, Vāyu or Indra and Sūrya, who appear to have been regarded as the triad of deities in whom the Supreme Spirit was especially revealed—Agni, Vāyu and Sūrya being respectively the rulers of the earth, the air and the heaven.

Apart from the phenomena over which these gods rule, the gods were differentiated mainly by the weapons they wield or by the animals which draw their cars. Hence, Marut was shown by his banner which he waves in the air, and the deer, the swiftest of the animals is his ‘vāhana’.

In the Vedas, the cars of gods, though generally drawn by horses are also described as yoked with various other animals¹ such as the antelopes

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¹ A list of ten such animals is given in Nighaṇṭu, and repeated in Bṛhad-devatā.
of the Maruts and the goats of Pūṣan. In the case of Marut, the post-Vedic ‘vāhana’ has not changed.

According to the Āgama texts: “The ‘vāhana’ or vehicle of the personified weaver of ‘bāna’ is the wind, Vāyu, and his banner is the feather”.

In the Śaiva Āgamas the Mūrtīśvara Śiva of Vāyu-tattva is Kāla, and he is the husband of Kāli. Parā Śakti assumes the form of Kāli as Vāyu-ākāra.

The Vāhanas in Indian sculpture are marks of identification, laid down in the Rgveda. The second way of distinguishing a god was by his weapons. Originally a single weapon was sufficient for the identification of a god, a ‘vajra’ for Indra, a ‘cakra’ for Viṣṇu, a ‘trīśūla’ for Śiva and a ‘dhvaja’ for Vāyu or Marut. The number of distinguishing symbols, however, gradually increased in the course of time; this is evident from later sculptures. Vāyu is referred to as ‘darśata’ (of pleasing appearance) in hymns which could only mean that Vāyu-images were made to look beautiful.

Vāyu images are generally four-armed. Vāta and Vāyu both denote Vedic deities. But Vāyu is chiefly the ‘god’, and Vāta the ‘element’. Vāyu is celebrated alone in one whole hymn, in parts of others, and in about half a dozen hymns conjointly with Indra (Indra-Vāyu).

Vāta is associated with Parjanya, whose connection with the thunderstorm is much more vivid than that of Indra. Different sets of epithets are applied to the two wind-gods, those belonging to Vāta being chiefly expressive of the physical attributes of swiftness and violence.

Vāyu is said to have given birth to the Maruts or winds by the rivers of Heaven. Few references are made to Vāyu’s origin. The worlds are said to have generated him for wealth. In the Puruṣāśūkta, he is said to have sprung from the breath of the Puruṣa.

The ‘Aitareya Brāhmaṇa’ tells a story of how in a race which the gods ran for the first draught of Soma, Vāyu reached the goal first and Indra second. Vāta, as the ordinary name of wind, is celebrated in a more concrete manner. Shattering everything and thundering his din, he passes on. He goes along whirling up the dust of the earth. He wanders in the air on his paths. He does not rest even a day. One hears him roaring, but one does not see him. The place of his birth is unknown. He is the breath of the gods and is worshipped with oblations.
In Adh. II of the ‘Durgā Māhātmya’ from the Mārkaṇḍeya Purāṇa it is mentioned that for the killing of Mahiśāsura, the essence of energy or light that every Devatā has, emanated from his body, and led to the making of the perfect form of Goddess Mahādevī. Among the particular limbs of the goddess formed from the essence of energy contributed by the various gods, the ears are mentioned as having been formed from the quota of Anila, the wind (śravāṇavānilasya ca’ II, 18).

And further, in the equipment of the Mahādevī with corresponding weapons (ayudha) by the devas, it has been mentioned that Marut gave a bow and a quiver, filled with arrows (maruto dattavānāścāpam bāṇapūrṇe tātheṣudhi, II 22).

Hanumān, the son of Vāyu, is connected with the wind that yearly brings rain, or with the clouds that send down rain. He is worshipped as the universal tutelary god in all villages.

The Hanumān of the Rāmāyaṇa is the son of the wind-god; and hence his other name Marutātmaja or Māruti; like all monkeys, he can assume any desired form; he is ‘cāmarūpin’ like the clouds. Like the clouds, he flies through the air, hundreds of miles beyond the sea, for finding out Sītā, and he finds her. From the distant south, from which the monsoon comes forward, Sītā is brought back; and indeed, Rāma succeeds in doing this, only with the help of the monkeys, the rain clouds.¹

According to texts on Hindu iconography, Vāyu should be a youthful person of powerful constitution, of black colour and possessing two or more hands. His eyes must be red and his garments white. He should have a wavy, curved brow and be adorned with all ornaments. In his right hand, it is stated, there should be a ‘dhvaja’ (banner) and in the left a ‘daṇḍa’ (staff). It might also mean that the right hand should be held in the ‘patākā-hasta’ pose. Some authorities prescribe the ‘aṅkuśa’ in the right hand of this deity. His hair should be dishevelled, and he may be seated either on a ‘simhāsana’ or on a deer. The latter is more often met with in sculptures as vehicle of Vāyu. He should also appear to be in haste to move very quickly.

¹. My thanks are due to my colleague and friend Prof. Dr. S. S. Bhāve for translating for me from German the notes on Hanumān from ‘Das Rāmāyaṇa’ by H. Jacobi (Bonn, 1898) partly incorporated in this paragraph.
Vāyu's attributes are indefinite. Vāyu has a shining car drawn by a team or a pair of red (rohita) or ruddy (aruṇa) steeds. This team consists of eleven, a hundred or even a thousand horses yoked at his will. The attribute ‘niyutvat’ (drawn by a team) often occurs with reference to Vāyu or his cars. Vāyu's car, wherein Indra is his companion, has a golden seat and touches the sky.

Like the other gods, Vāyu is fond of Soma to which he is often invited to come with his team and the first draught of which he obtains as his share: for he is the swiftest of the gods.

The ‘Viṣṇudharmottara’ states that the colour both of the body and the garment of Vāyu should be sky-blue and that he should carry in his hands the ‘cakra’ and a ‘dhvaja’. Vāyu should have his mouth open. To his left should be seated his consort. In the ‘Kavaca’ text from the Vārāha Purāṇa, appended to the popular ‘Durgā-māhātmya’ (glories of the Goddess Durgā) in the Mārkaṇḍeya Purāṇa, the female energy of Vāyu-Vāyavī is described to have a deer as her conveyance (vāyavyām [rakṣatu] mṛgavāhāni).

According to the Mānasollāsa, Vāyu is described as with two hands, one being ‘varada’, the other holding the banner; with a ‘mukuta’ and ‘kundalas’.

According to the ‘Rūpa-manḍana’ and the ‘Devatāmūrti Prakaraṇa’, both the texts having been compiled by Sūtradhāra Maṇḍana from western India, Vāyu is made a full-fledged god with four arms, one ‘varada’, the others holding respectively a ‘dhvaja’ or ‘danda’, a ‘patakā’ and a ‘kamandalu’.

According to all Jaina authorities on iconography, Vāyu rides a deer. Some Śvetāmbara texts give him the attribute of a ‘vajra’, others give him a banner. The Digambara account of him differs from this only in

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“नर भाजपताकाः कस्मद्भए करं देवता।
भगवद्ध कुरिताः पवनो वायु विद्यापति:।
—सुपराहः, स, ॥ ॥

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“नर भाजपताकाः कस्मद्भएं सुधा करेत।
भगवान्द्र प्रवतात्वं वायुद्वर्षे समधिः।
—देवतासुरिति प्रकारति, स, ॥ ॥

11 of. ‘ते सम: सोक्षये वायव: दिवसपदाय भुस्तराय: रकांतराय: निर्वियाहाय भजसमस्याः] महादिनकरे।’
also of. ‘वायु किंतु वन्याय मन्यवादने वनमात्र जयपायि’] सिटोमातकायाः।
the substitute of a wooden weapon (a broken branch of a tree). Thus we see that the Jaina Vāyu differs not essentially from the Brahmanic Vāyu; only the assignment of the attribute of a ‘vajra’ seems to be new. Similarly, the symbol of a wooden weapon, attributed by the Digambaras is another feature unknown to Brahmanism. The Yakṣa of Padmaprabha who presents some affinity with Vāyu is Kusuma, who likewise rides a deer according to both the Jaina sects, and the Yakṣini is called Manovegā from her antelope-conveyance.

In the Hindu cosmos, the eight quarters of the universe are governed by eight Guardian deities, beginning with Indra; they are known by the name of Dikpālas. Vāyu is assigned the guardianship of the north-west region of the universe. These eight deities have prominent positions in the Vedas, long before Viṣṇu and Śiva became supreme in Hindu belief.

As the ocean was considered to form the western limits of India, Varuṇa, the lord of waters was put in charge of the western direction; and Vāyu was made the guardian of the north-west corner, as the wind-currents from the western ocean passed towards the north.

The ten Dikpālas, are found to be sculptured on the ceilings of the ‘maṇḍapa’ of a temple, just as those on the cave-temples at Badāmi. But very rarely are independent temples dedicated to each of these guardians. These are assigned their respective subordinate positions as attendant-gods on the main temple, with a view to protect the temple itself.

Gujarat is a land of sub-castes for various reasons; the exclusiveness consequent on foreign invasions and the influx of foreign settlers in the land of Gujarat has necessitated separate castes and sub-castes among Brāhmīns, Vaiśyas and even some of the Śūdras.

The traditions of a particular section or sect, under such circumstances were formulated in a sort of Purāṇa works; and it is not surprising that we have an ‘Audicya Prakāša’ for the Brāhmin settlers from the north in Gujarat, a ‘Śrīmāl Purāṇa’ for original inhabitants from
Śrīmāla or Bhinnamāla, a 'Moḍheraka Purāṇa' for the Moḍha Brāhmmins, Vaiśyas, and even oilmen from their habitat at Moḍherā (North Gujarāt), and an 'Anāvila Purāṇa' for the Anāvila Brāhmmins in the South of Gujarāt.

The 'Vāyu Purāṇa', not the one of the eighteen principal Purāṇas but a fragmentary medieval Sanskrit text in 14 'adhyaśaya', comprising of 572 'ślokas' describes the original habitat of Brāhmmins and Vaiśyas, which was a place named Vāyaḍa, a few miles north of Paṭṭan, in North Gujarāt. A notable sect of Jaina Sādhus is also known from this place as the 'Vāyaḍa gaccha' as early as the 12th century.

The particular section of Brāhmmins and Vaiśyas which is known to have Vāyaḍa as its original place, has amongst its families the worship of Vāyu as the traditional family-god, at times with his consort, the Vāyavī-devī. As members of this section of the population of Gujarāt gradually migrated towards the South, they carried their religious and social traditions with them; and this explains the existence of several temples of Vāyu all over Gujarāt.

The original temple of Vāyu-devatā, it is believed, was situated at Vāyaḍa, with a beautiful step-well by its side, which when falling on bad times, had the images removed and established at Paṭṭan, the flourishing town in the neighbourhood. Vāyaḍa is now a deserted village.

These images located at Paṭṭan are not of stone but of metal. The Guardian of the north-west quarter is accompanied by his consort Vāyavī, the Aṇjanī of the Rāmāyaṇa, and the mother of Hanumān. Vāyu, as the father of Bhīma, in the Mahābhārata testifies to the post-Vedic importance of Vāyu. The face of Vāyavī-devī is monkey like and she is two-armed. The four arms of Vāyu hold 'akṣasūtra', a 'dhvaja', a 'varada mudrā' (pose) and a 'kamaṇḍalu' respectively, starting from the lower right hand. The antelope is shown at the feet, at the left hand corner.

An image of Vāyu in stone, placed in a niche at the north-west corner of a main temple at Vaḍanagar, 13th century, is shown to hold something resembling a lotus-stalk in the upper left hand, in place of a simple 'varada' pose. The 'vāhana' is shown to the right, in this case. An image of Vāyu from the temple at Broach (inscribed Saṃvat 1510) shows the lower right hand with 'varada'; the upper one holding the 'akṣasūtra'; the upper left hand holds the 'dhvaja', and the lower one the 'kamaṇḍalu'. The 'vāhana' is seen behind the image.
The Vāyu-temple at Baroda houses both Vāyu and Vāyavī. The Vāyu image in white marble, is identical to the one described as one from Broach, which is however of black granite. Vāyavī-devī, is in a sitting posture, as if she were riding a deer. With one of her four hands she holds a child, very probably Māruti.

The illustration on p. 108 is from a painting on cloth, of the ten Guardians of the universe, not later than the 17th century A.D. Its importance is iconographical rather than aesthetic. The figure of Vāyu holds banners in the two upper hands, the lower right holding an ‘akṣasūtra’ and the lower left a ‘kamanḍalu’. The antelope in great speed, is shown running towards the right.

Temples of Vāyu are in actual worship at Bhuj in Cutch, Cambay Ahmedābād, Broach, Surat and Andheri. This fact suggests the idea, behind these temples all of which are situated in close proximity to the Western and the Arabian Sea. The devout and flourishing worship of Vāyu as a family-deity (‘kula-devatā’) in a particular section of the Vaiśyas in Gujarāt evokes many cultural associations. It is also noteworthy that invariably the image of Viṣṇu is also installed in a Vāyu-temple, who equally shares the devotion of these Vaiśyas.

The Nagara-śēṣhas of Broach who are worshippers of Vāyu have been known to carry on extensive trade by sea with Arabia, Iran and other parts situated in the north-west direction to the coast of Gujarāt and Kāthiāwār.

This ancient maritime trade of some of the merchants of Gujarāt with countries situated in the north-west corner of the Arabian Sea partly explains the existence in Gujarāt of the uncommon worship of Vāyu, who is the protector or ‘dikpāla’ of that quarter.

Vāyu is naturally propitiated in order that the winds may be congenial to their journey and trade and that the ships might have good speed; the conveyance of the antelope and the symbol of a banner are mentioned among the distinguishing features of the Protector of the North-west.

The co-existence of a Viṣṇu-image with Vāyu is explained by the fact that Lord Kṛṣṇa, who later in life settled in Saurāṣṭra, has his seat at Dwārkā in the farther west. He is also known as Jagannārāyaṇa, the Jagat Beṭ of Muslim times.
THE WORLD-CYCLE

by R. SHAMASATRY

In the Purāṇas and other religious works the creator of the world is assigned a day of 1000 Yugas and a night of the same duration. At the end of his day-period the world is stated to disappear and at the close of his night to re-appear with the same diurnal and nocturnal phenomena like sun-rise and sun-set. This notion seems to have its origin in the Vedic eclipse-cycle of 1000 Yugas. We may go so far as to say that the recurrence of the same solar and lunar phenomena at each eclipse-cycle seems to have been taken for the re-appearance of the universe in its original form at the dawn of the creator's day-period of 1000 Yugas. The Bhagavadgītā says (VIII. 17-19) : "Those who know the creator's day-period of 1000 Yugas and also his night-period of the same length understand what a day and night mean precisely. At the dawn of the creator's day the whole universe manifests itself from the unknown and lies merged within the same unknown at night. Thus the appearance and disappearance of the universe with the same life and matter recur cycle after cycle of 1000 Yugas."

The recurrence of phenomena of life and matter and light and darkness being assumed to be the same in both the eclipse-cycle and the world-cycle, the difference between them lies in the meaning assigned to the word "Yuga". In the eclipse-cycle it means a period of 1000 Parvas of $14\frac{3}{4}$ days each equal to 40 years nearly, while in the world-cycle it is interpreted to mean 1000 Yugas of 12000 divine years or 4,32,000 human years each. If we take a Parva to be equal to 14 days, as the Vedic poets seem to have taken avoiding fraction, then 1000 Parvas or 14,000 days comes to be nearly equal to 39 years and a few months. Splitting this period into two parts of 7000 days each,
the Vedic seers seem to have called each part a Saptapuruṣa cycle of 7000 days, a Puruṣa cycle being taken to be a period of 1000 days, with at least three visible eclipses, solar or lunar, or both together on an average. 1098 days constitute three nodal or eclipse years of 346 days each. In each nodal year no more than 4 eclipses, two solar and two lunar, can possibly occur. Sometimes there may be in the same region one visible eclipse or none at all in a nodal year. In three nodal years there can possibly be no more than 12 eclipses and not less than three visible eclipses at least in the same locality. Eclipses are variously called in the Vedas: they were sometimes called three brothers, or three fathers,—father, grandfather, and great grandfather. The three descriptive designations given to the three eclipses of a cycle of 1000 days are Paṭara, or one of dusky appearance, Viklidha, or one of black colour, and Piṅga, or one of reddish-yellow colour, as I have pointed out both in the “Drapsa”, and the “Eclipse-cult”. An eclipse is generally called a Putra, or Vatsa, or Prajā, all meaning a son. The seven eclipses of a cycle of 1000 days are called the seven Putras of Viśpati (RV. 1.164.1). In the same verse the three eclipses of the previous cycle are called the three brothers, Palita, grey, Aśna, black, and Ghṛtapṛṣṭha, yellow, the colour of a cow’s butter or ghee. Seven cows, seven sisters, or seven horses are other names given to 7 eclipses. If there were 17 eclipses in the order 4, 4, 2, 5, and 2 in five successive years, this rare occurrence of seventeen seems to have received the name of Prajāpati or Viṣṇu. The mnemonic formula denoting this phenomenon is “āśravaya, astu śrauṣṭa, yaja, ye yajāmahe, vaṣaṭ,” where each of the seventeen syllables stands for an eclipse. In the “Drapsa” I took the formula to mean 17 years with six intercalary months. Now I find that it rather signifies the occurrence of 17 eclipses in the order noted above. The Āpṛi hymns make a special mention of this with a slight variation in the number constituting 17. The total number of eclipses forming the subject-matter of the Āpṛi hymns is 33 called thirty-three gods, eleven on earth, eleven in the air, and eleven in the sky. Tryavi, three lambs, and ‘pañcāvī’, five lambs, all meaning solar eclipses of one or two digits are among the 33 gods. The mnemonic formula denoting them is 8 Vasus, 11 Rudras, and 12 Ādītvas, with Dyāvapṛthivi, earth and sky. In the “Drapsa” I took the Āpṛi hymns to be a description of a cycle of 33 years. But on reconsidera-
tion I now find it to be a cycle of 11 or 13 years with 33 eclipses called
gods.

In the mantras of Prayäja and Anuyäja offerings connected with the
Āpri hymns Indra’s age is given in terms of eclipses called three lambs, three
calves, five lambs, draught oxen, a cow with a calf, a barren cow, or a bull.
Counting the number of all visible eclipses, both solar and lunar, given
in the eclipse-table in Swamikannu Pillai’s “Indian Ephemeris”, M. Raja
Rao found the average number of visible eclipses per 100 years to be about
252, of which 99 are solar and 153 are lunar. I have shown how Śambara
means a demon causing a solar eclipse and how his three forts mean three
solar eclipses called a grey lamb, a black lamb, and a red lamb, or a silver
fort, an iron castle, and a golden castle. We are told that “searching for
Śambara hidden in the mountains, Indra found him in the fortieth year”, and
destroyed his ninety-nine castles. The average number of visible eclipses,
both solar and lunar, for forty years is about 99. The average number of
eclipses for 13 years is, as pointed out above, about 33 and three-times
thirteen is 39, which is nearly the same as the fortieth year of the Vedas.
Since three-times thirty-three is ninety-nine, it follows that the Vedic
poets regarded the fourteenth and the fortieth years as two eclipse-cycles.
If then the Vedic gods counted in terms of thirty-three are, as shown
above, eclipse-gods, it must necessarily follow that the number of gods
counted as 3336 in the Vedas is the number of eclipses which they
observed and counted. Dividing this number by 252, the average for 100
years, we arrive at 1324 as the number of years, in the course of which
they observed so many eclipses. This I take to be from the beginning of
the Kali Yuga in B.C. 3102.

The eclipse-gods called the sons of Viśpati, the lord of the celestials,
should, however, be distinguished from Aditi’s sons, known as Dhātā,
Aryamā, Mitra, Varuṇa, Anśa, Bhaga, and Indra. Her eighth son called
Martanḍa was still-born and rejected. As Indra’s house is said to be
the thirteenth month (trayodaśa māsō indrasya gṛhaḥ), the seven sons of
Aditi seem to have been the lords of seven intercalary months in the
course of 19 years, which is also a cycle of eclipses, when the sun and the
moon would have the position which they had 19 or 38 years before. This
idea is expressed in the Ṛgvedic verse, “Dhātār, the lord of the first
of the seven intercalary months in a cycle of 19 years or of 14 intercalary
months in a cycle of 38 years set the sun and the moon in the same position as before." Taking the word "Kalpa" as understood from the use of the verb "akalpayat" in the Vedic verse and interpreting the word "Dhātar" simply as creator, the verse seems to have been taken to mean that the creator made the sun and the moon along with the world in every Kalpa as before.

On the basis of the definition of Yugas, Manvantaras, and Kalpas found in the Amarakośa, the original scheme of a Kalpa may be recast as follows:

(1) A day and night make two units of time called a day-kalpa and a night-kalpa to men.

(2) The two halves of 14 days each of a lunar month make a day-kalpa and a night-kalpa to the fathers in heaven.

(3) The two halves of a year make a day-kalpa and a night-kalpa to the gods.

(4) Seventy-one or seventy-two such Yugas or pairs of day-and-night-kalpas make a Manvantara.

(5) Twice fourteen Manvantaras or two thousand Yugas make a day-kalpa and a night-kalpa to Brahmā, the creator.

(6) In other words, 1000 days or $2\frac{3}{4}$ years with one intercalary month make a Yuga cycle to men.

(7) 14000 days or 1000 Parva-yugas with 14 intercalary months make a Yuga to the fathers in heaven.

(8) 2000 Ayana-yugas or $2000 \times 6 \times 2 \times 14$ days or $2 \times 2 \times 6 \times 14000$ days with $24 \times 14$ or 336 intercalary months make a day-kalpa and a night-kalpa to Brahmā. Since 14000 days are equal to 38 years nearly, we may say that 24x38 years with 336 intercalary months or 940 years make a day-kalpa and a night-kalpa to the creator. If we take a Parva to be equal to $14\frac{3}{4}$ days or so then the duration of a Kalpa would come to 500 years nearly or to 1000 years taking day-kalpa and night-kalpa together. It should be particularly noticed how the number seven forms an important factor in the above Kalpa-scheme. It needs no saying that the above scheme of time is very simple and intelligible and that the same has been magnified and turned into a huge number of years, basing it on Kṛta, Tretā, Dvāpara, and Kali-Yuga, with which the eclipse-cycles are, as pointed out elsewhere, closely connected.
The return of the sun and the moon to the same point with the same eclipse-phenomena cycle after cycle or Kalpa after Kalpa is hinted in the Rgvedic Śunaśśeṣa-sūktaka or hymn addressed by Śunaśśeṣa to King Varuṇa for release from the sacrificial post to which he was tied to be sacrificed. Before taking up the verses, it seems necessary to know the legend of Śunaśśeṣa, as given out in the Brāhmaṇas. It is as follows:

"King Hariścandra, son of Vedhas, of the Ikṣvāku-line, was childless, although he had one hundred wives. In his house lived Parvata and Nārada. The latter advised the king to go to Varuṇa and say to him: "May a son be born to me, and I shall sacrifice him to you". Varuṇa said "Yes". Accordingly a son named Rohita was born, but the king put off the sacrifice from time to time saying (1) let the victim pass ten days, (during which the child is impure in the Sūtikāgṛha); (2) let his teeth come; (3) let his teeth fall out; (4) let his teeth come again; (5) and let him become a warrior (Kṣatriya) girt with his armour. Varuṇa granted all these requests successively. When he became a warrior the king asked him to consent to be sacrificed; but he said "No"; and taking his bow ran away to the forest and lived there for a year. Varuṇa seized Hariścandra whose belly thereupon swelled (by dropsy). Rohita heard of this and five times he set out successively in the second, third, fourth, fifth and sixth years to go back to his father; but each time Indra came in the form of a Brāhmaṇ and induced him not to go. While he was travelling in the forest in the sixth year, he met a starving Rṣi named Ajīgarta, son of Suyavasa, a descendant of Aṅgiras. Ajīgarta had three sons, Śunaḥpukkha, Śunaśśeṣa, and Śunolāṅgūla. Purchasing the middle son Śunaśśeṣa for a hundred cows (for the father would not part with the first and the mother with the last son) Rohita came to his father, who then went to Varuṇa and said: "I shall sacrifice this man to you". Varuṇa said "All right. A Brāhmaṇ is better than a Kṣatriya". Then commenced the sacrifice called Rājasūya, in which Viśvāmitra officiated as the Hotṛ, Jamadagni as Adhvaryu, Vaśiṣṭha as Brahmā, Agastya as Udgātṛ. They found nobody to bind Śunaśśeṣa to the sacrificial post and kill him. His father Ajīgarta volunteered to do these acts for another two hundred cows. He bound him and came whetting his sword; when
Śunaśśepa thought "they will really kill me as if I was not a man. I shall pray to the gods". He prayed to Varuṇa and other gods, and at last to Uṣas in three verses, of which the first, as soon as he repeated, loosened the cord, the second thinned Hariścandra's belly, and the last completely liberated Śunaśśepa and made Hariścandra well again."

In my article entitled "Test of the Eclipse-cycle in the Vedas" published in the 'Orientalist' of Poona for May 1941, I showed how Rohita meant a lunar eclipse of Pinga colour occurring in each cycle of 1000 days. I see no reason why Rohita of the above story cannot be taken to be a lunar eclipse of the same type. Hariścandra is, as the name itself implies, the moon and his reddish son can be no other than an eclipsed moon. I am inclined to take Śunaḥpukkha, Śunaśśepa, and Śunolāṅgula to be the names of the same three lunar eclipses known as Paṭara, Viklidha, and Pinga. M. Raja Rao thinks that there are some three stars in the region of Canis Major and Canis Minor, the seven Bears, and the Dog-star and that Aūgarta, meaning a deep pit of a serpent, is Āśleṣā, the deity of which is Ahi, a serpent. As the lunar eclipse happened near those stars, they were also affected by the eclipse and made to pray to Varuṇa for release. It is of no consequence whether the eclipsed moon in the region of the signs, Cancer and Leo, is called by those names or some three stars near the Dog-star (Śunāṣira) in the same region. What is of great importance is the occurrence of a lunar eclipse in that region, the sun being in the constellation called Śatabhiṣaj from which Āśleṣā and Maghā are the thirteenth and fourteenth stars, or 180° from the sun. The verses in which identification of Śunaśśepa with one of three eclipses recurring cycle after cycle is hinted are the 9th, 10th, 11th, 12th, and 13th of RV. I. 24. and the 8th verse of the 25th hymn. They are:

"The Śatabhiṣajs are thine (Varuṇa's); a thousand (days' journey) is vast and grave; drive out far and backwards Nirṛti (eclipse-demon), and remove my sinful bonds (enaḥ)."

RV. 1/24/9

1. Skandavāmīn interprets 'enaḥ' as 'pāsa' = binding ropes.
Commenting upon the above verse Skandasvamin took Šata and Sahasra as adjectives to Bhiṣajah and explained that Varuṇa’s physicians are a hundred, nay, even a thousand. There is no reason why Šata-bhiṣajah should not be taken as the constellation with Varuṇa as its deity and why Sahasra should not be interpreted to mean a thousand days’ journey as in the verse “sahasrāhnā vitatāvasya pāksau”.

From Šatabhiṣajah the thirteenth and fourteenth constellations are Āśleṣā and Maghā, making the sun and the full moon 180° apart.

“These Bears that are set up high in the sky are seen at night and go out somewhere during the day. Unaltered and uncontradicted are these laws of thine, O Varuṇa; and at night the moon goes to the Nakṣatra with lustre.”

The meaning is that though the seven Bears are visible as usual, the moon has no lustre. This is an apparent break in Varuṇa’s eternal laws regulating the movements of planets and constellations.

“Therefore I approach thee bowing with prayers; the same thing [release from the bonds] the sacrificer hopes to attain to by his food-offerings; O praise-worthy Varuṇa, take this my prayer to heart without anger; do not rob me of my life.”

“The same the night, the same the day,—so they say to me; the same thought rises in my breast; the same is King Varuṇa to whom Šunaśśepa once prayed for release when caught hold of before: I am the same Šunaśśepa that is now caught hold of and prays for release as before.”

Believing that Šunaśśepa is a human substitute for human Rohita to be sacrificed, Skandasvamin, the commentator, says: “Aññaka kalpe yāśunaśśepa āsīt ahameva saḥ gṛhitah, gṛhitah”. “The same Šunaśśepa who was once caught hold of in a former Kalpa of 1000 divine Yugas am I now in bonds on the same night of the same day of the same year in the present Kalpa of 1000 divine Yugas”. For reasons set forth above I hold that this is a reference to the return of the same kind of Rohita eclipse in a second cycle of 1000 days in the sixth year.

“Šunaśśepohyavadgṛhitāstrivādityaṁ drupadeṣu baddhah.
Avainām rāja varunassajīvādvidvānādho vimuktau pāśan.”

“(I) Šunaśśepa called upon thee, O Varuṇa, when I was bound to three posts (foot-holds of the tree on three occasions before). May King
Varuṇa, omniscient and unassailed, release the same Śunaśśepa from the bonds.

Here the expression, “trīṣu drupadeṣu” means on three footholds of a tree and not three ropes and one tree or post. Skandāsvāmin says that though there is as a rule only one rope to bind the victim by its head to the post, the reference to three bindings, one round the neck, one round the loins, one round the two legs here, is an exception in the case of a human victim like Śunaśśepa with a view to make him firm and unshaken at the time of slaughter. There is, however, no room for the objection raised and the explanation offered by the commentator. The text clearly mentions three foot-holds of a tree implying three bindings on three different occasions. The acts performed in the sacrificial hall are, as I have pointed out in “Eclipse-cult” imitations of the eclipse-phenomena observed in the sky. Accordingly the heavenly victim corresponding to the human victim in the sacrificial hall is the eclipsed moon, as pointed out above. What then is the Drupada or foot-hold of the tree to which the eclipsed planet was believed to have been bound? It is the Aśvattha or Pippala tree which is described in RV. 1.164, 20 as the abode of the sun and the moon. Accordingly it may be inferred that the Pippala tree was one of the constellations through which the two planets make their early and monthly revolutions. While explaining Pāṇini, 4/3/48, Vāsudevadīkṣita, the author of ‘Bālamanoramā,’ says that Kalāpaka means a debt payable at the time when peacocks have their feathers fully grown, Aśvatthaka a debt payable at the time when the fruits of the Pippala trees ripen, and Yavabūsaka a debt payable at the time when barley grain ripens. Again while explaining Pāṇini 4/2/5 (śanjavām śravanāśvatthabhīyām), he says that Aśvattha means the constellation Aśvinī. Others take it to signify the constellation Śravaṇa on the authority of the Kāṭhaka Samhitā identifying Aśvattha with Śravaṇa. This interpretation seems to be justifiable inasmuch as the Aśvattha tree bears fruit at the summer season. At the time of Pāṇini the arrival of the sun at the constellation of Puṣya marked the time of the summer season and summer-solstice. The Aśvattha tree is described in the Bhagavadgītā as having its top on the earth and its root or foot-hold in the sky. Accordingly if the constellation of Puṣya marked the top of the Aśvattha tree, its root or foot must necessarily be in Śravaṇa
which is at the other end of the diameter. The 'Suryaprajñapti' says that the new moon at Śrāvana marked the arrival of the winter-solstice and that the new moon at Puṣya signified the arrival of the summer-solstice. Pāṇini flourished at about 500 to 400 B.C. when Mahavira, the author of the 'Suryaprajñapti', lived and preached Jainism. The 'Vedāṅgajyotiṣa' locates the summer-solstice at the former half of the constellation of Āśleṣa and the winter-solstice at Śraviṣṭhī. Making allowance for defective observations, Svarakannu Pillai, the author of 'Indian Ephemeris', fixed the date of the Jyotiṣa to lie somewhere about 800 to 900 B.C. Others put it at 1200 to 1400 B.C. From this it follows that the solstices were at the end of Āśleṣa and the beginning of Dhanisthā at about 1300 to 1400 B.C., and that the same must have been located at the end of Maghā and the beginning of Śatabhiṣaj 2300 B.C., and at the latter half of Purvaphalguni and the former half of Purvabhadrapada at about B.C. 3100. This is in complete agreement with the conclusions arrived at by Bāla Gangādhara Tilak on consideration of the shifting of the vernal equinox from Ādrā to Kṛttikā and by Jacobi on consideration of the shifting of the summer-solstice from the Phalgunīs to Āśleṣa. There is also an additional proof furnished by the nomenclature of the constellations. The constellation of Purva-
behadrpada is called Ahirbudhnya, the tail of the serpent. The con-
stellation of Āśleṣa is called Ahi, the serpent. The reason why this Naksatra is called Ahi seems to be the frequency of eclipses when the serpent Svarbhānu is believed to devour the sun at solar and the moon at lunar eclipses. If the serpent's mouth is in the Āśleṣa, then its tail, the other node, must necessarily be at the constellation of Dhanisthā. Similarly, if the constellation of Śatabhiṣaj is the tail, then the mouth of the serpent, or the ascending node, must be in the Maghā; and if the tail or descendig node is in Purvabhadrapada, then Ahi's mouth must be in Purvaphalgunī. Similarly Uttarabhadrapada called Aja Ekapād and Uttaraphalgunī must have been the tail and the mouth of the serpent in an earlier epoch. The situation of the solstices in Uttarabhadrapada and Uttaraphalgunī is hinted by the statement made in the hymn on Rohita in the Athravaveda that at one end of the thread held by Prajāpati rested Aja Ekapād.¹

¹ 'Test of the Eclipse-cult' in the "Orientalist".
What deserves special attention in this connection is the significance and purpose of the sacrificial victims such as man, horse, cow, goat, sheep and the like. Unless we understand the nature of the dice-play, we can not fully grasp the significance of the victims. In the dice-play there must be two players with specified wager or stake laid before the umpire. The stake is called Glaha in Pāṇini (1/3/7). In the Rgveda it is called Glabha, a word which is derived from the root 'gṛh', to take. The perfect participle “gṛhita” used in the Śunasśepa hymn (1/24/12) meaning “taken as a stake” is from the same root. In the dice-play in the sky the two players are the sun and the moon. The stake laid by them must necessarily be their own person or their horses. If the player’s own person is laid as a stake, it seems to have been called ‘nara’, cow, goat, or sheep in the ratio of decreasing value corresponding to the varying digits of the eclipse. The winner not only took the defeated person as a stake, but also tied the victim to a post in his own house to be disposed of at his own pleasure. The house in the case of the sun and moon is either the foot-hold or the top of the Aśvattha tree. The forms of the play were Kṛta, Tretā, Dvāpara, or Kali. If the sun or the moon in the game of running made a Kṛta Yuga or a number of Parvas divisible by four with no remainder, then he is considered to be the winner, as agreed upon. In the solar eclipse the moon is the winner, and in the lunar eclipse the sun is evidently the winner. The defeated planet is tied to the foot-hold or top of the Vanaspati, Aśvattha, to be disposed of at the will of the winner. It is probable that if the eclipse was two Padas out of four Padas, that is, half, it is called ‘nara’, man standing on two legs. If it be of four Padas, it is a cow. If very small, it is an ‘avi’, sheep. The value of one kind of victim in terms of the other victims requires further investigation.

An eclipse is regarded not merely as a game of dice-play or race of running, but also as a battle between the gods led by the sun or the moon and the demons under the lead of Śambara, Vṛtra, Nirṛti, and others of various names, when the defeated planet is bound to the victory pillar or set at liberty on payment of an adequate ransom of the value of a horse, a cow, a goat, a sheep or a slave or a woman, or gold, or a valuable cloth-piece. Sometimes it is also conceived as an act
of devouring one of the two planets by Svarbhānu and the release of
the swallowed is considered to be effected by incantation and prayer or,
power of speech or Vāk in the Vedic terminology.

The binding of Śunaśsepa thrice in his former births in one or
three former Kalpas and the recurrence of the same binding in the present
Kalpa referred to in verse 12 is no more than the recurrence of the
Rohita-type of the three eclipses of the previous cycle of 1000 days.
This is also implied in the 8th verse of the 25th hymn of the first
Maṇḍala of the Ṛgveda. It is as follows:

"May King Varuṇa who is omniscient and who is unopposed release
the same Śunaśsepa from the ropes. Varuṇa knows full well the
twelve productive months and also that which comes into being along
with them (the thirteenth month.)"

Are we justified in believing like the commentator that the Vedic
Ṛṣis who talked of 12 months and an intercalary month dreamt of
1000 divine Yugas or periods of 4,32,0000 human years when men like
Śunaśsepa had a series of births and deaths with pain and pleasure like
a revolving wheel?
Alpana or the symbolical drawings or paintings by girls and women on the ground with a kind of liquid which is locally known as Piṭhali is one of the most characteristic aspects of the folk art of Bengal. Alpanās are mainly drawn on the ground or on some other objects, on all festive occasions. They are mentioned in the folk songs of Bengal. Ālpanā plays an important part in the performance of vowed observances, Vratas. In most of the Kumārī Vrata, where young unmarried girls are the performers, Ālpanā serves as the altar on or before which the prayer or the chanting of the verses (chaḍā) takes place.

The Vrata-painting is locally known as Ālpanā or Ālipanā or Chhitir. The place where this painting is done is known as Kot. The Vrata-Ālpanā can be divided in two classes—in one kind of Ālpanā different kinds of colour are used not without magical significance and in the other kind Piṭhali is used. The former may be called "dry painting" and the latter a simple form of painting or drawing with a white liquid. The ingredients for drawing or painting thus consists of different colours and Piṭhali. Piṭhali is made by diluting rice paste with water. The colours used are generally white, red, (green) and black. White is made of rice powder, red of burnt brick and black of coal dust. The ingredients which are used for drawing and painting on the ground for the Vrata-observances are commonly used by 'primitive' people in India for painting or drawing on the ground for magical purposes. They generally use three colours, white, red and black made of rice.

1. In the 'Mymensingh Ballada' the story of Kājalrekhā gives a vivid description of Ālpanā. It resembles the method of drawing Ālpanā as practised for the Vrata observances in different parts of Bengal. 'Mymensingh Ballada' by D. C. Sen, pp. 368-69.
powder, hearth earth and coal dust. To the primitives these colours mainly bear magical significance. Thus the Oraons of Chotanagpur believe that the three colours white, red and black represent the rainbow and are therefore most important factors in warding off the evils and evil attractions of the malignant spirits. Among the Birhors it is believed that these colours stand for different Boṅgās. The black colour stands for the Baghout spirit, red for the Nāge-erabundi and white for Burum-Boṅgā. Sacrifices are offered to the spirits represented.

The use of different colours, or the dry painting, is particularly associated with the Māgh-maṇḍal-vrata; in all other Ālpanās Pīṭhali is used.

Different Ālpanās are drawn, for example one which consists of five circles as the

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Vrata is to be observed for five years. In the centre is a lotus (padma) and round it are plain circular lines and on the border of the last circle geometrical designs. Or, a creeper design is in the centre; in the first circle is a lotus creeper, in the second are geometrical designs, in the third there is again a lotus creeper and in the fourth and fifth circles are lotus creepers of a different type and on the border of the last circle are geometrical designs. In both these Ālpanās the Sun and the Moon are drawn above and beneath the circular design. This kind of Ālpanā is mainly drawn on the last day of the observance of the Vrata. In day to day observances, however, lines are incised on the earth in circles with the Sun and the Moon above and below them. In the first year of the observance one circle is to be incised and this is to be added up to the 5th year of the Vrata which is the last year of its performance. The circular lines are filled with different colours. But there is no uniformity in the decoration of these circular lines. Generally however the first line is filled with green colour, the second and the third with black and white, the fourth with red and the fifth often with yellow or green or white. The Sun is always coloured red and the Moon white, thus giving an expression of their characteristic features. The sketch on p. 127 illustrates the Ālpanā connected with the Tārār-vrata which is more or less complicated. It consists of 4 circles. In the centre are four trident-like designs radiating in the four quarters. In the second circle is the design of a creeper locally known as Śaṅkha-latā or the conch-creeper; in the third circle is a lotus creeper and in the fourth is a most complicated form of Śaṅkha-latā. The Sun and the Moon, as usual, are drawn above and below these circles. These also are decorated with numerous geometrical symbols, etc. Varieties of lotus creepers surround these circles and in the four corners creepers and geometrical designs complete this Ālpanā. Another simple form of Ālpanā consists of four circles. In the centre are geometrical designs and the other circles are filled by big dots indicating the Stars, and as usual the Sun and the Moon are present above and below. Another Ālpanā in a circle represents the Sun with its radiating rays and below it a lotus plant with branches and flowers. Yet another is a square (room) with the representation of two human figures inside it and with the Sun and the Moon above and below as usual.
These are the various forms of Ālpanās connected with the observances of the Vṛatas. The most characteristic features of these Ālpanās are the representations of the Sun, the Moon and the Stars. The Sun is given ears, nose, eyes, a throat, etc. The Moon on the other hand is always a crescent or half Moon, and never a full Moon, a circle. The circles of the Ālpanā represent the Universe with its luminaries, the Sun, the Stars, the Moon and their presiding deities, givers of light and life. Further elements in the Ālpanās are creepers of different varieties, Śāṅkha-latā and Pādma-latā, lotus and other geometrical designs.

Almost all these features of the Ālpanā painting occur also in the drawings on the ground by the primitives, on festive occasions. The primitives usually employ different colours for the magical rites but the drawing with Pithali is also not absent. The drawing of diagrams with different colours is an essential feature of the Oraon religious rites. This is described by S. C. Ray: “Then he (the Oraon) draws a diagram on the ground with coal-dust, rice-flour and hearth-earth in the shape of three parallelograms with the eastern arm wiped off. The outermost lines are made of earth from the hearth and are thus red in colour, the intermediate lines with rice-flour and are thus white in colour and the innermost lines with coal dust and are thus black in colour. The figures represent three concentric compartments with openings on the east. On the inner side of the innermost lines similar lines are drawn with earth from the hearth”.\(^1\) This diagram is known as Pimri or the altar for the Kumārī-baithān rite. Such drawings with different colours are also required in the rite of the cutting of the “evil teeth”. Thus we are told that with “a little rice-flour, a little coal dust and a little clay from the hearth placed before him, he draws a diagram representing magical symbols on the ground”.\(^2\) Among the Mundas as well this kind of diagram is drawn at the Lutur-tukui, or the ear boring rite. “A figure in the form of parallelogram with diagonals is drawn in the courtyard of the baby’s father’s house with rice-flour dough”.\(^3\)

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2. Ibid., p. 126-27.
3. Ibid., p. 46.
the Khāriās, a lotus-like diagram is very commonly drawn. "Some Dudh-khāriās draw a lotus-like diagram on the ground over which the tripod is set up. The lines forming the circumference of the inner circle of this diagram are drawn with coal-dust, rice-flour and burnt reddish earth from the hearth".\textsuperscript{1} This kind of diagram is also required for the Hongoe Dibharna rite and during the Deothan rite geometrical figures are drawn, and also on the occasion of the Bandi festival in some Khāriā families. "The diagram represents the points of the compass and over the diagram a light is placed".\textsuperscript{2} Among the Birhors, however, drawings with more or less ornamental designs are practised. During the Tākhārhi rite two square rooms are drawn—the smaller one within the bigger one, and there is a small circle in the centre and the four corners are joined by lines crosswise. This is drawn on the ground by a woman with rice-flour.\textsuperscript{3} At the time of the Bonā-Sānk "a mystic diagram is drawn on the ground in the 'ānγam which has been cleared with water and if available with cowdung diluted with water. Black coal-dust, red earth and white rice-flour are the materials used in drawing these lines".\textsuperscript{4} Moreover at the time of the worship of the different Bonās such diagrams are drawn. During the worship of the Ora-Bonā, a mystic diagram with four compartments is drawn with rice-flour on a place cleared with cowdung.\textsuperscript{5} Again during the Saso-Bonā festival "the courtyard of the house is cleared with water mixed with cowdung and the figure of a square is drawn with rice-flour in a part of the 'ānγam. Around the square on each side of it there are five figures of the shape of petals of flowers drawn with coal-dust and on each of the petals two similar petal-like figures are drawn one above another, the middle row with red earth and the uppermost one with coal-dust".\textsuperscript{6} Besides these varieties of dry painting which are very common among the primitive tribes there is also the practice of drawing on the ground with Pithali.\textsuperscript{7}

\begin{enumerate}
\item \textit{The Khāriās} by S. C. Ray, p. 274.
\item Ibid., p. 474.
\item "The Birhors" by S. C. Ray, p. 152.
\item "The Birhors" by S. C. Ray, page 212.
\item Ibid., page 335.
\item Ibid., Page 335.
\item "Oraon Religion and Customs" by S. C. Ray, page 40.
\end{enumerate}
Among the Oraons of Chotanagpur the women paint with Pithali. Thus the Oraon woman paints ornamental figures on the Pulkhi (stone slab) with rice flour moistened with water. The use of this form of liquid for drawing is also very common among the Garos who at the great harvest festival mix flour with water and make hand-marks on the posts and walls of the house, etc. Numerous examples of such drawings can be cited from primitive customs which are mainly magical in character.

The most characteristic feature of the Vrata-Alpana is the painting of the lotus and lotus creeper. The lotus is connected with the Goddess Lakshmi and consequently also with wealth as Lakshmi is the Goddess of wealth. In this particular application of its symbolic meaning the magical significance of the lotus lies in the supply of wealth and plenty.

All the features of the Vrata-Alpana are essentially of magical significance; they are almost identical to the various kinds of magical drawings connected with the numerous festivals of the primitives. The drawing of a circle on the ground is full of magical significance. Even nowadays in Bengal a line representing a snake is drawn round a house for preventing the snake from entering the house. There are numerous references in the popular tales of drawing such lines for the performance of magical rites to keep off witches and evil spirits. Here, as also in similar Abyssinian and other African magical drawings, we find the representation of the eyes, for averting the evil eye; head and face for the protection against evils, etc. In the Alpana is also expressed the magical belief that the fulfilment of desires requires the proper representation of the object of the desire. Thus by drawing Pithali Chiruni the girls want to have a golden Chiruni (comb), etc. By drawing the Sun, the Moon and the Stars they want to influence the Luminaries to fulfil their desires. The 'decorative' elements such as the drawings of creepers, petals, geometrical figures, etc.,

1. 'The Garos' by Playfair, page 45.
2. 'Vanglai Vrata' by A. N. Tagore, page 67.
3. 'Popular Religion and Folklore of Northern India' by Crooke, p. 30.
4. 'History of Ethiopia' by Budge, page 601.
are also not, without magical significance but here the verbal tradition is totally lost. Thus the girls of Bengal are very practical in their Álpanā painting. Their art means that something to their heart’s desire must be achieved by the representation of the desired objects.
A NEW VARIETY OF PAHĀRI PAINTINGS

by B. N. TREASURYVALA

Some paintings of the West Himalayan (Pahāri) schools it is difficult to assign to a particular centre. Starting from the extreme north, the main centres of this group are Kashmir where practically nothing of great merit was produced whereas southwards Jammu was an important centre of production. Basohli is further south of Jammu and Chamba lies on its eastern side. Very numerous examples of the Basohli school have come to light, and some from Chamba. A little further south between Basohli and Chamba is Kangra, the most outstanding centre of painting in the West Himalayan group. Little is known of Mandi and Suket. Tehri-Garhwal, the southernmost centre of this Himalayan group, has in its painting a family resemblance to Kangra. N. C. Mehta has discussed its character in his “Studies in Indian Painting” where he publishes an example in colour by Mānakū (plate No. 21) which bears the artist’s signature; he seems to have produced better work than Molarām, a second-rate artist whose importance has been exaggerated. The Sikh school is a decadent phase of the Kangra school.

Recently I acquired a group of coloured drawings of varying merit some of which have a rare charm and power. A number of these paintings while showing a recrudescence and absorption of 18th century devices, Mughal and Pahāri, are nevertheless related in the strength of line, bold spacing, range of colours and their application, to the examples illustrated here. They are probably works of a folk art practised until recently, and they might come from Jammu or from Kulu.

There are two types in this group (Pl. VI. 1, 2; and Pl. VI. 3, Pl. VII). The first type is represented by “A Lady smoking under a Willow
Tree* (Pl. VI. 1) with a girl attendant holding a fly-whisk and by "A Lady Dressing Her Hair* (Pl. VI. 2). This may be Vilawal Rāgini with two girl attendants offering her a cup of wine; one girl holds the cup and the other holds a flask. These two examples are by the same hand. The colours are subdued but the brush-strokes are powerful and precise. They are equal in strength and precision to strokes made by a quill. The painting is on the raw surface of an ivory-toned paper without any priming or wash of any kind. The colours are dull green for the willows; a black stem of the willow in the first example and a vermilion stem and branches in the second example. Green, blue and red predominate in the costumes. The women wear dresses like Empire gowns usually found in Kangra paintings with very long sleeves and the pyjamas of some are seen through the skirts. The textile designs and the outlines are all black.

This group one might assign to the Jammu school. But a closer examination shows that the figures with their short and rounded noses, high and straight foreheads and almond-shaped eyes are different from those found in Jammu and also in the Basohli school. In the painting "Girls Flying Kites* (Rāgini*; Pl. VI. 3), the costume is similar to the two examples illustrated above but less elaborate. The textile designs are simplified, the colours limited. Indigo, black, brown, dull green, yellow and white body-colour are sparingly used and black for the kites, hair, eyes and outlines; indigo is for the ground, the whole surface being washed with the colour unevenly. "Todi Rāgini* (Pl. VII) shows the same type of costume and simple textile design as Pl. VI. 3, but the drawing is more accomplished and vivid. The colours here are limited like those of Pl. VI. 3, black for the willow foliage, brown for its stem and branches; black patches decorate the deer, some parts are toned down with diluted colour. The Rāgini wears a green Empire gown with long sleeves, yellow scarf, and her pyjamas are visible through her green skirt (as also in Pl. VI. 3). The animals intently gaze at the face of the love-hungered heroine. She has pearl strings on her forehead, wears necklaces and flower-like earrings, and tassels on the arms. This group of painting has no elegance; it is 'barbaric'. The paintings of the Jammu school are more refined than the paintings illustrated here. The Kangra school flowers into a melody of colours and a perfection of lines.
The paintings illustrated here are but remotely related to them; they are closer to Basohli with its intensity of line and surface relations; in colour they correspond more nearly to Kulu paintings but are free from their cumbrous crudities.
EARLY INDIAN TERRACOTTAS

by D. H. GORDON

THE PREHISTORIC TERRACOTTAS

An outstanding feature of the Harappa culture, as clearly shown by the vast numbers excavated both at Harappa itself and at Mohenjo-daro, is the profusion of terracotta figurines both of humans and of animals. These have been on the whole well described in the works of Sir John Marshall and Dr. E. J. H. Mackay. At the same time it is felt that good may be done in bringing forward certain points, which emerge as the result of a prolonged study of the material at museums both at Harappa and Mohenjo-daro.

As is the case at other sites and in other periods, there is a common type, forming by far the greater bulk of the figurines discovered, which should be distinguished from the occasional and sometimes mystifying variants found in their immediate stratigraphical vicinity. Before we proceed further it will be well to stress the fact, which will emerge again at all periods, of the excellence and sophistication of moulded specimens when compared with the crude primitiveness of modelled figurines.

ACKNOWLEDGEMENTS: The monograph on Early Indian Terracottas by Colonel D. H. Gordon was to be issued in 1942 as Memoir No. 61 of the Archaeological Survey of India. War economy made its publication in this series impossible. Dr. R. E. Mortimer Wheeler, Director General of Archaeology in India very kindly allowed the publication of this paper in JISOA. We express our gratitude to the Director General of Archaeology and to the Archaeological Survey of India for enabling us to publish the paper and to use the blocks prepared for them [Ed].

The author acknowledges the generous help of the Archaeological Survey of India, which gave him for the illustrations the following figures and permission to publish the same: Plate VIII. 1-7, Plate X. 3, 7, Plate XI. 1, 4, 6, Plate XII. 1, 6, 7, Plate XIII. 1, 3, 5, 7 and Plate XV. 9; Figures 8 of Plate VIII of Plate IX; and 5 of Plate XVI are from the author's own negatives taken and published by permission of the Department. Plate IX. 4 is reproduced from Dr. A. K. Coomaraswamy's figure in IPBK 1928, there being no other perfect figure of this type available. The remainder of the figures are from the author's own negatives.
The common type of Harappa period human figurine is the female figure shown in Pl. VIII. 2, having the fan-shaped headdress, which is common to by far the greater number of such figures; round applied eyes; the pinched out nose, which is to be found in modelled figures of all periods; the wide characteristic mouth, sometimes applied, and incised, sometimes worked up in the modelling of the face; the simple dog collar, occasionally as in this instance accompanied by a single necklace, a series of three or more necklaces being most uncommon, at Harappa for example there is only one figure with three necklaces and not one with more; the narrow loin cloth, present in every female figurine, which precludes any connection with the nude goddess; arms hanging at the sides, and fairly prominent applied breasts. The bulk of these figures have even less narrow waists and broad hips than that in the illustration, those with really narrow waists number less than a dozen and of these two figurines from Mohenjo-daro are of a totally different type to the normal. Both of these have their fore-arms brought in a curve across the waist, one has a series of what may be necklaces right down on to the shoulders, and the other a number of necklaces coiled tightly round an elongated neck; from Harappa there are no figurines of this type. Narrow waists and broad hips are, therefore, by no means a characteristic of the female figurines of the Harappa period. Of the female figurines, roughly nine hundred, examined at the Harappa, Mohenjo-daro and Lahore museums, one had applied and incised eyes, two had applied and pierced eyes, the whole of the remainder had simple applied eyes; this disposes quite finally of the statement that applied and incised eyes are characteristic of the prehistoric periods. Beside the fan-shaped, which is accompanied by a great variety of ornament and hair dressing, including at Harappa a series of rosettes, there are three other distinctive headdresses, one with a long narrow pointed peak which falls forward or backward, one a turban-like headdress with diagonal bands from top centre to low on each side, and one the curious voluted headdress found only at Harappa (Pl. VIII. 3). This latter headdress is in form almost exactly like the voluted capital of a pillar, and it is plain from a close examination that all the figures with this headdress had their hands raised to meet it. Whether this was a headdress or some object of ritual significance carried on the head it is difficult to say.
The male figurines are fewer than the female and present fewer variations. Some have a horned headdress and necklaces, the majority are without ornament, the whole of them appear to be nude, some are bearded (Pl. VIII. 1). There is also a class of figurine which appears to be male; these are squatting figures of which there are a number both at Harappa and Mohenjo-daro. Some of these figures have a round cap with prickings all over, and a curious collar with a projection in front; it is possible that they are slaves. These figures among others are those which are held by Dr. Mackay to be the product of children. It is very unlikely that anyone would have taken the trouble to fire the clay objects made by children during play, and crudeness is a most unreliable criterion by which to assign responsibility for manufacture. An ox figure has a similar collar to the squatting figures just mentioned, with curious funnel shaped wedges stuck in at each side. Did these funnels contain incense or some other offering? If so it is very likely that this animal is sacrificial, and were these, animals and humans alike, token ex votos in lieu of actual sacrifices, either from humane considerations, which is doubtful, or from economic ones, which is more likely?

These are purely speculations, but they lead to another consideration, what was the function of the other terracottas? The male and female figures may be god and goddess, but it is felt to be very doubtful. Only the horned male figures have any very secure claim to divinity. The female figures with raised arms and the voluted objects on their heads are almost certainly votaries, and a good case for the ritual nakedness of male worshippers in ancient times can reasonably be put forward to explain the male figurines. If we concede that these are votaries, then may not the remainder of the female figurines be votaries too, especially when one considers the few interesting variants such as the lady wrapped in a long cloak, who is in no known religious tradition, and is a naturalistic figure of a human person pure and simple. The mass of oxen figurines are without doubt token offerings, they total nearly twice the number of all the other animals put together. What the function of the remainder might be, including elephants, boars, monkeys, hares, rhinoceros, goats, sheep, birds, turtles, and dogs, is difficult to say. Some of these are found on the seals and copper
tablets and may have been sacred animals. Perhaps, as in ancient Egypt, the majority of animals may have been held in reverence as a relic, or even an actual continuance of totemism. The man-headed animals have definite religious significance in common with other such objects throughout the ancient world.

In addition to the crudely modelled figurines there are a few moulded specimens. These are found in the lower levels of the D. K. area. They present a most sophisticated appearance when compared with the modelled figurines. The eye form is that commonly employed in the moulded terracottas of the early historic period, namely a sharp ended oval formed by two lines impressed in close proximity, so as to form a ridge surrounding the eye-ball. Of this moulded type there are four or five small masks, a double-faced figure and the upper portion of two normal figurines. All of these almost certainly represent a deity, usually horned and with a chin beard (Pl. VIII, 5), and though none of these is a fragment of such a figure, there is little doubt that they are in some way connected with the horned and bearded men-animals.

Dr. Mackay says of these moulded faces: "in a certain type of head, found only in the lower levels, which were made with the aid of a mould, merely the outline of the eyes were incised". This is inclined to be misleading; in the masks the eyes are the direct product of the mould, in the double-faced image and one other, the definition of the enclosing lines appears to have improved by deepening. No moulded faces of the prehistoric period have been found at Harappa, but four hollow-backed female faces of the Buddhist period have been found at that site, the nearest parallel to them being the best style of hollow-backed face found at Sahri Bahlol.

In addition to the animal figurines there are two classes of bird terracottas which are extremely interesting, these are the birds on pedestals with spread wings and the bird whistles. Both of these are quite common at all Indus Valley sites, and have been shown to exist in the early historic period as bird rattle and pedestal birds with their form substantially unaltered.¹ The pottery bird whistle in a somewhat

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¹ This and other similar points were originally published in The Journal of The Royal Asiatic Society of Bengal, Vol. VI, 1941, No. 2 in an article "Survivals of the Indus Culture" by M. E. and D. H. Gordon.
modified form is made by wandering nomads at the present day. The vast majority of all these figurines are made of the normal pink pottery of the Harappa period; most but not all of the male and female figurines at Mohenjo-daro were at one time coated with a red wash, this red wash is, however, completely absent from the figurines found at Harappa, and it is unlikely that it had any religious significance, but was adopted by the potters at Mohenjo-daro as a preservative. There are in all only seven figures in grey pottery out of the large numbers examined.

Though female figures have girdles and necklaces there is only one, which is in the Harappa museum, that has a cross girdled ornament resembling the channavira, which is so common in figurines of later date. In fact there are only two human figures which bear any resemblance to those of later date. One for that very compelling reason that it is not of later date, this is a bearded head with a high pointed Iranian cap found in the D.K. area of Mohenjo-daro which cannot be anything but Indo-Scythian or Kushan (Pl. VIII. 7). The other is more puzzling, its context appears to preclude a late date, but its whole technique is quite foreign to anything else found at Mohenjo-daro; this is a small female head with hair (?) in an applied roll at the back. The technique by which it is made is one commonly employed in the early historic period, but otherwise unknown at Mohenjo-daro, the face being made separately in a mould and then joined to the head. Neither of these heads appears to be of the antiquity with which they are associated. It is curious that at Harappa, Mohenjo-daro, Chanhu-daro and Jhukar few if any terracotta figurines can be shown conclusively to belong to the succeeding Jhukar period, when the preceding Harappa period produced them in such great abundance. If this is really the case it makes the linking up of terracottas from the Harappa period to the early historic period a matter of very considerable difficulty.

A number of female figures are stored in the archaeological godown in Peshawar, these so far as can be ascertained were found by Dr. Aurel Stein at ancient sites in the Zhob. Nothing could be more dissimilar than these terracottas and those of the Harappa culture. These figures are made of that pale creamy grey fragile pottery which is so characteristic of the early figures in Sumer. They are aesthetically totally different to those found at the Indus sites and are the product of a different art
tradition and probably of a totally different people, and possibly of a
totally different age. These female figures (Pl. VIII. 8) have an air of
primitive decadence; they are far less robust in every way than those
made in the Indus cities. They are all broken off at the waist, so it is
impossible to say definitely whether they were nude figures, or whether
they had some form of skirt or loin cloth. The most common headdress
appears to be formed by two narrow applied bands framing the face;
two other types exist, a semi-cylindrical hat wider at the top than at the
bottom, and a star-shaped headdress with three points. The figures all
have a number of necklaces close together down on to the shoulders.
The outstanding peculiarity is the eye-form; they are round hollowed
out sockets with a surrounding ridge. It is possible that these had some
paste or stone eye inserted in them, but it is considered most unlikely
that this was the case. This eye form is reminiscent of that employed in
the “dead men” figures on Chimu pottery from Peru.

In addition to these female figures, there is a male figurine discovered
by Sir Aurel Stein at Chhal Garhi in North Baluchistan, which is also
in the Peshawar store room. This is a most interesting figure, and is the
only human figure in any material which has a definitely Sumerian air
(Pl. IX. 6). It is either a kneeling or seated figure probably the former,
and the total height of the assembled fragments is about six inches. It
has one surviving ear, not visible in the illustration, which is nearly
circular and placed very high up in relation to the eye. It must be
emphasized in order that it may not be necessary at some future date to
contradict any strange speculations, that the dark mark visible at the
inner corner of the left eye is shadow, and that the sockets are com-
pletely void of any indication of the eye-pupil. It will not be wholly
out of place to mention here the fact that the lime-stone bearded head

1. Investigation on my behalf by the Director General of Archaeology has brought to light the
following facts. This figure comes from Chhal Garhi in N. Baluchistan and is mentioned on p. 55 of
Archaeological Survey Work in the N.-W. F. P. and Baluchistan for 1904-5 by M. A. Stein (the late Sir
Aurel Stein). A dating at this juncture would be very hazardous, but it is most probably of the prehistoric
rather than the early historic period.

2. The terracotta figurines of Mohenjo-daro and the lack of any similarity between them and
such figures in Babylonia has been fully discussed in “Mohenjo-daro; some observations on Indian
with a trefoil robe from Mohenjo-daro has a crack down the left hand side of the face, which produces a shadow in the eye socket. The originals of both these figures have been held up to the light and closely scrutinized and in neither is the eye-pupil indicated. This, combined with the fact that the eye-pupil is absent in all of the stone heads found at Indus sites, should set aside all the theories of Yoga as being based only on the uncertain, and in this instance completely inaccurate, method of examination of photographic reproductions.

Dating is as yet not the simple matter that it is believed to be by many, but laying aside the claims of extreme antiquity made by some and the excessive lowering of the lower margin of dating as advocated by others, there is hardly a single object found at any Indus Valley site which, not being demonstrably of the early historic period, is later in date than 1300 B.C., to put it at the very lowest estimate that can command serious attention. This still leaves a thousand years, which is an appreciable time for a country to be void of the remains of material culture. It has been shown that there is a persistence of terracotta types in some instances which cannot well be attributed to chance resemblance, but at the same time this is confined to bird and animal figures and the human figurines terminate apparently with the end of the Harappa period. The Jhukar period is, as far as one is aware, exemplified by only one head from Chanhu-daro, which is classified as such for the sole reason that it is not of Harappa type. The urn burial culture at Harappa does not appear to have produced any characteristic figurines, there being at this site also, only one modelled male head that might be representative of some culture postdating the Harappa period, but earlier than the early historic period.

The rosettes present in some of the figurines at Harappa are present also in those of archaic appearance found at Taxila and sites in the North-West Frontier Province. This does not, however, constitute anything more than a resemblance, and probably a coincidence, the examples on the one hand being quite securely dated prior to 1500 B.C. at the very latest, and on the other equally securely dated to not earlier than 200 B.C. at the very earliest. Let us however in any case keep an open mind to this extent that whereas the bulk of the "Harappa" figures are earlier in date than 2000 B.C. a few may be of a somewhat
later date, and also that, whatever period they may belong to, there are figurines found at Indus sites, which on the uncertain, but not wholly to be ignored, evidence of stylistic grounds, appear to be of still later date than these.

**THE FIGURINES OF ARCHAIIC STYLE**

With such quantities of terracotta figurines at Indus Valley sites it would be but natural to expect that such an outstanding cultural feature would have perpetuated itself, this does not however appear to have been the case. In dealing with this very difficult and controversial matter there are points which should be constantly borne in mind. Firstly, a large number of the terracotta producing sites have never been excavated, or if digging has been undertaken, it was not of sufficient extent or sufficiently well controlled as to produce unequivocal evidence of sequence, let alone date. Such sites are those in the vicinity of Muttra, which have never been excavated, but from which material has been derived mainly as the result of surface exploration after heavy rain, also Buxar, and Kadamkuan, Bakarganj and Bhiknapahari—all within the City of Patna.

Secondly, the presence of an object held to be of a definitely datable age does not prove that the objects in its stratigraphical vicinity are of the same age. It is this idea which has caused a great deal of confusion of thought. An object believed to be datable may be out of context for a number of reasons, retention for a number of years can place it among objects of a much later date. Objects whose retention in this manner is common are seals and coins, both of which being as a rule inscribed are favourite dating material, but also, for the reason just stated, eminently unreliable. Another method by which older objects, particularly pot-sherds and figurines, may come to be out of context along with later material, is by being excavated and built in as part of more recent mud walling, which may raise them some eight or ten, feet above their true archaeological horizon. Conversely intrusive digging such as burials, sump pits, and refuse pits may contain a jumble of material in their filling. All that we can say of a datable object is that in undisturbed ground the chances are that objects found at or above the same level are not older than that object, but, by reason of the possibility of its retention as an
object of sentimental or intrinsic value over a long period, they may be much more recent.

Thirdly, that style is a dangerous criterion of dating, especially when it is employed to assume that what is primitive or archaic is also ancient. Where there is a degree of archaism, figurines have been readily presumed to be of "prehistoric" or of "Indus Valley" date, and a catalogue of technical points in construction drawn up to show the similarity of the group under discussion to another of proven early date. This unfortunately proves nothing. A study of the modelled terracotta figures goes to show that this technique was seldom if ever mastered by the producers of humble folk-art. Such attributes as pinched out noses, rudimentary or ill-formed limbs, crude eye forms are quite general whenever and wheresoever a mould has not been employed, these in short are attributes shared by the whole class of modelled figurines entirely irrespective of their date.

If one is not to date figurines by association or by style, then one may well ask how is it to be done at all. This is a question not lightly to be answered, style is of not much value until one has localised it and one can only localise by association. This is, however, the whole crux of the matter, what can we regard as typical style groups, and what can we regard as evidence of association indicating contemporary manufacture.

1. K. de B. Codrington published an article 'Some Indian Terracotta Figurines' in the 'Indian Antiquary' of August 1931, in which he challenged the opinions put forward by Dr. Coomaraswamy in the 'Boston Museum of Fine Arts, Bulletin', Dec. 1927, which was the prelude to his more comprehensive article on 'Archaic Indian Terracottas' in IPEK 1928.

G C. Das Gupta published an article "The Problem of Ancient Indian Terracottas" in The Indian Historical Quarterly", March 1936, in which he upheld the views of Dr. Coomaraswamy against the points which had been urged by Codrington, but failed to take into account the archaic type figures of Sar Dheri which are of the first importance. Das Gupta has also published in the Journal of the Royal Asiatic Society of Bengal, Vol. IV, No. 1, 1938, a "Bibliography of Ancient Indian Terracotta Figurines", which is practically complete up to 1938.

V. S. Agrawala wrote an article 'Mathura Terracottas', published in the 'Journal of the U. P. Historical Society', July 1936. This article was greatly influenced by Coomaraswamy's pronouncements in IPEK; it does, however, present much material, clearly arranged, which cannot be found elsewhere.

Simone Corblou has published an article dealing with her first visit to Sar Dheri in the 'Bulletin des Musées Royaux d' Art et d'Histoire' 1936, Brussels, entitled 'Collection de pièces provenant de l'Inde', also other articles 'New finds in the Indus Valley,' IRAQ Vol. IV, pt. I, 1937, and 'Prehistoric Remains on Historic Sites of India' 'Man', 1937, on the same subject.
as well as mere co-existence? It has been shown that there is a definite
style of figurine that may be regarded as typical of the Harappa period,
which is in definite contemporary association with a vast number of
cultural objects, all of which can be attributed to that period, though
the total length of its continuance may have been five hundred or more
years. There are also a very few objects which, though in apparent
contiguity, seem to be wholly foreign to that culture and that period,
and which one's experience rejects as being contemporary. In the
same way I propose to continue to produce typical style groups and
indicate what is known of their true cultural associations, and by this
method arrive at some tentative conclusions in the way of a rough
chronology.

The first of these style groups is that which may be classed as the
Archaic style of terracottas; as will presently be seen they cover a
large range both of time and of locality. Superficially they appear to
be similar to terracottas of considerable antiquity found in other
quarters of the globe. When, however, closer examination as to style
and technique is made, these similarities are found to have no very
close correspondence beyond that which one crude figure in clay is
bound to share with another depicting the same object. It is of course
just these figurines of archaic style that have been seized upon by certain
writers as bridging the gap which exists between the Jhukar Period of
the Indus Valley, which is itself rather a local and unsubstantial
manifestation, and the Mauryan Period, when we secure definitely datable
material. No one is of the opinion that a complete cultural hiatus did
exist over this period, nor does anyone wish to prevent association with
this period of material that rightly belongs to it, but what is imperative
in the interests of sound archaeology is that material, that can be shown
to be of early historic date, should not have a prehistoric dating wished
upon it in order to provide the wherewithal to link up this annoying
hiatus, which material should be sought elsewhere.

Certain recent excavations have proved the most promising class
of archaic figurines to be not only of early historic date, but to have
had popular continuance over a period of not less than two to three
hundred years. It is also possible to show that other archaic figurines
share certain technical features so closely with datable types as to prove
them contemporary, and it is almost a certainty that properly conducted excavation will bear out the conclusions thus formed. It has been suggested that these comparisons are prompted by subjective predilection, this is by no means the case. No one is, I am sure, prompted in this manner to deny the possibility of material cultural phenomena of any kind, within the period which has at present the appearance of an hiatus. Nor does anyone wish to resist, for some obscure reason, the locating of such material within this gap, if the facts indicate that it is this period to which it truly belongs. It is, however, when the objective facts point in a contrary direction that a stand must be made and these opinions challenged.

Terracottas of archaic appearance have been found at many sites in the North-West Frontier Province, and at Taxila, Muttra and Buxar, of these figures the commonest is that which may for convenience be called the Sar Dheri type. This style of figure was first published by Dr. A. K. Coomaraswamy in his pioneer article on archaic Indian terracottas in IPEK 1928, and was assigned by him on stylistic grounds to "some part of the second millennium B.C." On the evidence then available such a dating was quite excusable. Eleven years of work by various persons have done much to modify this view.

The "Sar Dheri" type of archaic figurine is here illustrated by two examples on Pls. VIII and IX, which display the characteristics by which this type may be recognised. The outstanding feature is the applied and incised eye, which is formed by applying oval pellets of clay to the face and incising them from nose to ear by the stroke of some sharp edged instrument. Some of these figures are chinless, some have rudimentary chins, some have applied mouths, some have no mouths at all, but with the exception of one specific type, in which the eyes are worked up from the face material by modelling and then incised, the eyes of all are applied and incised. Though the legs of these figures are indicated by a peg shaped tapering off of the figure, this is often so deeply divided at the back, that the lower part of the figure splits apart

1. Sar Dheri was first brought to my notice by Major General H. L. Haughton, C.B., C.I.E., C.B.E., in the winter of 1929. The site has been under investigation ever since, the first published account being in the Journal of the Royal Anthropological Institute 1932. "Some Terracottas from Sari Dheri" by Major D. H. Gordon. Also see Appendix A.
in the middle, and half figures can be found quite commonly. Half figures divided in this way have also been found at Harappa, and it is for consideration whether in both cases these figures were intentionally divided, and whether this has any ritual significance.

The "Sar Dheri" figures have rosetted headdresses of many types but they all preserve a family likeness and are quite unmistakable. All these figures are apparently naked except for necklaces, sometimes the 'channavira' or similar ornament, and a girdle. In one case, however, in the place of the normal small triangle indicating the pudenda there is a sprig of a plant. Two such examples were found at Sar Dheri, being flat moulded figures of archaic type.

When Sar Dheri was excavated in 1938, these archaic figures were found throughout the section from two to thirty-five feet below datum in the main mound, and at 40½ feet below datum and 9½ below surface at an adjacent point originally covered by the mound, this indicates that this was a popular long lived type, and that it is not possible to pin the type down to one definite limited period, nor is it possible from the sequence of the finds to say that a chinless or mouthless type is any older than the apparently more developed type which has these features indicated.

The area of this type, as indicated by our present knowledge, is that of Gandhāra, liberally interpreted, from Hadda, Lalpura, and the Kunar on the West to Taxila on the East, and from Bajaur on the North to the Main Road between Rawalpindi and Peshawar on the South.

It is fortunate that there should now be considerable evidence for the dating of the Sar Dheri type. The depth at which figures were found at Sar Dheri has been mentioned above, and as a Hellenistic moulded torso was found in the main mound at 37½ feet B.D.L.; a moulded head of somewhat deteriorated Hellenistic style at 29 feet B.D.L.; and a still more deteriorated Hellenistic head with rayed crown headdress in grey terracotta at 12 feet B.D.L. these, together with a Menander coin at 32 feet B.D.L., which is above its true context, Kushan coins down to about the same depth, and square Saka and Indo-Greek coins between 32 and 42 feet B.D.L., do not indicate a date prior to 200 B.C. at the earliest for any figurine of this type yet found at the same site.
Besides the numerous sites in the N. W. F. P. and Afghanistan from which this type has been recovered, specimens have also come to light at Taxila. Here they are the product of excavation at the Bhir Mound and at Sirkap, and ploughing on the unexcavated fields at the Bhir Mound, and also the fields West of Mohra Moradu. In the Bhir Mound they have been found from 3'-2" to 6'-8" below surface and at Sirkap at 19 feet below surface (Pls. IX. 2, and VIII. 6).

The bulk of the terracottas found at Bhir Mound are from surface to 5 feet below surface, only two human figures being found between five and eight feet and none below this depth. A dating of 150 to 80 B.C. is here proposed for the first five feet, and 180 to 150 B.C. for the preceding three feet, below which no human figures have been found. More facts in support of this dating will be adduced when the moulded figures of Šuṅga date come to be examined.

The next most common type of terracotta from Gandhāra is the type named after Sahri Bahlol. This is a very primitive type and includes three related forms of terracotta figure. The first is a female figure with out-spread arms and legs, very crudely made having a high comb-like headdress, less fan-shaped as a rule than the normal Harappa period headdress. There is no nose, the face is slightly pinched forward having no eyes and an incised mouth, most of these figures have long lobed ears. The second is a cylindrical pedestal figure of indeterminate sex with the same style of head and with joined hands, the third has the same head and joined hands but balances on three legs. A related figure of a somewhat more sophisticated appearance was found at Bhita and dated as early Kushan, it is unlikely that any of the figures are earlier than the 1st century A.D. (Pls. X. 5 and XII. 7).

A third important archaic type is the spade shaped figure, these are found at Sar Dheri and Akhtar Dheri (Nisatta). Pl. X. 6, shows the transitional type between the naturalistic figure and the stylised one in which the legs have disappeared and only the pubic triangle is left to symbolise the female generative principle. Pl. IX. 5, shows a spade shaped figure with a four sided lower portion instead of the more usual triangle, this has the style of head covered with small indentations and pricking which is put forward as the "Akhtar Dheri" type, it being the style of figurine most commonly found at that site. From Sar Dheri
comes a further spade shaped type, smaller and more fragile than is usually the case, exhibiting bisexual attributes combining both male and female principles, a protuberance in the centre of the female triangle must indicate the combined 'lingam' and 'yoni' so often seen in Hindu iconography.

Wherever there is degeneration and deterioration one gets a type that is an approximation to the archaic, which point will again be brought out in connection with the moulded figurines. At Taxila, at Sirkap, only two feet below surface was found the torso shown in Pl. X. 3 which exhibits all the features of degeneration from good naturalistic moulding to primitive stylisation. The archaic form with the applied eye of Sar Dheri type must have attained to a certain iconographic significance, for we find that this style was faithfully copied in moulded figures where this eye form is unnecessary, besides being crude and unsightly. (Pl. X. 8).

At Muttra a primitive form of figurine has been found, without however any reliable archaeological context of find-spot (Pl. X. 2). They are made in a grey terracotta and have crude animal like faces. A point, however, to be borne in mind is that all having the modelled faces are also of this crude type, and that the local modellers could not apparently turn out a good human naturalistic face without a mould, and this same peculiarity may be noted at all sites and at all periods.

These primitive figurines are of the same clay, have the same body forms, the same style of applied and incised ornament, and the same style of applied hair as the female figures with modelled faces, in fact it is only the application of the face mould that differentiates one from another. There is no doubt, from their numbers, that these figurines were a relatively mass production article, and that it is only the well produced face mould that prevents all the figures from sharing the same degree of primitiveness. When at a slightly later date the complete flat mould came into use the same difficulty prevailed, and we see the inept modeller making use of the head portion of such a mould, the body no doubt having been smashed, to give some degree of naturalism to his crude and primitive figure (Pl. X. 7). It is possible that some more humble potter

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1. Plate I, fig a., 'Annual Rep. Curzon Museum, Muttra' for the year ending 31st March, 1910 gives an example of this type.
"scrounged" this bit of a mould as a reject from a more up-to-date and prosperous business; it does, however, prove beyond doubt that without the help of a mould the Mathurā potter could produce only the most crude semblance of the human face and figure. It cannot be allowed, therefore, that these figures, cruder in face but not in form, are anything but contemporary with the similar figures having a moulded face; their dating, which can now be stated as early 2nd century B.C., will be dealt with in greater detail when the figures with moulded faces come to be examined.

From Būxar come a number of terracottas, but the description given by Dr. Banerji-Shastri1 of his activities at this site does no more than indicate that very interesting objects may be found there. His most primitive type, with impressed diamond shaped eyes and small pursed-up lips, can be paralleled almost exactly by a head unearthed close to Mohra Moradu, Taxila. It is extremely unlikely that any of these figurines are even of Mauryan date.2

It may be asked for what reasons has such a remote date been assigned to these figurines of archaic appearance. The answer is not far to seek, what people wish to find they will find, and it is very desirable that something should be found to bridge the gap which exists between the low date of 1500 B.C., below which even the most unbelieving cannot go, for the latest finds on the admittedly pre-historic sites, and 250 B.C. beyond which date there is not the least evidence to place any objects coming from the early historic sites. The terracottas of archaic appearance just examined appeared to fill the role satisfactorily, merely because of the similarity that one crude figure in terracotta must inevitably share with any other crude figure in terracotta.

A prop and stay to the idea of an early date was the gold leaf figure of a nude woman from Lauriya Nandangarh. Dr. Bloch had announced the mounds at this site as Vedic burial grounds, largely because Vedic burial mounds were described as circular. In 'Man', 29, 1935 the present writer cast doubt on this theory and in 1936 the excavations of the late

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2. St. Kramers in an article on 'Indian Terra-cottas' JISOA, 1939, pp. 89-112, has assigned correct dates to the terracottas from Būxar.
Mr. N. G. Majumdar at this site showed the mounds to be stūpas, which were unlikely to be earlier than of Asokan date at the earliest, and as the gold leaf figure came from a trench relatively high up on one of the mounds it is unlikely to be earlier than late 3rd century B.C. at the earliest.¹

As a matter of fact this gold leaf figure is in the same tradition as the nude female figures in bone at Sirkap, which are of Indo-Greek or Indo-Parthian date, and one of which is an exact counterpart of the Sar Dheri type even to copying the applied and incised eyes.² The nude goddess can be shown everywhere in the area under review to be of early historic date, and it may be well here to remark again that female figures found at the pre-historic sites are not nude, even if, and it is by no means certain, they do happen to be goddesses.

THE EARLY MOULDED FIGURES

Under the heading of early moulded figures are all those with a dating from c. 200 B.C. to the commencement of the Christian era. Again the matter of dating is highly controversial, but an attempt will be made to thread the maze of the complicated material presented by a number of Northern Indian sites. The great difficulty under which we labour is that the key types are those of Muttra, where, as yet, there has been no properly controlled or co-ordinated digging. The digging at Sar Dheri has removed from the archaic terracottas of that area the dating wished upon them on stylistic grounds; but without similar proof positive, the dating of the terracottas of Muttra type is much more complex. This is more especially the case as these terracottas, like most others until one reaches the Gupta period, are most unaccommodating in the matter of parallels with datable sculpture.

The most revealing object is the figurine already mentioned, which has a crude modelled body and a face with an elaborate headdress produced from a broken portion of a flat mould. More significant still, the figure is provided with a collar, an applied band of clay with a stamp

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¹ The Annual Bibliography of Indian Archaeology, Vol. XI, 1936, p. 4 gives full details.
² One of these bone figures was published by Coomaraswamy in his article in IPEK, but its significance was at that time not apparent.
impression on it. It may be taken provisionally, that the figures with
the applied ornaments, decorated with incised or stamped patterns, are
in all probability the oldest. Examples come from Muttra. Taxila, Buxar,
Bulandi Bagh and Pātaliputra; the site of Sar Dheri, in its usual unfailing
manner, produces one example of this applied and stamped decoration on
a crude body, it is however unfortunately headless.

The figures found at the site of Pātaliputra fall into two classes.
There are two somewhat large heads, one of a child-like appearance, which
is of an unique character, and the other having a bicorne headdress,
which incidentally bears not the very vaguest resemblance to the so-called
"voluted" headdress of the figurines from Harappa; and there are almost
complete figures with applied clothing and decoration and poorly
proportioned limbs. If one examines these figures closely it will be
seen, that with the exception of the child face, these figurines have that
round rather pug-nose style of face, which must be associated with
terracottas of the period c. 150—50 B.C. The child-like face itself is
only differentiated from this general type by the animated lip-form,
which imparts to it more of character and personality than is found in
the standard type. Whether this expression was obtained consciously
or by chance is of no consequence, nor can we reach any certainty on
such a point when dealing with an unique specimen. There is little
doubt however that all are really in the same round-faced flat-nosed
tradition. These figurines may be of Mauryan date, though stylistically
they would appear to be Śūṅga; as we have nothing by way of comparison
of proven Mauryan date that in any way resembles them, a verdict is
at the present best held in suspense.

As we have seen in the previous chapter, the crude figures with
animal-like faces from Muttra are of the same date as the equally crude
figures with good moulded features, sharing with them the same applied
and stamped ornaments and the same style of hair-dressing in parallel
applied plaits. In her book on the terracotta figurines from Seleucia on
the Tigris, Miss Wilhelmina van Ingen brings out quite clearly the fact
that terracottas of the period under discussion were as a rule an artisan
mass-produced article, and one can readily perceive that, without the aid
of a mould, the image-maker was unable to turn out anything but a form
reduced to its most conventionalised elements.
With good moulded faces, from Muttra, there are two common forms of female terracottas in grey clay, one with a more simple rosetted headdress, large double earrings hung perpendicularly, and few ornaments (Pl. IX. 4), and the other with a more elaborate headdress and profuse ornaments (Pl. XI. 4). The feature, however, which links both these types and the one with crudely modelled faces is the identical form of hair-dressing, depicted by a series of roughly parallel applied strips of clay, sometimes ornamented by stamp impressions, representing either plaits or long locks of hair. The fact also that the same moulds, there appear on examination to have been surprisingly few of them, not more than three or four original moulds at the outside, have been used in the production of both these types, indicates that they could not have been greatly removed from one another, if at all, in time.

Have we any indications as to what this period was? The figures with ornaments of simpler type can be paralleled at a number of sites, at Muttra itself definitely nude figures sculptured in stone with similar ornaments appear as late as the Kushan railing pillars from Bhuteśvara. The example given by Miss Kramrisch in Pl. VI, fig. 28 of her Indian Sculpture is proof of this. The mode of parallel plaits may be seen in a multitude of sculptures from the bracket figures at Sanchi to the late figures at Amarāvatī where this style of hair-dressing is particularly noticeable. Besides this Pl. XII. 5, shows a Muttra figurine of the more ornamented type having a style of ear-ornament, consisting of an object flat on one side and rounded on the other, which is a valuable clue. This style of ear-ornament is present in two figures, one of which is of similar applied decoration technique, found at Bhir Mound Taxila (Pls. XI, 1, and XII, 3). Another more sophisticated moulded figure of a woman carrying a child, found in the fields near Mohra Moradu, Taxila, has the same ear-ornaments (Pl. XI, 2). It is unfortunate that there is no record of the depth at which the two Bhir Mound figures were found.

As has been mentioned already, one human figurine is recorded below eight feet at the Bhir Mound and only two below five feet, one of which

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1. Similar to Pls. XI. 1 and XII. 3, is JISOA vol. VII, Pl. IX. 2, from Pāṭaliputra, assigned to the late Śuṅga age on p. 107, in the article on 'Indian Terracottas' by St, Kramrisch.
is a male head of archaic type with a knotted headdress, commonly found at Sar Dheri, where it has approximately a 100—50 B.C. dating. It is, therefore, impossible to be convinced of a dating earlier than 160 B.C. for these two figurines, and it seems reasonable to suppose that the similar figures from Muttra are of similar date. The less ornamented figures with simpler headdress may then be regarded as possibly preceeding these by a few years and be dated at about 180 B.C. Pl. XI, 6, from Bulandi Bagh has similar technique and is in the same tradition, and so also is the bulk of the figurines found at Buxar, the circumstances of the finding of which are so inexact as to contribute nothing to the elucidation of our problems.

Following on these, presumably for there is no true scientific certainty of the fact, come the moulded figures from Muttra, for the most part in red terracotta, and in which the whole figure is the product of a rather flat mould. Very few are formed completely in the round by the joining of two separately moulded portions, back and front; they are nearly all in the form of plaques, with the figure impressed on the face and the back left plain. The female figures have without exception the round face with a somewhat pug-nose which is their chief characteristic. They also in many instances perpetuate the elaborate headdress of the more ornamental style of grey terracotta already mentioned (Pl. XII, 7), this is particularly noticeable in the bands ornamented with rosettes, which fall from the crown of the headdress to well below the shoulders. These bands, or something closely resembling them, are also found occasionally on archaic terracottas of Sar Dheri type from the same site (Pl. X, 4).

The subject of these bands will be reverted to later on, but before going any further it will be as well at this juncture to recall to mind the crudely modelled figure, with the face taken from a mould of the type usually employed for the red terracotta plaque figures that we are now discussing (Pl. X, 7). This figure is of the utmost importance, revealing as it does the incapacity of the normal Muttra image-maker to produce anything, either lifelike or artistic, without the assistance of a mould. The most important feature of this figure is the applied collar concealing the joining of the head. This collar shows conclusively that the idea of applied and stamped decoration was contemporary with the employment
of the flat full length mould, from one of which this is quite definitely broken. This indicates that even if the grey figures with applied and stamped decoration and the red ones from the full length mould were not made at one and the same time, only the very shortest period can have separated them.

From the Bhir Mound, Taxila, at depths from two feet to four feet below surface, come figurines of a woman holding a child; Pl. XI, 3, shows an identical one from close to the surface near Mohra Moradu; these are all from the same mould; they and also others now to be discussed are of Mutttra type with the same round flat-nosed face. Of the same period are Pl. XI, 5 and XII, 4, the former from Mohra Moradu and the latter from 3'4" B.S. at the Bhir Mound. The woman with the child is of a type that must be recognised as Śuṅga and rather late Śuṅga at that, as it has nothing in common with the art obtaining at Bharhut or exemplified by the early Yaksā figures. The figure of the girl with her hands clasped above her head has been claimed as an outstanding example of Mauryan art. Its conscious sophistication, however, does not harmonize with any of the sculptures which may approach that period in date. This posture of raised arms and linked hands is not noticeable until one comes to the late period at Amarāvatî, where the attitude is quite common. From any other findspot this figure would call for a 1st century A.D. dating as harmonising with its artistic convention and development.

In Pl. XI, 5, one can see the headdress with rosetted bands, both this and that of Pl. XI, 3, are typical Mutttra headdresses. It can now be seen that these rosetted bands link the grey Mutttra terracottas quite securely with the red ones and also with the terracottas from Taxila which are of Mutttra style, and with an easily dated Sar Dheri type. We have also seen that a peculiar form of earring affords a further link along the same lines. These common elements of dress indicate that these figures cannot be widely separated in time. There is one further point that is noteworthy, and that is that the closest approach to these headdresses in the sculptures in stone is from Muttra. The headdress of Pl. XI, 5, from Mohra Moradu may be compared with that of Pl. XII, 2, from Muttra, and that of Pl. XI, 3, also from Mohra Moradu with that of the woman shown by Coomaraswamy in Pl. XXI, fig. 81 of his History of Indian and Indonesian Art.
It is interesting to note also that this more genre type of sculpture, free from iconography, depicting human women carrying or playing with their children, does not appear until the Kushan period, this is emphasised by the Muttra terracottas themselves, of which figure 1 on Pl. XII, is an example. In this we see the mother and child, the former with the same style of flowing lower garment, divided in the centre and rolled back in folds at the sides, as can be seen in nearly all the Taxila specimens. No great period of time can have divided these figures. The Taxila figures and their Muttra counterparts represent a popular movement towards more secular subjects; this would not have immediately been taken up by contemporary grand art, and some time elapsed before the same influence is noticeable in the sculptures, by this time as we see in fig. 1, the same motifs in terracotta were becoming exaggerated and debased.

Sar Dheri also does not fail to produce its figure of Muttra style and other relevant parallels. Pl. XIII, 2, produced from a double mould, of which the front is shown here, wears the unmistakeable Muttra skirt and girdle. From Sar Dheri comes also the female head shown in Pl. X, 8, this is interesting by reason of its distinctive headdress, or possibly hair-dressing, having a square cut aperture on the forehead. This style is common in the flat-moulded figures from Muttra and goes a long way to confirm their 1st century B.C. dating. Yet another parallel from the same site may be seen in Pl. XIV, 1, here a Muttra plaque is set along-side one from Sar Dheri. The Muttra figure has a style of headdress that appears in sculpture of the same locality. The collar and round ear ornaments in each are, allowing for the relative crudeness of the Sar Dheri specimen, identical. The latter has eyes worked up on the surface of the face and then incised, which allies it with the local archaic types: they both date from sometime in the 1st century B.C.

The only piece of sculpture that is almost identical with the terracottas of round-faced type is the one shown in fig. 37, Pl. 6 of Coomaraswamy's article in IPEK, it is itself from Muttra, and cannot be dated with any greater measure of certainty than we can date the terracottas. We can see from this that the whole of the female figures associated with the earlier Muttra types, either from the same locality or other sites, cannot be dated outside the period 180 to 50 B.C.
The terracotta beads from Basarh conform closely to the above. The pre-Gupta types can for the most part be assigned to the period 120 B.C. to the close of the 1st century B.C. The winged figure and others on lotus bases being, as has been pointed out already by Codrington, related to the sculptures at Sanchi, and to those of the later Sanchi period at that. The heads of Hellenistic type from this site will be discussed in the next chapter.

The majority of the figures that I have seen from Kosambi, principally some twenty to thirty specimens in the India Museum, South Kensington, are so similar to those produced in the Muttra area, that, on more than a superficial examination, one might be excused for considering that they came from that area. The earliest are not earlier than late 2nd century B.C., the majority are of 1st century B.C. dating, while later types are of Kushan and Gupta date.

A very fine terracotta figurine of an unique style comes from Gorakhpur, again it has no certain archaeological context. Especially as it has no head or headdress to give us a clue, it is futile to try and date this figure from its clothing and ornaments, which would not necessarily show much difference between 200 B.C. and A.D. 300; its general style, however, inclines one to give it a dating of about A.D. 200. Its narrow waistedness has been compared to that of figures from Mohenjo-daro, with the inference that here we have a cultural survival. Comment on such speculation would be superfluous were it less common, narrow waistedness not being a feature of these figures, not more than ten being noticeably so out of more than five hundred figures examined (Pl. XIII. 7).

So far the figurines dealt with have been female, the male figures are by no means so numerous, not do they appear to be any that correspond at all closely with the earliest female types. The majority of the male figures are represented by heads, complete figures being very scarce. These heads may for the most part be readily recognised by the turban having a high knotted protuberance on the left hand side. They come principally from Muttra, Taxila, and Sar Dheri. They are either moulded types of the archaic style with applied and incised eyes. The latter come mostly from Sar Dheri, but one is from the horizon 5' to 8' B.S.
at the Bhir Mound. This is the oldest specimen yet found, but it is unlikely that it can with reason be dated earlier than 200 B.C. at the very earliest; the ones found at sites in Gandhāra being mostly 1st century B.C. A specimen exactly of this type was recently found at Arikamedu near Pondicherry. It is of true Sar Dheri male type, with applied and incised eyes and the headdress knotted on the left. The very primitive method of indicating the headdress by a simple protuberance on the left of the head can be paralleled again and again from sites in the Charsadda sub-division of the Peshawar District. Mr. Aiyappan in his article in “The Hindu” of 23rd March 1941 gives a photograph of this head, describing it as that of a woman; this being quite excusable as only considerable familiarity with this type would enable one to classify it correctly. This point of sex was in fact in doubt until a complete figurine came to light having this left-hand protuberance on its head, small conventionalised breasts which could have been argued as female, but the male organ of sex was so clearly displayed that all doubt was definitely at an end.

A series of male heads, nearly all in grey pottery, come from Muttra. The majority have the ordinary Indian headdress of the period with a large knot on the left. One, however, pictured by Agrawala in his article on Mathurā terracottas (Pl. III, 3) is of Iranian, probably Parthian type as also may be the one shown here in Pl. XIII, 4. It is almost impossible under the circumstances to date these heads accurately, as this style of headdress was prevalent for many centuries; however as Parthian types with conical headdress, both of good moulded Indo-Scythian style and of archaic style with applied and incised eyes, appear at Sar Dheri with a dating of late 1st century B.C. to early 1st century A.D., these Muttra figures can be dated with reasonable confidence to some part of the 1st century B.C. A similar date can also be assigned to heads unearthed by ploughing in the vicinity of Mohra Moradu and the Bhir Mound, Taxila (Pl. XIV, 2).

For the most part the more important of the male figures are of what may be called the Kuvera type. Here one is involved in a puzzle

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2. Shown on Pl. VI, fig. 3, l.c.
of iconography which would require a whole chapter to itself, and then quite possibly not be satisfactorily solved. Suffice it to say here that there are youthful handsome graceful Kuvera types as well as bearded Zeus or Dyaus-pitar types, moustachioed Scythian types, and fat, large bellied types, and that the iconography of these types, linked with that of both the so-called and the genuine Hārīti, is incredibly complex. The youthful handsome type is itself linked with the figures of a youthful handsome Skanda holding a spear and a cock, which makes matters all the more difficult.¹

The earliest Kuvera squatting figures are from the Bhir Mound found at 3'-5" B.S.; being of Hellenistic Parthian style it is impossible to date them earlier than early 1st century B.C. (Pl. XIII. 5). The Bhiknapahari figure (Pl. XIII. 6) is stylistically later, the well shaped body, with exposed male parts, being paralleled by examples from Sar Dheri and Bhita; in the sculptures, well modelled bodies of this style are mostly of Kushan date. The cap-headdress is common to all these figures, and in many instances, including that from Bhikna-pahari, is of the Phrygian or "Cap of Liberty" style, which is of Iranian origin and worn by Scythian and Parthian tribes. Seated Kuvera figures are found at Sar Dheri, three examples being shown in the first published account of this site.² During the recent excavations examples were found at 16' and 32' B.D.L.

The obvious stumbling block encountered in the above attempt at elucidation is the dating of the Bhir Mound finds as now generally accepted, with the exception of Mr. Codrington and myself. The more one sees of the terracottas of the Gandhāra region, the more one becomes convinced that the Bhir Mound dates are incorrect. Whatever the dating may be for the lower levels, it is difficult to believe that the top five feet can be dated earlier than 160 B.C., and the site may well have been occupied until much later, as the crude figures from Sahri Bahlol, shown in Pl. X, 5 alongside of similar ones from the Bhir Mound, date from the 1st century A.D.

¹ Shown on Pl. VII, fig. 1.
³ For examples see "Some Terracottas from Sar Dheri" J. R. A. I., Vol. LXII, fig. 1, Nos. 1, 2 and 4.
Throughout the whole of the Gandhāra area from Jalalabad to Taxila come figurines of excellent Hellenistic style. What their exact dating may be is still largely a matter of conjecture, though Taxila and Sar Dheri both provide clues, which will be of help to enable us to reach some tentative solution.

First of all, it will be as well to enumerate of just what this Hellenistic material consists. The principal objects are small nude figurines, shown in the complete round, the product of two moulds, back and front. They have a variety of headdress, the commonest being a wreath of the conventional laureate type (Pl. X IV. 3). Other headdresses are rosetted, either with small moulded or large applied rosettes; or have a diadem with the hair in a slightly waved parting over the brow; or again have the hair gathered up into two knobs on the top of the head. The rosetted types as a rule have the hair in a single thick braid falling down the centre of the back. On the back of the head directly above this braid there is, in most of the better specimens, an oval ornamented plate. Both this plate and the braid appear in an archaic type, indicating it to be a product of this primitive convention, contemporary with the period when this plate and braid were fashionable; these features are either current feminine or art fashion, and are in no way iconographic. One head from the mound of Kashkar Dheri, Charsadda, has what might be claimed as a bi-cornate headdress. The horn-like ridges start from the same point over the centre of the forehead, and sweep back rising and diverging to each side as they go. There is no doubt that this headdress is allied to bi-cornate headdresses found elsewhere, and indicates a period at which this style of headdress continued to be worn. In addition to these nude figures which provide by far the greater bulk of the Hellenistic objects, there are semi-draped female figures, male figures of the Kuvera type, and bowl decorations which are of considerable dating value.

The nude female figures show a large range of what must be progressive deterioration. The best types are cast from excellently modelled originals, their technique being as follows: the bodies are hollow, and show a good naturalistic depth, being cast in two moulds and joined round the sides. The heads are solid, even in moderately large
examples, and are produced by the back moulded portion being impressed on the clay core, and the moulded face-mask being fitted to the front of this core and the join worked over. The bodies of these figures are beautifully modelled, displaying a restraint and accuracy of anatomy which has nothing of the contemporary Indian exuberance.

Familiarity with a large range of types shows that this particular form of figure degenerated as time went by. The body moulds became progressively flatter, until the back and front moulded portions were just sandwiched together, the flat surfaces of each being in direct contact throughout. Faces and wreaths deteriorated in style, the features of the former becoming more blurred, until one finds a head, with the wreath headdress, which has no features at all. The braid behind first loses the lines indicating the hair, and finally disappears altogether. The plate ornament, which at its best shows a pattern on it, is first reduced to a small shapeless dab of clay, and then also disappears.

These figures are completely nude and devoid of ornament of any kind; this and other types can best be paralleled from Seleucia on the Tigris, where similar figures were being made at exactly the same period. These figures appear in Miss van Ingen’s book which has already been cited, and a study of which is indispensable for anyone who is investigating the terracottas of the period 1st century B.C.—2nd century A.D.¹ As I propose to put forward a number of examples from this site to help in the dating of this Hellenistic material, it will be as well to quote Miss van Ingen’s dating for her Seleucia levels which reads as follows: “Of the four levels of occupation determined by the excavation of Trial Trench 4 and Block B at Seleucia the lowest, Level IV, is Seleucid, to be dated from about 290 to about 143 B.C. The three upper levels are Parthian: Level III was occupied from about 143 B.C. to about 69—70 A.D.; Level II, from 69—70 to 115—20 A.D.; and Level I, from 115—20 to approximately 200 A.D.”

Before turning to Seleucia, what evidence have we to offer from Indian sites, and the answer to this is—very little. In previous publica-

¹ “Figurines from Seleucia on the Tigris” by Wilhelmina van Ingen, University of Michigan Press, 1939. The book is a mine of well-reasoned information, lavishly illustrated.
tions on this subject I have recorded as my opinion that the best style of Hellenistic terracottas is of 2nd century B.C. date, and the only artistic survival that we have of the Indo-Greeks other than their coinage. In view of the evidence now available this dating cannot be maintained.

Unfortunately the excavated sites of Northern India, where this style of terracotta is found, have produced very few examples; the site of Sirkap only producing some four or five specimens, and that of Sar Dheri three or four, as the result of regular excavation. The Sirkap terracottas, in common with the rest of the Hellenistic material of any artistic value, are found in the Parthian Levels. Three terracottas found at Sar Dheri were unfortunately not of the best type. A torso at 37½', a somewhat deteriorated head at 29', and a more deteriorated head at 12' B.D.L. are what one might have expected to find. Tentatively one can date the torso as early Śaka period c. 50 B.C., the lower head as late Śaka period c. 30 A.D., and the higher up head as Kushan c. 130 A.D. corresponding roughly in time to Levels III, II and I respectively at Seleucia. The head at 29' is an unfortunate find as it would appear that the nose has been added after the face was moulded, so that it seems much too large in proportion to the rest of the face, and so makes it almost impossible to place it stylistically. The headdress is of rudimentary character, consisting of two applied bands of clay, one fixed as a diadem, and the other brought from the nape of the neck over the crown of the head, increasing in thickness to a knob above the centre of the diadem. The Hellenistic examples at Sirkap are to be equated with those from Level III at Seleucia, these include the head with the unusual headdress, which combines a high comb with the normal wreath.

Now let us see what parallels can be produced between the whole of the existing examples of nude female types found in India and similar types found at Seleucia. Though the rosetted headdress is present in the European terracottas of this period it is confined to male figures, whereas in India it is confined to female ones. The thick single plait or braid is, however, present in nude female figures at Seleucia; such figures, which closely resemble the Indian ones in every way, having their arms extended close to their sides, being Nos. 26—31, which are all of this type and, with a single exception from Level I, they are all from II or III. Of this type, but the modelling conforming even more closely
to the best Indian examples, are Nos. 94 a-h, which are standing nude women modelled without arms. Reference for these types should be made to Pls. II and VI of Seleucia. These figures have identically the same mould technique as those produced in India, and often suffer the same defect of having the front and back portions indifferently joined. Torsos of this style in alabaster and marble from Seleucia are exemplified by three specimens from Level II and one from Level I.

One of the nude figures of this type, the only nearly complete figure yet found, coming from Sar Dheri, has the two-knobbed headdress which is such an individual feature of the Seleucia female figures. These figures, of which there are a large number, are mostly from Levels II and III. It will be seen from the above that the bulk of this nude type comes from Level III, and that this well agrees with an Indian dating of c. 50 B.C. to c. 50 A.D. for this type of figure.

Of much the same period is another style of moulded figure. This is also a figure of a naked woman, but formed by the impression of a very flat shallow mould. It is of the plaque type and shows the woman with arms slightly raised from her sides, having rather a long neck and good Hellenistic features. The whole is so little raised that it is difficult to obtain an adequate photographic reproduction. Nothing quite of this style has been found at Seleucia. This form also undergoes the usual degeneration, and declines through types showing progressive deterioration of the proportions and the modelling of the limbs.

The heads with wreaths belong also to the nude figures, but those with plain diadems and hair parted and waved from the centre probably belonged to draped bodies. Even partially complete figures of these Hellenistic types are so uncommon however, that it is difficult to say just what kind of head went with any particular kind of body. This is particularly so with the draped bodies, two of which, the only two I have yet encountered, both from the site of Turlandi Swabi Tehsil, are headless. They wear the chiton and himation and are almost identical with two examples from Seleucia given in Pl. XI, figs. 80 and 81. This style of figure at Seleucia, whenever its exact level is noted, comes from Level II, and so the Turlandi figures are likely to be later than the nude figures and to date from very early Kushan times.

From Sar Dheri come a head and torso of an unfortunately smashed
unique specimen. It depicts a woman of the Aphrodite type so common in European Hellenistic art. This small figure, of blackish terracotta, has the bare torso, the lightly flexed leg and falling himation draped round the loins, all in the true Venus de Milo convention.

Though it is essentially Indian in form, Pl. XIII, 3, is introduced here, as I am convinced that the art convention followed is that of Aphrodite unveiling. The figure is in the collection of the Indian Museum, Calcutta, and comes from Muttra. It is claimed as Śuṅga, but the whole style of the figure with its attitude, in my opinion, proclaims it to be a product of the 1st or 2nd century A.D. There is nothing which is of this consciously provocative style, or having this degree of art sophistication, to be found among the objects of indisputably Śuṅga date.

The only site away from North Western India which, to my knowledge, has produced true Hellenistic terracottas, is Basarh. Here two heads, one wearing a radiate form of headdress, the other a high pointed Iranian cap, have been unearthed. The former is of the same style exactly, and doubtless of the same period, as the best Hellenistic types from Gandhāra, and can, therefore, be dated late 1st century B.C. (Pl. XIII, 1). The other is in line with the good Indo-Scythian or Indo-Parthian moulded heads from the same area, and is, therefore, of much the same date as the Hellenistic heads. These have been claimed as Mauryan but this would divorce them from the whole of the rest of the similar figurines found in India, which does not appear to be a very logical procedure.

Besides these figurines there are other examples of Hellenistic art in the shape of what are termed Emblemata. These are figures, which may be groups or portraits, placed centrally on the inside of a bowl or saucer. Pl. XIV, 4, shows three of these figures, in addition to these a Cupid and Psyche has been recorded, also a pair with drinking cups of the type found on the partitioned schist bowls. These schist bowls are commonly decorated with amorous drinking scenes, examples are also found in terracotta which bring them within the scope of this memoir. Terracotta bowls of the partition type are rare, but pairs with drinking cups and also engaged in dalliance on a couch are known. The partitioned bowls probably enjoyed a fairly long popularity, and though the earliest may be late 1st century B.C., the greater part of them come from the 2nd
century A.D. The tabellmata had but a short continuance in Europe, where they had a vogue during the first half of the 1st century A.D. It is likely that this fashion in pottery spread rapidly to the East, say in a matter of five or six years, as it is unlikely that any of the Indian specimens are much later in date.

Male figures of true Hellenistic type are extremely uncommon. Some of the Kuvera figures show Western influence, but it is only the bearded Zeus type that can be claimed as being Hellenistic both in execution as well as in spirit. Bearded Hercules or Atlas type heads occasionally appear, but they are indistinguishable from such types as are found in the normal Gandhāran sculpture of the period in which Western influence was strong. So far no athletes or epheboi have emerged of the style found at Seleucia. A figure, however, with a face like a comic mask, of the type shown in Seleucia Pl. XXVI, figs. 183-4, was found near Swabi.

Sar Dheri; the Bala Hissar, Charsadda; Akra, Bannu District; sites in the Kunar, Afghanistan; all these have produced excellent specimens of this purely Western art, and though a firm date under the circumstances of insufficient excavation, is difficult: the assistance afforded by the material from Seleucia, together with what data we have, all go to indicate a date of c. 50 B.C. to c. 150 A.D. for the bulk of these Western art objects.

This also helps to fill in the period, glossed over by the majority of the Indian art pandits, from the end of the Śuṅga art period c. 70 B.C. to the commencement of the Kushan art period c. 70 A.D. There is no handy name for this art period, as Northern India was at that time split up into a number of small states. This did not, however, prevent a great deal of fine work, very largely of Western style, from being accomplished. By reason of its western connections, it has been omitted from the works of the Indian purists; and a hundred years of art development is, thereby, neglected or its products relegated to another period. Other specimens of this period, though showing considerable Western influence, are in

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1. An example of a Roman tabellmata bowl is given in "Art in Ancient Rome" by Eugenio Strong, also in "Monuments Picti", Vol. 5, Pl. 9.
2. Two heads from Akra are illustrated in Man, 70, 1934.
their spirit and often in their execution essentially Oriental: these will be dealt with separately in the next chapter, as they do not form part of this truly typical Hellenistic art.

**THE LATER TERRACOTTAS OF VARIOUS TYPES**

Under the heading given to this chapter come a variety of terracottas other than those dealt with in the last chapter, whose date is from c. 50 B.C. to c. 700 A.D.; but before we examine this somewhat heterogeneous material, it will be as well to give some attention to the animal figurines found at the early historic sites.

Animal figurines are not so readily assignable to period or locality as are the human ones. By judicious selection one can produce oxen from pre-historic and early historic sites, which are almost indistinguishable. The applied eye, usually plain, but sometimes pierced and sometimes incised or indented, is practically universal. It may be as well to re-state the nomenclature of the typology of eye-forms which is here employed—applied eyes are eyes applied to the surface of the head after the clay has almost dried; applied and incised eyes are eyes applied and then incised by a lateral cut; applied and indented eyes are eyes applied and then indented by the pressure of a sharp or blunt instrument; applied and pierced eyes are eyes applied and then pierced in the centre by a hole, which may extend into the head itself; incised or impressed eyes are eyes incised or impressed directly into the clay of the head.

The applied eye so general in the pre-historic is very uncommon in the early historic period, when one finds them almost always incised or impressed directly into the head. The more normal eye-forms are a circle incised with a reed or some such instrument having a dot in the centre (Pl. XVI, 1), and a raised circle and dot produced by a stamp impression. I have a stamp of this kind, made of baked clay, having the negative impressions of an eye at one end and a hand at the other. It is arguable that this object is an amulet, and bears the amuletic hand and eye to avert the evil eye, but it certainly could have served the purpose of a stamp die. The majority of elephant figures, both from the Gandhāra region and from Muttra, do not have the eye shown in the example on Pl. XVI, but have a diamond-shaped incised eye with a dot in the centre.
The sites of Western Gandhāra, particularly Sar Dheri, Kula Dheri, and Sahri Bahlol, have produced a number of fine animal figurines, many of them in an excellent state of preservation. The types include oxen, horses, elephants, rams, antelope, camels, monkeys, and lions. Beside the elephant on Pl. XVI we have an ox, a ram and a horse. The horse’s head is of a very fine and unusual moulded type. Monkeys are very common and one gets some excellent moulded monkey faces. Some of these animals may have been toys, though it is possible that many were votive or, in the case of the monkeys, of apotropaic significance. The wheeled animals, one feels, were almost certainly toys, and can be grouped with such objects as whistles and rattles. Regarding the clay birds on wheels, though they were almost certainly toys, being found in relatively considerable numbers, one should not, however, neglect a possible association with the ritual bird chariot.

From Taxila especially, come a number of animals, oxen and elephant, which have fairly large hollow bodies. Such animals are also found at Sahri Bahlol, from which site come also very crude horses with long hollow cylindrical bodies. These horses and their riders are to be associated with similar horses and riders from Bedadi, Hazara District. The riders, from their quilted coats and other equipment, are obviously Kushan horsemen, and it is to the early Kushan period that these figures belong.

Whole or nearly whole figures of lions are by no means common, though they are found at various sites; an interesting example with inlaid eyes of a yellow cement coming from Kula Dheri. Lion head decorations, used as pot knobs, are, however, quite common, and found at all the more important sites in the Gandhāra area. It must have been one of the commonest pot decorations and is found in bronze as well as in terracotta, with holes at each corner of the mouth for the insertion of a ring. Such holes are found in a few of the clay specimens, which could have taken a thin metal-ring or a cord.

The strangest animals are those found in the Nilgiri cairn burial.

1. Kula Dheri is a large mound some two and a half miles west of Sar Dheri towards Charsadda. It has produced possibly more small objects such as clay seals, lamps, potsherds, etc., with Kharoshthi inscriptions than any other site between Peshawar and the Indus.
sites of Southern India; and though both sambar and tiger have been found on jar lids in these cairns, by far the majority appear to be figures of oxen, many dozens of which, from their broken fragments, were present in some of the cairns. These ox figures are square flat backed objects with legs at the corners, and a head with wide spreading horns fastened on to a tenon protruding at an angle upwards from the centre of one short side, while a tail hangs from the centre of the other short side; the back, and often the horns and muzzle of the ox are covered with incised patterns. These cairn burials are as yet not very well dated, but out of the suggested datings, one of c. 300 B.C.–400 A.D. seems to be the most probable.

Pottery animals have been found at most sites throughout India, even including the Dorothy Deep Cave at Pachmarhi, where the head, saddle and tail of a horse, and the head of an ox have been found in present and possibly contemporary association with cave paintings of about 300–500 A.D., which would be a reasonable dating also for the animals concerned. These animal figurines generally as a class, though very interesting, do not afford any very sound dating criteria, and the foregoing remarks are all that are necessary to give a brief but fairly comprehensive description of them.

Having disposed of the animals we now come to the strange and varied material, which goes to make up the terracottas of the later period. Here we find but few of those straightforward types which have served to help us, so far, to arrive at some sort of chronological sequence and framework. Our primitive Sar Dheri and Sahri Bahlol types persisted certainly up to Gupta times, in fact it is unlikely whether the Sahri Bahlol type can be dated earlier than the middle of the 1st Cent. B.C., and the bulk of the output of this type almost certainly appears during the course of the 1st Cent. A.D. If one turns to Pl. XVIII of Miss van Ingen's book on Seleucia, fig. 118 shows two extremely crude male figures, such figures are of all periods from I to IV, and thereby indicate that crudely modelled archaic figures had a prolonged vogue at this site also. Pl. XLIII of the same work shows dancer figures, the outstanding features of which are their joined hands, and the fact that they are finished off at the hips. Comparison may be made with primitive figures from Sahri Bahlol shown on Plate X which have the same attributes. The Seleucia dancing figures
all come from Levels II and III, the bulk being in Level II, indicating a
dating of about 80 B.C. to 100 A.D. which well agrees with the proposed
dating for the arcaic figures of Sahri Bahlool type. These figures may
have no connection, but the correspondence in form is very close. The
Sahri Bahlool figures would have normally been classed as worshippers or
votaries of some sort: the Seleucia figures have been classed as dancers
on account of holes to which, it is thought, moveable legs were attached,
they may, however, have been votaries.

An attempt will now be made to get such items of this later material
into groups as is possible. First of all, there are certain figurines which
can be classed almost certainly as Indo-Scythian, these are a limited
number of male figures with pointed caps or large moustaches. This
material has been used already in another work to indicate the co-existence
of heads having applied and incised eyes, with heads of a recognisably late
period with which they can be directly equated. Some of these heads
show strong Hellenistic influence, and the equation of this type with
the Hellenistic head, wearing a pointed cap, found at Basarh has already
been recorded above.

There is a class of mask faces from Sahri Bahlool which is of great
interest. Pl. XV. 5, shows a mask from Sahri Bahlool of the period when
this type of terracotta was at its best; it is a strange face, Hellenistic
influence being strong, but the face itself is of an oriental though not
necessarily Indian type. Fig. 11 on the same plate shows to what stage
of archaism this style of mask can degenerate, the stages in this degenera-
tion can best be followed by a series of these masks in the possession of
the Peshawar Museum. The features get sharper, the eye-forms cruder
and more exaggerated, the hair curls more clumsy, until at the lowest
mark one reaches an example in which the mask has flattened, and the
features are no longer moulded but crudely modelled with the usual
incompetence of the image-maker deprived of his mould. When one
has examined all the available specimens from this one site closely, there
cannot be the slightest doubt of each degenerating type being linked
to the one that precedes it. Pl. XV. 4, shows a mask which is quite
unique in style and which, though not to be grouped under the heading
of Hellenistic figurines, shows considerable Hellenistic influence. This
piece is from the Mardan District and, except that it partakes of the
mask technique, belongs in reality to that class of moulded head which will be discussed presently, in which each head is unique, and has little or no resemblance to any other head.

Terracottas which show much the same degeneration in type as these masks are those from Akra in the Bannu District. The ancient site of Akra, which is only a few miles from Bannu city and cantonment, has been sadly neglected, and is in danger of total disappearance by reason of its excavation for manure earth; an agency of destruction which is gradually causing the disappearance of many of the most important sites in the Frontier Province. From Akra, as from all the better sites in the North West, come a number of kinds of terracotta figures, it has nevertheless a type peculiarly its own. These are oval flat-backed moulded figures with a hollow splayed out base, which enables this image to be stood upright. Examples of this type go to show that there are good featured figures of naturalistic style which, in due course, degenerate, the features becoming sharper and the eye-forms larger and cruder. Pl. XVI. 4, is an example showing marked degeneration; all these figures have their hands clasped in the attitude shown here.

The only remaining style of terracotta, made during the period under discussion, which can be grouped as a class is that of zoomorphic and anthropomorphic pot spouts. Such spouts are quite common, especially those of grotesque animal style. The figures are formed generally by modelling aided by applied clay work, employed to produce certain features or for the decorations. The illustration, Pl. XVI. 3, shows an elaborate spout in the form of a woman clasping her breasts, an attitude otherwise unknown in Indian terracottas but quite common in Iraq. The liquid from the vessel to which it was attached poured through the holes in the centre of the breasts. Another pot spout of this type in the Peshawar Museum shows the draped figure of a woman; her hands are clasped round an aperture in the genital region from which the liquid poured.

Figures of the type just described are without doubt to be associated with anthropomorphic pots also found in this region. Side by side with the spout just described, there is in the Peshawar Museum a small globular pot which is quite definitely an extremely crude counterpart of the pot spout which is its neighbour. It has a crude modelled face on the short
narrow neck of the vessel and no other human features except very
cungalowised arms in curves converging at the neck above and at an
aperture below, through which any liquid put into the jar must flow.

Such pots are known from the earliest times and are more commonly
male, but there appears to be little doubt if any that the whole of the
pots and spouts of this type found in Gandhāra are of the 1st Cent.
B.C. or early 1st Cent. A.D. A pot of male type with a moustached face,
showing the figure on it grasping the male organ, and a moustached face
on a neck broken from a similar pot are given in "Iraq" in support of
statements concerning the applied and incised eye technique. A pot
with the same motif, though much cruder, is here shown on Pl. X. 1 it comes
from Lalpura, Afghanistan, and was probably found at some site in the
Kunar or in the Jalalabad region.

This disposes of most of the terracottas that one can segregate into
classes, and one must now turn to the individual terracottas which are
such a feature of this period. The first to be dealt with is I claim not
only the finest terracotta piece of its immediate probable period, but one
of the finest ever found in India. It is quite unique and therefore very
difficult to date, there is strong Western influence and as we have seen it
is not wise to presume such influence before c. 50 B.C. A date of late 1st
Cent. A.D.—early 2nd Cent. A.D. is, therefore, proposed for this figure,
mainly on stylistic grounds. The object under discussion is the one
shown in Pl. XV, 9, which I have named the Angel of Khan Mahi, after
the village where it was found and purchased by the Peshawar Museum,
it's exact find spot is unknown.

At first glance this figure has all the appearance of an angel pro-
duced somewhere in Europe during the early 15th Century. The fact,
however, that it comes from Khan Mahi, only some two or three miles
North East from Sar Dheri, and in the centre of the chief terracotta
producing area of Western Gandhāra, and that its clothing and ornaments
are essentially Indian, preclude its being an importation from Europe.
The fact also that winged figures are not uncommon in Gandhāran art
serves to place it in the period suggested.

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1. For an illustration of this pot see Pl. V, fig. 3 and 4 of "New Finds in the Indus Valley" Iraq.

For the rest of these miscellaneous pieces, one can only put forward a few examples as indicating the diverse types which emerge. Pl. XV. 6, shows the head of a woman with thick braids of hair on each side of the face, with a crown-like headdress having a string of jewels hanging from it in shallow loops. This object is of very fine clay, with an iron wire as part of its internal construction, and is covered with a white size which is again covered with a gold paint. This figure comes from the Swabi-Mardan area. On the same Plate, fig. 7, shows the head of a very Semitic looking man, the hair of which behind is indicated by a series of dotted circles representing possibly a series of curls. This head comes from Sahri Bahlol and is quite dissimilar from anything else found in the neighbourhood. Pl. XIV. 3, shows a very attractive figure of a young woman in a sari-like drapery, having a most challenging expression, and the head tilted at a clever and sophisticated angle. Its provenance is unknown except that it comes from the Peshawar or Mardan Districts. Figs. 2 and 3 on Plate XV show two heads from Sahri Bahlol; the former is an orientalisation of the Hellenistic type and has a braid down the back; the tenon which fixed it to the body can be clearly seen. The other is of a purely Indian style, and the cast of countenance could be most easily paralleled by sculptures of the Mediaeval Period. There are many other varied types from Gandhāra, but, as in the case of the ones noticed above, it is difficult to assign with any confidence a firm date to any one of them; approximately they may be said to date from the 1st to the 3rd Cent. A.D. One does, however, occasionally find small heads of this period bearing a striking resemblance to the Gandhāran sculptures, such being male heads with moustaches, which are of true Gandhāran type and which we can date as being late 2nd or early 3rd Cent. A.D. quite confidently.

A great deal later in date than the terracottas we have yet been discussing are large heads which come almost entirely from Taxila. The artists who had been fashioning the stucco relieves handed down through the 5th and 6th centuries, sought a new medium early in the 7th Cent., and we then find terracotta heads of the same type as obtained in the stucco. Pl. XV. 1, shows a terracotta head of a simpleton from Taxila which was produced at this period. It is a very clever bit of portraiture, typical of this particular phase of Gandhāran art.
From most of the sites in Northern India which produce terracottas come plaques and figurines displaying definite Buddhist iconography. We have already dealt with the Kuvera figures, and in the same way as some of these copy the small Kuvera figures in black schist seated on thrones, we get the complimentary figures of Hāritī also enthroned. To these must be added definite figures, Buddha himself, which are as a rule moulded in low relief in the form of small plaques. Such figures are, however, by no means common, and this fact will be a matter for consideration when we come to examine the raison d'être of the various forms of figurine.

I will close this chapter by examining two regional manifestations of terracottas. These are the ones coming from Bedadi, Hazara District, and those from Kashmir and Jammu. The village of Bedadi lies between Mansehra and Shinkiari. In this neighbourhood there are a number of Buddhist remains of the Kushan period. Terracotta figures were found at the foot of a wall of what was probably a small monastery, they include male and female figurines and heads of horses. Some of the male figures and the horses can be equated with those which come from Sahri Bahlol, and there appears to be but little doubt that though the former are crude, they have so much in common with the latter, which incidentally are themselves also crude and primitive, that together with their find spot, they can be definitely said to be of Kushan date. Any attempt to connect them with the Aśokan inscriptions at Mansehra, some miles away, is quite unwarrantable.

Pl. XV. 10, shows a head from Bedadi, this male head displays obvious traits of the Buddhist art canon. From this same site come female figures of a most curious style. They are dumpy and shapeless, almost square sided, and consist of what was to all intents and purposes a plaster envelope tinted red, upon which the very sketchy outlines of a garment had been moulded. The head, which is equally fragile, shows a face with quite well formed features and a squat cylindrical headdress. Within the envelope there was a brownish red powder, whether its condition was the result of internal disintegration which had reduced the core of the figure to powder, or whether the envelope was filled with a powdery substance after it was moulded is difficult to say, but I incline, having seen the fragments of this specimen, to the former solution.
The terracottas produced by Kashmir and Jammu are for the purpose of easy description divided into those of outstanding merit of late Buddhist date, and the rest. The marvellous heads in terracotta, which come from 'Ushkar near Baramulla in Kashmir, and from Pambarvan near Akhnur in Jammu, are of the seventh century A.D.

With the help of Kalhana’s Rājataṛāṅgīṇī it has been possible to identify the monastery erected by King Lalitaditya-Muktāpīḍa, of whom Dr. Fabri, in an article in “Asia” says: “At Hushkapura this noble-minded king built the splendid shrine of Viṣṇu Muktasvāmin, and a large vihāra with a stūpa.” The terracotta heads found at this site are most attractive, the outstanding examples being the lady with the ringlets and the bearded ascetic, both in the museum at Srinagar, and the woman’s head ‘with the middle parting’ in the Lahore Museum, illustrated in the article in “Asia.” The conclusion put forward by Dr. Fabri is that the seventh century artists in terracotta from Taxila, carrying with them the heritage of the fine achievements in stucco produced there during the preceding two centuries, migrated to Kashmir.

It may be as well to notice here a remark made by Mr. W. W. Tarn in a footnote on page 398 of his book “The Greeks in Bactria and India”, he says of the stucco heads found at Hadda; “The stucco heads were cast in old Hellenistic moulds and then attached to 4th Cent. A.D. bodies”; Nothing in the archaeology of the Middle East goes to support this remarkable statement, and though Mr. Tarn deserves the greatest praise for the manner in which he has disentangled and arranged the sources available, to make a clear logical picture of this very difficult period, it cannot be said that any of his statements about the archaeology of the period are very happy ones.

The site at Pambarvan has produced over a period of years some forty or fifty terracotta heads mostly of extraordinary merit. Pl. XVI, 2, shows a typical example, many others will be found in the article in “Asia”.

From the site at Ushkar come also certain large hollow moulded figures, which must be of the same period as the heads, though they betray a certain stiffness and crudeness of execution. When, however, one comes to examine the technical difficulties in casting and firing a large figure, about one half to two thirds life size, in terracotta, hollow and in the
complete round, it can be appreciated that the body forms might well fall short of the heads; though it may well be that, while approximately of the same date, these bodies do not actually belong to the heads we have been discussing, which were possibly part of relievos. The closest approach to this hollow style of figure found in Gandhāra is a fine torso (Pl. XVI, 5), which was found at Sahri Bahlol, and is now in the archaeological store room at Peshawar. It was reassembled from a number of scattered pieces by my wife and myself, and with some difficulty made to remain in equilibrium until photographed. It is hollow and roughly two thirds life size, and probably dates from the 4th-5th Cent. A.D., though, being quite unique, a firm dating is very difficult. Ornaments of the type found at Harwan and at Ushkar are found at Sahri Bahlol, though it is probable that the latter are a century or so earlier in date. They are associated in both places however with ornate Bodhisattvas and Buddhas with tight curls, all in stucco.

The rest of the terracottas from Kashmir come mainly from the fields that surround the site at Avantipur. Here small plaques showing the Buddha in meditation, surrounded with conical umbrellas, are common, also ordinary standing Buddha figures, and Hindu divinities all in plaque form of the type shown in Pl. XV, 8. Harwan produces a few similar plaques, and also the famous pavement of terracotta bricks, stamped with designs of horse-archers, deer, fighting cocks, crouching ascetics, and people in balconies of the same style as those in the sculpture of Kushan times at Muttra. The ancient megalithic site of Burj Hama produced no terracottas among the objects excavated there.

It will be seen from the above how varied is the style of the vast numbers of terracottas which were produced from the middle of the 1st Cent. B.C. until the disappearance of Buddhism from Northern India sometime in the 8th or 9th Cent. A.D., and how difficult it is to reduce this material to any sort of order.

CONCLUSION

In the preceding chapters an attempt has been made to reduce to some sort of system and order the varied puzzling array of terracotta figures, from a number of ancient sites mostly in Northern India. It now only remains to sum up some tentative conclusions resulting from this survey.
First of all, a few words on what must now be recognised as the far from simple matter of chronology. It must be realised that it has been impossible to discover any continuity between the figurines of the pre-historic period and those of the early historic period. Would that it were otherwise—no one, least of all the author of this memoir, regards such continuity as an impossibility, and it is the wish of all who are students of this particular branch of archaeology, to be able to produce the links which show such continuity to be a fact. It is unfortunate that, on the one hand, there are possibly some who consider that evidence for continuity is being contradicted by those who, they think, are disgruntled because they have not made the discovery first, and on the other some who consider that evidence for continuity is being produced willy-nilly, regardless of the limitations of scientific proof, because of wishful thinking and a desire to prove that the Vedic period was not devoid of material art and culture. As matters stand at present, it does not appear that these attitudes are likely to be greatly modified.

It has, however, been shown quite plainly that the types which might be expected to link with the pre-historic have clear technical resemblances to datable early historic material. This quite precludes an early date being assigned to them, which would place them conveniently midway between the two periods. In this particular connection, one final word may be said on the subject of archaism. No progress in the study of Indian terracottas can be made until it is clearly realised that primitiveness and archaism are in themselves completely unrelated to chronology, which, as every effort has been made to indicate here, is fixed as a result of many converging elements of evidence. As I pointed out in "Man" 152, 1937, a modern vase from Tiflis with applied primitive figurines is a warning to all those who regard such crude figures as being inevitably ancient. At Seleucia there were unearthed a number of bone figurines of naked women. A certain number of these are moderately naturalistic, of which the best come from Level III, but 96 specimens are extremely crude and highly conventionalised and by far the majority of these come from Levels I and II. It would be better under these circumstances to allow archaism, as such, to make its complete and final disappearance as a criterion for chronological argument.
Unfortunately, with the present extent of our knowledge, it is still impossible to set in order the matter of the pottery of the early historic period, and be able to present, as a basis of comparison, well authenticated pottery types from regularly recorded stratigraphical levels, which could be cross checked with similar types coming from any level of any site in which terracottas are found. Until this is possible it is unlikely that the study of early Indian terracottas can be carried much farther.

As a word of warning to those who are interested in this particular line of study—all terracottas found on ancient sites are not ancient, and all terracottas purporting to come from ancient sites are not genuine. A most interesting terracotta figure was produced at Sar Dheri; quite superficial examination showed it to be of a soldier with buttoned tunic, belt, and haversack, a relic, I make no doubt, of the days when toys were scarce even in Europe, and which was turned out as a plaything for European children in India possibly some sixty to eighty years ago. The modern nomad whistle in terracotta found at Harappa has been mentioned. Mr. Waliullah Khan, who secured an identical specimen for me, has made a collection of modern nomad terracottas, including figures of oxen bearing small shallow bowls, probably for incense burning, between their horns. A terracotta figurine of a woman wearing a sari, dug up on the site of an old bungalow at Peshawar, was brought to the museum where I examined it, there is little doubt that it was made at the same time and for the same purpose as the Sar Dheri soldier. Muttra has acquired a bad name for fraudulent specimens. The only ones to my knowledge that appear to be faked are some which one might term "reprints", being modern casts taken from an original mould. They are of a very finely levigated bright pink pottery, and though possibly genuine are certainly suspect.

A point which, though of course largely speculative, can be discussed with greater profit, as our present lack of knowledge does not hamper us to the same degree, is the purpose of these images. The female figures may be goddesses, or they may be votaries, or in some cases they may be primarily decorative and ornamental. The earliest female figures, those of the Indus Valley sites, do not as a class exhibit those characteristics which proclaim a Mother Goddess. To begin with they are draped with a loin cloth, and for this reason they do not display those sex exaggerations
which are associated with such goddess figures; they are not shown moreover in those characteristic attitudes, which at that period would almost certainly have been present in some of the specimens, had they been directly associated with the Babylonian Mother Goddess; and finally, as has been mentioned there is a whole class of female figures from Harappa, with hands raised to an object on their heads, which is possibly a cult object and not a headdress at all, and even if it be a headdress is almost certainly an hieratic one, indicating in either case priestesses or votaries rather than a goddess. While it is possible that some of the more elaborate figures with wide hips, a wealth of necklaces, and headdresses flanked by cups for incense burning, are goddesses, these are very few in number, and the exact status of the bulk of the figures may be held to be doubtful.

The difficulty we encounter with nearly all these figures, is that their provenance does not help us much. Both in the pre-historic period, in which cemeteries have been discovered, and in the early historic period in which they have not, terracotta figurines cannot be associated with burial goods, the only exceptions being the images on the lids of jars found in the burial cairns of the Nilgiris; this being so an 'ushabti' function it almost definitely ruled out.

In the early historic period the female figurines are of many types. Some of them, especially those of primitive style, were certainly goddesses; though whether they were Mother goddesses, virgin goddesses, or just goddesses of love is a matter for speculation, or more probably a matter for the inclination of the owner, for goddesses as a rule were many sided in their activities, and by a suitable change of invocation could be approached from almost any angle. What might bring luck in marriage to one, might bring luck in less reputable love passages to another. Some might be deposited at temples as an "ex voto" either accompanied by a petition or else presented as a thank offering for favours received. Some, the very small ones, might be carried about as amuletic charms, either to promote fertility or insure a good outcome to one's amorous advances. Some might be household deities propitiated during the dangers of childbirth.

We may safely conclude that all the nude female figures of an iconographic rather than a secular style, can be classed as goddesses, for
the purpose of procuring divine assistance in one of the ways just
mentioned. There are, however, certain figures which probably were
ornaments, in the manner of the Tanagra figures, though they may, in
most cases, have been associated with some luck-bearing properties.

Male figures are by no means as common at any period as female,
and much the same remarks apply to them as well. In many instances
they personify the male principle, in some they may be votaries, and in
others votive. Horns in the prehistoric period, and definite well known
iconographic attributes in the early historic period, help one to pick out
with certainty those figures which can be classed as gods or demi-gods.

It is obvious that a great deal of work of all sorts remains to be done.
During the course of this memoir, the importance of discoveries at
Seleucia, and the value to be obtained from these discoveries by means
of comparison with Hellenistic and Parthian material found in India, has
been given the emphasis that it deserves; only works produced on the
lavish scale of Miss van Ingen’s book enable one to do this adequately.
A linking of all the terracottas of the Hellenistic period from the Eastern
Mediterranean to Bengal is necessary, but before this can be done it is
imperative that the terracottas already found at sites such as Dura-Europos
should be brought into greater prominence, and that this Hellenistic
Parthian culture should be linked up through Bactria and Afghanistan into
India and Chinese Turkestan, following the trade routes.

Certain terracottas from Chinese Turkestan are in the Srinagar
museum, and though there are no definitely Hellenistic pieces among
them, there are those displaying Scythic styles and motifs which indicate
strong Hellenistic influence; monkey figures, are common, as they are in
Northern India; two figures, however, with hollow cylindrical bodies and
no legs show definite Syrian or Babylonian influence, which we have seen
penetrated into Northern India at much the same time, probably the 2nd
or 1st Cent. B.C. Important, too, are the terracottas found by Sir
Flinders Petrie in the workmen’s quarter at Memphis, now in the
Museum of the Department of Egyptology at the University of London.
They have been published by the Egyptian Exploration Fund in the
volumes Memphis I, palace of Apries (Memphis II) and Meydum
and Memphis III. There are among them a certain number of Indian
type terracottas of women and seated Kuvera figures. In an article
in "Iraq" I rejected Flinders Petrie’s 6th-5th Cent. B.C. dating for much of the material, and adduced arguments for a 1st Cent. A.D. date for the Indian figures. The whole of this material is almost certainly covered by a period not exceeding the limits 150 B.C. to 100 A.D.; but it requires more careful examination in the light of the discoveries at Dura and Seleucia. It is certain also that there must be much more Hellenistic material in the Near and Middle East which requires to be unearthed, either from the ground or from the obscurity of museums.

Finally, let us consider what can be done in India to straighten out our problems, and the answer to that is more and better excavation. We may well ask ourselves what are we looking for and where should we look for it? We are looking for two things, firstly, a good sound acceptable framework of sequence primarily, and then, if it can be obtained of exact chronology for the early historic periods: secondly, we want to find material which can be proved conclusively to bridge the hiatus between the prehistoric and early historic periods. For the former, excavation will be necessary of the Bala Hissars, Charosadda, a site at Muttra, and a site at Ramnagar or Kosambi. The great mound at Bala Hissar is the result of accumulated debris of successive occupation levels. The perpendicular North face shows stratification almost like a diagram; about three quarters way down this section come curious amphora-like jars which are peculiar to the Bhir Mound, Taxila. Foucher’s idea that the whole of the mass was the Stūpa of the Eye Gift is fantastic; it is an occupation-site, one that has accumulated debris of centuries and which holds one of the keys to the problem of Indian terracottas.

Our second task demands two things, firstly the proper interpretation of the upper levels of the sites having an abundance of prehistoric material, and secondly the excavation of sites which might have prehistoric material at their very lowest levels. I suggest the large unexcavated mound near the police post at Harappa for the former, and the Akbar Mound near Gugera and the Shah Yakka Mound near Dipalpur for the latter, these being within a thirty mile radius of Harappa. If nothing can be found at Harappa which is not either of Buddhist date or of

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"Harappa" date, and if the immensities of the sites at the Akbar Mound and at Shah Yakka produce nothing of definitely prehistoric date from their depths, one can say that the arrival of the Aryans put an end to the pre-historic culture in the Punjab, and it must have moved East or South. Also we must admit that these same Aryans were themselves devoid of any material art culture, as it would show no trace of it in succession to that of their predecessors.

If, however, excavation at Ramnagar and Kosambi produces nothing from their depths which can be linked to the Indus Valley Cultures, then, unless we are to believe that in India only of all the world urban culture shifted in such a way that it displays the regular phenomenon of one culture one site, we must admit that there is an apparent if not an actual hiatus of at least a thousand years in the manifestations of Indian material art. Excavation alone can decide this point.
A BRIEF NOTE ON THE EXCAVATIONS AT SAR DHÉRI

The necessity of investigating sites in the Peshawar valley has been increasingly felt since the discovery of the Indus Valley Culture. Except for Sir John Marshall's work in certain mounds in the neighbourhood of Charsadda in 1902-03 all other excavations in the Peshawar valley were confined to Buddhist sites, such as Takht-i Bahi, Sahri-Bahlol, Shahji-ki Dheri and Jamalgarhi. The numerous mounds in the Peshawar District are fast being levelled by the cultivators, who find in their earth a valuable supply of manure for their fields. The mound at Sar Dheri, nearly six miles from Charsadda, was particularly noteworthy for its considerable height and for the find of terracottas of different types, some of which were typically Hellenistic. The connection of the Sar Dheri figurines with the archaic type familiar from Harappa and Mohenjo-

daro has recently been a matter of some controversy, and it was, therefore, decided to start preliminary investigations on the mound.

In the peculiar conditions obtaining in the Frontier the Archaeo-
logical Camp, consisting of a party of three or four subordinates working in collaboration with Dr. Simone Corbiau of Brussels, who worked as an Honorary Attaché of the Department was accommodated in a 'sarai' of the local Pathan Chief. Colonel D. H. Gordon was a frequent visitor at the excavations and was immensely helpful to the excavating party.

The excavations were carried out to a depth of 49' from the top, disclosing as many as 8 strata as indicated in the rough sketch on page 182.

The total range of occupation was not, however, more than 4 or 5 centuries, and the small size of the dig at the bottom of the shaft made it impossible either to reach definite conclusions about the age or to carry the work deeper. The local conditions prevented return to the site for extension of the work.

The definite data emerging from the excavation may be summarised as follows:

The last two levels of occupation separated by a layer of open kilns comprising nearly 13' from the top consisted of brick walls with stone foundations and mud brick walls respectively, dating from roughly 2nd—3rd Century A.D. The 3rd and 4th strata may be associated with the Śaka and late Greek periods, while the last four may belong to the Greek and Mauryan times. The find of a complete figurine of the mother goddess (Fig. 2, p. 183) type at 35' and a Hellenistic figure (Fig. 3, p. 184) at 37' 6" suggests that the mother goddess figurine from Sar Dheri was more or less contemporary with the Greek period. It is, however, remarkable that the tree design\(^1\) embossed in the lower

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1. What appears to be a tree may be a pendant hanging down the ornament. It may also be pointed out that the drapery on the upper arms does not indicate it to be a nude figure which the mother goddesses usually are.
part of the mother goddess figurine is comparable with the well-known Harappa seal no. F. 649 (M. I. C., Pl. XII, fig. 12) in which a tree is seen issuing out of the womb of a female figure. The find of distinctive pottery including the chalice shaped vase (Fig. 4), bowls and goblets of rather thick texture with a polished red exterior surface and red and black interior indicates that the last two strata are dateable to the 3rd-4th century B.C. Another remarkable variety of pottery (Fig. 5) which was plentiful up to the 5th stratum is the shallow trough with carinated rim which must have been in vogue in the 1st-2nd century B.C. On the whole, the trial diggings, which owing to their limited scope and extent could not be said to be conclusive, have amply demonstrated the possibility of the mounds in the Peshawar Valley and the general lie of the strata in the great ‘dheris’ is now fairly clear.
## Abstract of observations at SAR DHIRI (near Charsadda), District Peshawar, North-West Frontier Province

<table>
<thead>
<tr>
<th>Stratum</th>
<th>Corresponding levels (below datum)</th>
<th>Characteristic Finds</th>
<th>Architectural features and changes of wall</th>
<th>Tentative periods</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Surface to 18'</td>
<td>31 Kushan Coins, 41 Indo-Scythian Coins</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Kushan (early and late)</td>
<td>A settlement of potters rather than weavers. One of the houses had a thick plaster washed pale green. Settlers conscious of the plan of earlier remains.</td>
</tr>
<tr>
<td>II</td>
<td>18' - 22'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
<tr>
<td>III</td>
<td>22' - 26'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
<tr>
<td>IV</td>
<td>26' - 30'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
<tr>
<td>V</td>
<td>30' - 35'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
<tr>
<td>VI</td>
<td>35' - 40'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
<tr>
<td>VII</td>
<td>40' - 45'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
<tr>
<td>VIII</td>
<td>45' - 50'</td>
<td>1 Kushan Coin, 6 Indo-Scythian Coins, 1 Indo-Parthian Coin, 2 Lipped and Blown vessels of Hellenistic type</td>
<td>Mud brick wall, brick and stone foundations, storage jars in situ</td>
<td>Indo-Parthian</td>
<td>Indo-Greek. A layer suggestive of contact with Hellenistic.</td>
</tr>
</tbody>
</table>

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Similarly, the table continues with observations on other strata, detailing features such as levels, finds, and tentative periods, along with corresponding architectural and tentatively periods.
ADDENDA

I

Nearly a year having elapsed since the bulk of this memoir was written, certain groups of terracottas have come to my notice which cannot well be omitted. These are the figurines found at Rajghat, Kondapur and Maski.

In the winter of 1940-41 excavations were carried on at Rajghat on the outskirts of Benares, resulting in the discovery of some 2,000 terracottas. Mr. Agrawala, Curator of the Lucknow Museum has published articles on the Gupta material. These Gupta female heads and busts are very closely of the same type as similar heads and busts of the same period found at Muttra. The head shown in JUPHS Pl. I, fig. 1, is most attractive; it is agreeable to Western art ideas, but this is no reason why one should presume Western art influence. It is this confusion of thought that has caused many difficulties.

Plate II, fig. 8, shows the two-knobbed headdress, so common a feature of the terracottas from Seleucia, and which, as Mr. Agrawala justly remarks, seems to have had an international vogue in the ancient world. The girl swinging on Plate IV is delightful, and an outstanding example of the work in terracotta during the Gupta period. I would however like to point out, that both in the plaque on this plate, and in that on Plate XI of "Mathurā Terracottas" by the same author, there are not a pair of centaurs, but a female centaur with, in the first instance definitely, a man on her back. There should be some legend to support the comparative popularity of this design. I am told that earlier types of terracottas were found, but these have not yet been published.

Most interesting Andhra terracottas of the 1st and 2nd centuries A.D. have been found at Kondapur, forty one miles North West of

Hyderabad City. They are in the Andhra Buddhist tradition of that period and conform fairly closely to the contemporary sculpture of the Andhra region.

At Maski in the Raichur district, a most complex and interesting series of cultures has been excavated; so little evidence of stratigraphical sequence is available that it is a difficult matter to fix dates. We have visited the site, and also that of Madhavpur near Belgaum, and are now prepared to draw some conclusions which we hope to publish soon. These, which are based to a large extent on the dating which can be given to the brown and black pottery, found in the cairn burials of this locality and of Southern India, indicate the terracottas as definitely being made over a period from 200 B.C. to 100 A.D., overlapping on the one hand possibly into the 3rd cent. B.C. and on the other into the 2nd cent. A.D.

Some of these figures wear a high headdress which most closely resembles the Greek Kalathos, and has no counterpart in any of the sculptures. Comparison may be made between the figures in both upper corners of Plate IV. fig. b, of the 'Annual Report of the Archaeological Dept. of H. E. H. The Nizam's Dominions' and that shown by Plate VIII, fig. 59, of Miss van Ingen's Seleucia.
NOTES ON A ŚUŃGA TYPE TERRACOTTA

The illustration of the very elaborate and well preserved terracotta figurine published in Vol. X, 1942 of the Journal of The Indian Society of Oriental Art, and the very interesting article by the late Prof. Johnston could not fail to arouse the curiosity of anyone who is interested in early Indian terracottas. The figure in its general form is not wholly unique, but there are individual features which so far do not appear to be present in any other similar figurine. In fact there is so much about this figure which is of importance, as touching the matter of the elucidation of the problem of Śuṅga terracottas in general, that I am putting forward these notes in the hope that they may clear up some points, and bring matters a stage nearer a true solution.*

The whole question of Śuṅga terracottas is a very vexed and difficult one. Much that has been published as being of a Mauryan or a pre-Mauryan date is really of early Śuṅga, and much that is called Śuṅga is of a later period, which, though it has remained neglected and anonymous, is in reality one of the greatest importance, contributing a large proportion of the known figurines.

There are few if any figurines of proven Mauryan date, those found at Pātaliputra being the only ones with a good claim. The main clues to the development of Śuṅga terracottas come from Taxila and Muttra.¹ It can be accepted without any fear of contradiction that the terracottas having applied, stamped or incised decoration and crudely modelled bodies come before those which are wholly moulded. At Muttra, figurines in grey terracotta are found with crude modelled faces and good moulded faces, both having the same style of crude body and

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* These notes give a résumé of Colonel Gordon's views and discuss the Oxford Figure in their light. They were to be published separately in Vol. XI, JISOA and are now embodied in the memoir on 'Early Indian Terracottas' [Ed].
applied ornamented decoration. It cannot be too clearly or strongly stressed that few figurines exist of any period which have good modelled faces, all the faces with good features, until well into Kushan times, are the product of a mould. This casts a definite doubt on the antiquity of the crude figures. It has become increasingly more obvious that they were crude because the image-maker could not produce a better figure without the aid of a mould. There is evidence to support this view; Agrawala's Mathurā Terracottas, Pl. V. fig. 14, (see also Pl. X. 7 of this paper) shows how one of the image-makers affixed a typical Śuṅga head of the late flat mould technique to a crude body, and covered the join by an applied stamped collar of the same style as we find in the more primitive terracottas. The curious headdress in which long streamers covered with rosettes fall on both sides of the face almost to the ground, is present in the crude style terracottas and also in very many of those of acknowledged Śuṅga date. This elaborate piled-up headdress appears to be typically Śuṅga, whether accompanied by streamers or not; and it is considered that the terracottas with applied decoration cannot precede the wholly moulded ones, with which they have so many features in common, by any great period of time. In confirmation of this two heads were found at the Bhir Mound, Taxila, unfortunately without properly recorded context, having a peculiar form of hemispherical ear-ornament and applied decoration, with a crude body and good moulded face. A figure from Muttra of the same type with good moulded face, applied ornaments and crude body has similar ear-ornaments, which appear also in another figure from Mohra Moradu, Taxila, of very late Śuṅga style (Pl. XI. 5). Though the matter has yet to be finally settled, the date of the upper five or six feet of the Bhir Mound, Taxila, in which deposit the bulk of the terracotta figurines have been found, is very suspect. It is unlikely that they can contain objects which date, unless preserved from an earlier period, and the terracottas do not support such an idea, earlier than 200 B.C.; many in fact are much later, i.e. down to 80 B.C.

It can be said with some certainty that figures with applied decoration, good moulded faces and crude modelled bodies date from c. 200 B.C. to c. 120 B.C. and that those from flat moulds are from c. 120 B.C. to c. 40 B.C. at Taxila, where they were superseded by figures of ultra
Hellenistic style produced by those arch-copyists and philo-Hellenes, the Parthians. At Mathurā, Kosambi and other sites this style must have persisted longer, as only a few Hellenistic terracottas are found outside the Gandhāra area; we may be sure therefore that the Śuṅga technique endured in a modified way well into Kushan times.

All the foregoing tends to indicate that a style of terracottas which has been labelled Śuṅga flourished from 120 B.C. to at least 40 B.C. and in places probably as late as 80 A.D. Śuṅga is not a sufficiently comprehensive label to cover the whole period during which these terracottas were made. Agrawala in his article in the Journal of the U. P. Hist. Soc. July 1936 on “Mathurā Terracottas” tacitly disregards the period 70 B.C.—70 A.D. during which hundred years terracottas continued to be produced in normal quantities. The country down to Muttra was certainly in the hands of the Śakas and Parthians and so was all Western India including Gujerat. Of the Andhras, Prof. Rapson says: “The conquest of East Malwa marks the North Eastern limits to which the progress of the Andhra power can be traced by the evidence of inscriptions and coins.” In the area Mathurā, Ahichhatra, Kosambi and Kāši, Śuṅga power was replaced by other dynasties with more localised authority, such as the ten kings bearing the name of Mitra who minted their coins at Ahichhatra. Any mention of Andhra is wholly unjustified in this region, and it is certain that the style and technique associated with the Śuṅga period persisted in this area down to Kushan times.

To what period then does this figure belong and to what place should it be assigned? It is of Śuṅga style but shows a very considerable degree of sophistication. There is no figure quite like this either from Taxila or Muttra. The nearest approach is a Śuṅga head found at Rajghat, now in the museum of the Kalā Bhavan at Benares, which has much of the fineness of the Oxford example (inset on p. 195). In the place of the row of symbols on the headdress, there are only five stumps which might be the handles of the axe, ‘vajra, ankuśa’, etc. A Taxila specimen in the author’s collection has what are definite vestiges of the symbols on the headdress, but the impression from the mould is so poor that the outlines are all blurred. The best proof however of the late period of this figure is the type of the bangle and the starry background. These link up with an outstanding terracotta in the Muttra Museum, that of
Kāmadeva with his bow and arrows, at least that is how this figure has been interpreted by Mr. Agrawala and there is no reason why it should not stand. The bracelets of this Kāmadeva figure are identical with those of the Oxford Yākṣī or Goddess and, being of a very specialised ornamented type, this identity must be of definite significance; the same style of star rosette being present all over the background. Agrawala dates the Kāmadeva as Kushan.

I shall now attempt a new approach, I do not propose dragging down the Oxford figure to a Kushan dating, but a date of 200 B.C. at the latest must definitely be abandoned. This style of flat moulded terracotta was not to be made for about another sixty to seventy years at the earliest, when we get types like the Basarh winged figure and the earlier moulded figures of Mathurā and Kosambi. The bulk of Śuṅga type figures must be later rather than early, as the headdress of some of the Mathurā types, with a square cut directly above the forehead links with moulded figures from Sar Dheri which are unlikely to be earlier than 1st Cent. A.D., and the large ornate headdress of turban style is found in Kushan sculpture, at which period also appear the mother and child sculptures which link with terracottas of Śuṅga type from Taxila. Let us say then that an approximate dating for this figure, and possibly for the Kāmadeva figure from Muttra as well, will be c. 40 B.C. and that in the tract between Muttra and Benares or perhaps as far East as Basarh, this type persisted in some measure until ousted by the crude heavy terracottas of Kushan date which may be found at most sites from Charsadda to Rajghat.

The Kosambi terracottas in the India Museum, South Kensington, show an extraordinarily close resemblance to the Muttra terracottas both in the Muttra museum and in my own collection. It is quite impossible to fix the Oxford figure down to one particular site, it might have come to light anywhere between Taxila and Benares.

Let us now look at the question of the clothing. Actually the Oxford figure is very differently clothed from what one usually finds in either the terracottas or the sculptures in stone during the period 120 B.C. —120 A.D., which is all one need consider, the bulk of these figures having the breasts bare. A few of the terracottas from Mathurā and Kosambi may possibly have some kind of tunic, though this is by no means certain
as the indications are very vague. My Taxila specimen has bare breasts and most of these figures appear to have a form of skirt-cloth which is divided and rolled back from the centre, in some cases this starts from the waist where there is a waistband to support it, and in others it is tucked into the girdle. I cannot agree, whatever the ancient literary sources may say, that the girdle is ever shown under the clothing either in the sculptures in stone or in the terracottas.

Female figures from Didarganj, Rajasan, Barhut, Sārnāth, Mathurā, Amarāvatī and Nagārjunakonda all show the girdle outside whatever rather exiguous clothing they may be wearing, and terracottas from Sar Dheri, Taxila, Mathurā and Kosambi show the same. There is one terracotta figure which quite definitely has one breast exposed and one covered and this is the Angel of Khan Mahi, a figure which, although published by me in 1934, is far from widely known (Pl. XV. 9). It comes from some site in the area betweenCharsadda and Mardan in the North-West Frontier Province, perhaps from Sar Dheri, and was bought by the Peshawar Museum from a goldsmith in Khan Mahi. This is one of the most outstanding of all early Indian terracottas and should have been recognised as such long ago. Its date is probably 1st Cent. A.D. but it is extremely difficult to place and may date from any time between A.D. 20 and A.D. 200; it is unlikely that it can be later than this.  

The squatting figures attached to the tassels hanging in front of the thighs of the Oxford Goddess are supposed to resemble certain figures said to come from Taxila, dated, according to Johnston, by Sir John Marshall to 3rd or 4th Cent. B.C. Now I hesitate considerably to challenge any statement from such an authority where Taxila is concerned, but having studied the terracottas of Gandhāra for fifteen years, and having combed over those in the Taxila Museum time and again, I feel that this is a statement that needs a great deal of qualification. It is only figures from the Bhir Mound which can claim such a date, and the only figure from this site which answers this description is a seated Kuvera (?) figure, Museum No. 115, found at 3 feet 5 inches below surface at the Bhir Mound, and therefore not in any case to be dated earlier than late 3rd Cent. B.C., but in my opinion to be dated to late 2nd Cent. B.C. Actually I feel that this figure has little in common
with those under discussion and little or no bearing on the problem of the Oxford Goddess.

With regard to bandolier amulets, nearly all Bodhisattva figures from Gandhāra have a bandolier of amulets, and it is these that Prof. Myres alludes when he mentions them as worn by Greco-Indian sculptured figures. But these are amulets of normal pouched or pendant style, and it is doubtful whether symbols were ever actually worn as depicted in the Oxford figure. In that instance they appear to be introduced rather clumsily as a collection of auspicious animals, which the designer wished to fit in to make up the complement, along with the signs on the headdress, of all the beneficent and potent attributes of the goddess.

The whole technique of the figure is different from any of the, literally, thousands of Indian terracottas I have seen and handled. The combination of moulding, carefully and separately stamped ornamentation and the lightly incised drawing in of the clothing is, so far as I am aware, unique; and so is the mint condition of the figure, particularly as regards the detail on the ornaments which remains incredibly unabraded even in the most exposed portions. The extent to which this figure is fully fired with complete reduction throughout its section is no indication of date, as this degree of completeness wherever found appears to be purely fortuitous and void of significance.

The question of the identity of the Mother Goddess in Gandhāra was taken up by me in "Antiquity" and in "Iraq" in which I made a prima facie case for Anaitis and Mithra as being the true Deities behind the very shadowy Hāriti and Kuvera, who otherwise could not have assumed the importance that they did in the Gandhāra area. India is full of Goddesses which can qualify as Mother Goddesses, and Johnston's plea for Māya as the goddess depicted may be well founded, though one feels that Vāsinī and possibly others are good candidates. The two fishes worn as an amulet can be found among the auspicious symbols on the Jain Āyāgapaṭa from Muttra in the Lucknow Museum, and also by the side of a female figure in terracotta from the same place. The bird is probably Garuḍa, which with the Makara and the fishes would constitute the normal equipment of lucky animal charms of that day. The hind cannot readily be recognised as such even
with a magnifying glass, and is possibly a somewhat doubtful identification.

The fact remains that at present this figure has only a few superficial resemblances to any other now known, and until some figure is found in some more definite context with more exactly similar features of dress, facial expression, ornaments and technique, little can be determined more exactly about its date and provenance.

1. (Page 189.) The evidence in connection with the dating of Śuṅga Terracottas has been given in detail on pp. 151 f. of this paper.

2. (Page 192.) The Śuṅga head from Rajghat, illustrated (p. 195) by the courtesy of the Bhārat Kalā Bhavan of Benares, was not found in any known archaeological context. It has a headdress which is to all intents and purposes identical with that of the Oxford figure, but a face which conforms much more closely to the normal Śuṅga style. The alternating dot and circle pattern which frames the head may be compared with the dotted circle pattern surrounding the Kāṇadeva figure from Muttra.

The crude figures with bulging eyes are dated later than Kushan times by Mr. Agrawala, and it is quite possible that he is right as regards those found outside the Gandhāra area.

3. (Page 193.) Originally published in Man 70, April, 1934.


5. (Page 194.) Mentioned as the possible favourite goddess of early times in Northern India on page 238 of Vol. I., Cambridge History of India.
THE WORLD TREE *

by ŚRĪ SWĀMĪ HARIHARĀNAND SARASVATĪ

The Root Principle

The first verse of the fifteenth chapter of the Gītā reads:

उद्धवसुलमचः शास्त्रमध्ये प्राहुरव्यन्वयम्।
छत्वांशि यथा पर्णानि यस्तं वेदं स वेदविविद्॥

"The Aśvattha (the tree of the World), root above and branches below, they say is everlasting. The Vedic rhythms are its leaves. He who knows it is a knower of Veda."

"Above" (urdhva, synonymous with upara) means higher (uñcha), superior (utkṛṣṭa). That which has nothing above itself to restrict its greatness knows no limit. This Supreme Principle (Para-Brahman) is the root of the World Tree.

Looking up towards this root, we see that higher than all composed of earth is the element Earth, higher than Earth is Water, higher than Water Fire, higher than Fire Air, higher than Air Ether, and beyond these the 'Principle of Individual existence' (ahamtattva), then the First Principle of existence (mahat-tattva, "the Great", i.e. Universal Intellect), then the Unmanifest Principle of existence (avyakta-tattva) and, at last, beyond even this, beyond all cause and effect, the Ground of all, the Self-illumined Brahman: It is in every way supreme—in subtlety and pervasiveness, and at the same time in aloofness and in purity. If water is more subtle, pervasive, pure, dissociate (asaṅga) than Earth, the next causal stage, then the supreme cause, as compared with the First Principle of existence and all other effects, has limitless subtlety, pervasiveness, detachment and purity.

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* Abridged translation with permission from 'Siddhānt' from the original Hindi, and notes, by Śiva Śaray.
Whatever is unconscious, destructible, limited, and therefore by its
nature sorrowful (duṣkha-tāma) can never be superior to all. The self-
illumined Principle, eternal and partless, transcends all because it is the
very Self \(^1\) of Joy (ānanda-svarūpa).

From the greatest joy possible to man\(^2\), through the joy of the
celestial singers (gandharvas) and of the gods among them (devagandha-
ervas), through the joy of the self-made gods (karma-devas), the gods who
were from the beginning (ājñāna deva), the king of Heaven (Indra),
the teacher of the gods (Bṛhaspati) and the Lord of Creation (Praja-
pati) to the Creator Himself (Brahmā), at every stage joy is enhanced a
hundred fold. But the All-Powerful Divinity, the very essence of supreme
joy (Paramānanda-rasātmaka), reigns gloriously above all these.

This Supreme Joy is the root of the World Tree. As the Eternal
Word (śruti) says:

<i>अनन्तदेवे यथा जब्दमानि भूतानि जायते, आनन्देन जातानि जीवन्ति, आनन्दे प्रयत्न्य-
मिष्टिविशिष्टिः</i>

"From Joy, most certainly, are all these beings born; born of joy
they live, they fare forward in joy and are resolved in it."

The Everlastimgness of the Tree

The tree is called everlasting but as Bhagavān Śaṅkarācārya explains,
"they say" (prāhuḥ) in Gītā XV, 1, points to the fact that this everla-
stringness is only apparent: it really stands for momentariness. Every
day in deep sleep the Universe dissolves into its source, the causal Principle
(Kāraṇa Brahman): at the moment of waking a new world arises. The
tree is called Āsvattha, that is a-śvastha, 'not remaining tomorrow'\(^3\)
"it is not worthy to remain even till tomorrow, therefore it is called

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1. Literally: the proper form.
2. The greatest joy possible in the human state is considered that of an absolute ruler of the seven
continents, powerful, wise, righteous, 'proficient in sacred knowledge' (śrotiyā), and possessing every
means of pleasure.
3. Āsvattha, the tree under which Pīra, the Lord of the ritual-oblation-which-is-the-universe (Agni
= Yajña, Praja-pati), takes his stand as a horse, is therefore also explained as Āśva-sthāna, the horse-
stall (Mahāchārata, 85).

According to other exponents of symbolic etymology (Nirukta) it is the horses of the Sun who,
during the long night of the journey upon the way of the Ancestors (pitṛyāna), rest, in the under world
(yama-loka) beneath a Pippala tree, therefore called Āśvattha. But this explanation can evidently
not be applied to the World Tree.
Asvattha" न भोजिवि स्थानमहे सत्यवस्थतः। Though it survive for thousands of years, this world may not, of its own merit, endure another day: Like a bubble delicately perfect it has in itself no hope of lasting.

The snake imagined in a rope, however long the illusion may last, does not in itself deserve to remain an instant: it disappears as soon as light shows the real nature of the rope. So the World Tree disappears when ignorance is done away by perception of Reality (tattva jñāna). From this point of view, the world is described as everlasting so that every effort may be made to attain knowledge.

The Changeless Root

Though all agree this world is full of misery, some dispute that it is false. They argue that as a golden ring is nothing but gold, so a world born of Truth must be true; but this is contradicted by experience and by Revelation. Though the ring be of gold, as ring it is illusory; clay also is true, indestructible; but the pitcher made from it is destructible, illusory.

वाचार्मण विकारे नामवेवं शून्तिकेत्येव सत्यम्।

"The object shaped exists only by speech, is but a name; it is the clay that is real."

When, moreover, one sees greater and greater particularisation in the succession of effects and less and less in the hierarchy of causes, one is obliged to accept that qualified manifestation arose from the Unqualified. The whole universe came forth from the Brahman and is the Brahman; but this does not mean it is the Brahman without restriction, only that it is nothing other than the Brahman.

Even so, the question may remain: when the untrue, unconscious Tree, the transient world of grief, arises in the self-illumined joy of Consciousness, does this not imply some kind of evolution, some transformation in that Absolute; for, without some alteration in its root, how can the tree grow? The answer is given in a beautiful verse of the Bhāgavata Purāṇa:

स्वत्तोपूर्वत्त्वतिष्ठितं समानान्तिबद्धं ब्रजाधिकारं।

"Because it rests in Thee, the Ever-present, who art beyond wish or quality or change, the universe seems to have from Thee its birth,
existence, consummation. So it is that Thou art both the cause of manifestation and its causeless Principle.”

This “Beyond” does not evolve (parināma) like a worldly cause, but, since it is the ground of that apparent transformation (vivartta) which is the world, it is called the Root. Just as through ignorance, a rope is made the basis of an imagined snake, so through the beginningless ineffable Root-Ignorance which is Nature (Prakṛti) the Pure Self, the Supreme Principle (Śuddha Paramātma-tattva), is made the cause of the Universe.

Leaves, Buds and Branches

That the Vedic rhythms are the leaves means that the world bears flowers and fruit through the Revelation: without them it lacks true harmony and beauty. As a tree is protected by its leaves, so is the world by the original and the later Revelation (śruti-smṛti), through which eternal law is known. “The whole universe rests upon divine law” चतुष्कोणोऽमृतस्य जगत: प्रतिष्ठा।

The fifteenth chapter of the Gītā continues its descriptions of the Tree:

अयःस्वः प्रस्ततात्स्य शार्का गुणमन्द्रः कविषयवर्धकः ।
अयंस्व मुलान्यजन्तुस्यतानि कस्मादवश्यकीि मनुष्योऽधि ॥

“Above and below spread forth its branches, fostered by the three tendencies of Nature, having for its buds the domains of sense. The roots, binding by deeds, extend below throughout the world of man.”

The branches take their strength from the ascending, expanding and descending tendencies (sattva, rajas, tamas) through which all beings reach their full development. And just as buds put forth from the branches of a tree, so bodies, which are the result of deeds develop spheres of perception (tanmātras), sound, touch, sight, taste and smell. Although the ultimate root or immanent cause of this world is the Brahman, the Principle itself, the World Tree has secondary roots, the

1. Like milk into curd; the process of manifestation from the cosmological (Sākhya) point of view.
2. Like rope into snake; the process of manifestation from the metaphysical (Vedānta) point of view.
passions, which bind by the results of action. To obtain pleasure or the means to it, some perform rituals like Agnihotra, the oblation to the household fire, as ordained by scripture, while others steal wealth or wives against the ordinance. Or men act unlawfully to escape from pain. Pleasure and pain, moreover, themselves result from conformity with the law or divergence from it; and from this again new passions arise. This endless cycle stabilises the world so that no tempest can shake it.

Although the passions exist even in the heaven of the gods, they are binding only in the world of man, for it is only there that deeds bear fruit.

Another description of the Tree

एकायनोपरि विद्वद्विसूक्ष्मतन्त्रसः पञ्चविंशः पञ्चालम । सततवमाणिविदपो नवास्थो दशच्चदी विकारो दशाविद्वः ।

"This first of trees has one ground, two fruits, three roots, four saps, five kinds, six phases, seven barks, eight branches, nine hollows, ten domes of foliage, two birds. Thou art its very being, its progenitor; thou art its tabernacle and its grace."

(Bhāgavata Purāṇa)

The one Root Nature (Mūla Prakṛti), the original equilibrium of the ascending, expanding and descending tendencies, is the ground on which the tree grows.

Pleasure and pain are its two kinds of fruit, and the fruits themselves are numberless.

The three fundamental tendencies, [once unbalanced,] are its roots: the World Tree stands on the strength of Illumination (prakāśa, which is ascending, sāttvika), Agitation (halacala, expansive, rājasika) and obstruction (avaśthambha, descending, tāmasika). These three roots are sometimes called pleasure, pain, delusion (sukha, duḥkha, moha).

The four aims of human life (puruṣārtha), righteousness (dharma), riches (artha), pleasure (kāma) and liberation (mokṣa) are the saps of the Tree.

Its five varieties are the five kinds of perception (jñāna) for the world is experienced in the modes of speech, touch, shape, taste and smell: five worlds, in effect, are perceived through the five senses.

To arise, last, grow, mature, decay and be destroyed are the six phases of the tree.
Its barks are the seven constituents of the body (dhātu): [lymph, blood, flesh, fat, bone, marrow, sperm].

The five elements (mahābhūta) with mind, intellect and the Ego (ahāmkāra) are the eight branches of the tree.

The nine doors of the body are its hollows, the vital energies (prāṇa) its domes of foliage.

The Two Birds

In the tree, whether considered as the world or as an individual, dwell two birds, the supreme and individual selves. Because he is to be sought through the manifestation, the Supreme Self is said to live in the World Tree.

(RV. I. 164. 20; Muṇḍ. Up. 3. 1. 1.)

"Two beautiful birds mated good companions cherish the same tree. One enjoys the fig, the other merely looks without eating." The Bhāgavata Purāṇa (XI, 11, 6-7) tells us more about them:

These two birds, alike, each others own, as they desire have made their nest in the tree. One eats the fig, the other waxes strong without food. The knower who does not eat knows Himself and all that is; not so the eater of the fig. He who makes himself one with ignorance is ever bound, he who is one with knowledge ever free.

God and creature are alike, for both are of the self-same substance of Consciousness (cit-rūpa), and since they are always in agreement they are friends.

1. These energies govern breathing (Prāṇa), excretion (Apāṇa), diffusion (Vyāna), digestion (Sāmāṇa), coughing (Udāna), eructation (Nāga), blinking (Kṛkāla), yawning (Devadatta), and assimilation (Dhananjaya).
"The sage, the knower, like a man awakened from dream, stands aloof from the body even while he dwells in it. But the wrong-headed (kumati), like a man dreaming, even though he also does not really live in the [unconscious] body, yet believes he does. There can be no qualities apart from the senses and their objects, therefore it is really only qualities in the shape of objects which are grasped by qualities in the shape of senses; but the ignorant attributes them to himself while the sage is free of this conceit. The liberated man, though he stand in the midst of Nature, remains unsoiled (nirlepa) like light or space.

Other Descriptions

The Kathā Upaniṣad says:

उथवं मृगोवाक्षांच याप्रग्रहतः सनातनः ।
तदेव शुद्धं तदृश भ्रान्तेषां तदेववाग्नुभुतेषु ॥

"This fig tree roots above and branches below is from ever lasting to ever lasting. Pure light verily it is called." (2.3.1)

The glorified Śaṅkaraśārya, commenting on this 'hermetic formula' tells that it is from the knowledge of the cotton (the result, the particular सूक्ष्म-व्यवस्थः) that one may reach knowledge of the root (the cause, the general सूक्ष्म-समयः) and so it is that the World Tree extending from the Unmanifest to the inanimate has roots above and branches growing down.

[In the Purāṇas we find:]

हे अत्य बोधे शतमूलकिनालः पञ्चस्वरः पञ्चस्वरसम्बूतिः ।
दृशीक शाब्दो हि सुपर्ण नीयङ्क वलक्षोऽविधोऽविधे प्रविष्टः ॥
अद्विती चैव फलस्मार गुहो आर्येचर एकमरणवासः ।
इंसि या एकं भुविकामित्यम्यायं वेद स वंदे च वेदम् ॥

"(The Tree) has two seeds, a hundred roots, a threefold trunk, five barks giving forth five saps, eleven branches, two nesting birds, three barks, two fruits that reach to the Sun. Vultures and villagers eat one of these fruits, the other is eaten by hermits and swans. He who knows from

1. Semen (श्रुत्स) here means pure light. In his commentary Śaṅkaraśārya tells:

The root of this world is semen (श्रुत्स), the White (ध्रुष्), the pure (श्रुत्स), the luminous (ध्रुतिवाच्य, i.e. the self-brilliance of the Conscious (श्रुत्स)).
those worthy of reverence that One of many forms which is of the very stuff of Illusion, he knows true knowledge."

Here, the two seeds are virtue and vice (pāpa-puṇya) and numberless desires are the roots. The fundamental tendencies of Nature are the threefold trunk, the five elements are the forks. The flowing saps are the five domains of the senses; the five senses of perception and the five of action with the mind are the eleven branches. The two birds have made on this tree a nest which is the heart.

The coats of bark are [the three humours of the body], wind, bile and phlegm; the two fruits, as before, are pleasure and pain.

The tree spreads upward to the sphere of the sun. Only these are freed who pass beyond it.

The vulture (the man of greed) and the villager (man of the world) eat the fruit grief; the hermit (the man of renunciation) and the swan (the man of knowledge) eat the fruit of joy.

In the Mahābhārata we find (Asvamedha Parva 47):

आयुष्य सब जीवानां भ्राह्मणः सनातनः।
पति भ्राह्मणं वैव भ्राह्मण विरित नितयः॥

"This Original, everlasting Tree is the livelihood of all that live. In that Primordial forest the Creator ever wanders."

In other texts:

अयुष्यमूलभूमवस्तुमूल्याः पृथिवीविद्यात्।

"The root from which it springs is the Unmanifest by whose grace it endures. Its trunk is Intellect."

इन्द्रायनंकोटरः॥

"The senses are the hollows inside it."

महामूलविशालमिथिवेदपतिवस्त्राय।
धर्मोधम ज्ञानवस्त्र ज्ञानवस्त्रानादर्थः॥

"The primal elements are its branches, its wealth of leaves the pastures of the senses; virtue and vice, fair flowers develop into fruits of pleasure and pain."

And Śrī Tulsi Dās has sung:

गुलर तन तुमाल तव माया, लागि फल ब्रह्माण्ड निकाय।
तेहि फल मतल कस्त कराला, तव दर दरत रहत सोइ दाला।

"O merciful, the fig tree is thy magic, the fruit of it is the whole

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1. Illusion (māyā) means either ignorance (avidyā) or knowledge (vidyā); it should here be understood as 'vidyā'.
universe. And he who devours this fruit is fearful Time. Yet Time himself lives in fearfulness of Thee".

The Limitlessness of the Tree

No one can find the beginning, end or middle of the Tree. For thousands of years the Creator Brahmā went searching for its root but had to come back unsuccessful. The four Vīpaścits' spoken of in the ‘Yoga Vaśiṣṭha’ who were possessed of supernatural speed and power, tried for thousands of ages, even for aeons to find its limits, but in the end had also to give up hope. Vaśiṣṭha explains that one-fifth of every atom is the sense principle (tanmātra) of touch; this is the support of air, in which the life-breath dwells. Within the life-breath is Mind and in Mind the universe. In the universe again, are numberless minds; in each mind a Universe. How can anyone find the beginning or end of a universe that is Mind?

The five stages of earth, seed, sprout, tree and fruit correspond with the five phases of pure Principle (Śuddha Brahman), Causal Principle (Kārana Brahman), the Embryo of Splendour (Hiranyagarbha, the aggregate of all supersensible states), the Glorious (Virāt, the aggregate of sensible forms, the Body of the Universe), and the Dark Lord, Kṛṣṇa, the Fruit, [Divinity made manifest within the universe]. Just as the essential of earth, seed, sprout and tree is condensed in the fruit, so all is in Śri Kṛṣṇa; and just as a fruit potentially contains

1. Vīpaścität, a devotee of Fire, when his kingdom was in danger entered the flames, then reappeared with four independent bodies. Having recovered the kingdom, the four Vīpaścits set out, North, South, East, and West, to find where the world ends.

2. The manifestation taken as a whole (samaṣṭi) is the Macrocosm or God (Īśvara).
   His physical body (the universe) is called Virāt, the Glorious.
   His supersensible body (the aggregate of all supersensible states) is Hiranyagarbha, the "Embryo of Splendour".
   His Consciousness (universal consciousness) is Īśvara (the Ruler) or Vaiśvānara (pertaining to the Universal Man).

   In the microcosm (vyāṣṭi), the individual being (jīva), these correspond, respectively, with:
   Viśva (the dwelling), the physical vesture (annamaya-kośa);
   Tañjas (subtle, radiance), the supersensible body composed of the vital, mental and gnostic vesture (prāṇa-mano-vijñāna-maya kośa);
   and Prajñā (awareness), the individual consciousness, the vesture of pure joy (ānanda-maya kośa).

   In the individual being, the physical body corresponds with the waking state, the supersensible vesture with dream, unqualified awareness with sleep.
innumerable seeds, germs and trees, so in Śrī Kṛṣṇa there exists the potentiality of numberless causal Principles and so forth.

"What am I,—a body seven spans long, enveloped in the Macrocosmic Egg by abysmal Darkness, by Cosmic Intellect, by Individuality, by Ether and the moving spheres, by Fire, Water and Earth—before your greatness, in the pores of whose skin innumerable Universes whirl like atoms?"

And like an old broken tree which, in the dark, gives rise to the doubt: Is it a tree or a man? This world gives rise to false imaginations. Some see in it a conglomeration, others a becoming or an evolution, some a reality and others an illusion, till nothing is agreed upon except that somehow it exists. Its arising, continuance and disappearance cannot be explained in words.

The Gītā says (II, 45):

"Veda has for its subject the three tendencies of Nature on which the world is based". This does not mean that by knowing the world one knows the Veda; even if it were possible to know the world completely. But, even in a thousand lives, one could never attain complete particular knowledge of every plant in a single country, still less of every grain of sand or every snowflake, or of all the stars in the sky, to say nothing of the endless marvels of the supersensible universe.

Through all Knowledge (all Vedas) it is I who am to be known.

The Cosmic Being as Brahmā pervades the physical universe as Vīśṇu, the supersensible world.

When the Cosmic Being, as Śiva sleeps, the universe is re-absorbed into non-manifestation.

"Awake it is Brahmā, dreaming Vīśṇu, in deep sleep the Arch-God (Śiva)."

1. The length of any human body is three and a half of its own cubits (the distance from the point of the elbow to the tip of the middle finger), or seven of its own spans (the maximum reach from the point of the thumb to the tip of the little finger).
2. "And darkness [was] upon the-face-of [the] abyss." (Genesis 1.1.2)
"By knowing the One, all is known."

To know Knowledge (Veda) is to become one with the Brahman, the Principle of all.

The Ground of the Tree

Just as a dream or a mirage, though clear and specific, does not resist deep scrutiny but, when its basis in reality is seen, in itself, disappears; so when the Supreme Principle, the support of all, is understood, the World Tree vanishes.

"By knowing whom the universe, vanishes, like the illusion of dream on waking."

For though the world, like dream or fancy, has in itself no real status (sthitā) and is nowhere truly established (pratiṣṭhā), yet it is wrong to say, [as demonic (āsura) natures do (Gītā XVI, 8)] it is devoid of all real basis, for the Principle is the support (adhiṣṭhāna) of all.

Although knowledge of the world can never in itself be knowledge of the Absolute yet, as an effect is a means of knowing a cause, the World Tree can be the means of knowing its Root, the Supreme Self.

"Through the burgeoning of Earth, trace out, O peaceful heart its root the Water; Through the burgeoning of Water its root the Fire; through Fire its root Reality."

"He who knows the World Tree to its root, grasps the secret of all knowledge. He is freed [from bondage to manifestation]."

(Gītā XV, 4)

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1. Saumya means one whose mind is at peace, in whom the ascending (sattvikā) tendency is predominant. It is thus applied to a Brahmāya.
"Then that resort must be diligently pursued whence those who have entered it return no more."

The Felling of the Tree

Then, the tree must be uprooted,

पतचित्तवा च सित्वा च ब्यानेन परमासिना।
तत्तथात्मरतिप्राप्यमे परासात्वानः पुणः॥

"Cutting and rending it with the sublime sword of Knowledge, then attaining delection in the Self whence there is no return."

For the word वृक्षा, tree, is from the root व्रक्ष to be cut. दृष्टि वृक्षः "It is cut, therefore it is [ called ] a tree". And again: इस च commodio "What is cut is a tree."

The World Tree is to be "hewn down with the trenchant weapon of non-attachment" अग्नूङ शब्द े ते ते ते ते ते ते.

As was already explained the Pure Principle is not in Itself the root of this world: it is only through ignorance and illusion that It seems to be. In other words, the root of the world is the Principle qualified by Nature, so to uproot the World Tree, really means to root out ignorance.

पवं गूङपालनयों कमरा विशिष्टमारण शिलेन धीरः॥
विशिष्टमर्यायामहं समयं चात्मानस्य प्रजाक्षाम॥

"He who thus with the cold steel of true knowledge sharpened by veneration for the teacher and by love of God, firmly and heedfully hews down the resort of life having attained the Self casts away his weapon."

1. The resort of life is the subtle body (liṅga śarīra) through which the individuality is sustained in its transmigration through many forms. It is composed of seventeen elements:

| five vital energies (prāṇas) |
| (others say: five sense-principles, tanmātras) |
| five senses of perception (jñāna indriyas) |
| and five of action (karma indriyas) |

forming the vital vesture (prāṇamaya koṣa)

mind (manas)

intelect (buddhi which includes Ahaṁkāra, I-ness) forming the gnostic vesture (vipaśyānāmaya koṣa).

Of the other two vestures of the soul, one, the physical body (annamaya koṣa) sustained by food does not transmigrate; and the other, the inmost vesture of pure joy (ānandamaya koṣa) is unchanging and indestructible, and remains when the subtle body, in its turn, is destroyed.
THE ORIENTATION OF INDIAN TEMPLES

by St. KRAMRISCH

Hamlets, villages, market towns, citadels, cities, capitals and suburbs, all these walled habitations, as the Prasāda itself, are laid out on the Vāstupuruṣāmaṇḍala, and the temples of the village or city have their place assigned on it. In practice, equal in Śaiva and Vaiṣṇava texts, the main position of a Śiva temple is in the North-East, inĪśana, and that of a Viṣṇu temple in the West, in Varuṇa; the Centre is the place for the temple of Brahmā, or of Viṣṇu or of any other form of God as the main divinity of the temple. Buddha and Jina temples, which belong to the heretics, are assigned generally to the South-West. On all other points there is as much agreement as diversity in the different Śāstras, so that the 'Kāmikāgama', ch. XXVI. 6 lays down that in this, the 'Kāmikāgama', the situation of a temple of Gaṇeṣa is in the West, or South-West or between the North-West and the North or elsewhere. In the chart on p. 209, several texts are put together which are more or less explicit on the positions of the temples. Where the temple of a divinity is set up depends upon the branch and phase of the tradition followed at the time and place of building. The worship of the Mothers, for example, whose temples and images the 'Kāmikāgama' gives as stationed in the North-East or the North

1. The following are enumerated as walled habitations (prākāśakaravasthāvasa) in the I.P. III. ch. XXV, 19-29: Grāma, Kheṭaka, village; hamlet; Kharvaṭa, market town; Dura, citadel; Nāgarā, town, city; Bājadhānī, capital; Pāttana, town; etc. etc., and Śākānagāra, suburb. In most of the other texts, all these walled settlements are implied in the designation "village, etc." (grāmādhi).

2. E.g. the Vāstupuruṣāmaṇḍala given in the Isānāsivagurudvapaddhati (III. ch. XXVI, and trans. in JIJOA, vol. IX. p. 109 f.) and the positions of its divinities.

3. E.g. ib. XXVI. 7, where the position of a temple of Durgā is given in the South or South-West or North-West or East or between the South and South-West.
### The Position of the Temples in Villages, Towns, etc.

<table>
<thead>
<tr>
<th>Texts</th>
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<th>SW</th>
<th>W</th>
<th>NW</th>
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<tr>
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<td>Śrī</td>
<td>Vahni <em>(Agni)</em></td>
<td>Sūrya</td>
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<td>Sūrya</td>
<td>Śiva <em>(Isāna)</em></td>
<td>facing E.</td>
<td>ādiva Dharma</td>
<td>Vīṣṇu</td>
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<td>Sūrya (Aditya)</td>
<td>facing W.</td>
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<td>Vīṣṇu</td>
<td>Śiva <em>(Parjanya, Udita)</em></td>
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<tr>
<td>Vīṣṇu</td>
<td>Gaḍēṣa <em>(Bhrūga)</em></td>
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<td>Sāvatīkāra</td>
<td>Savitri</td>
<td>Maruta</td>
<td>Gaḍēṣa <em>(Bhrūga)</em></td>
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<td>Śrī</td>
<td>Āgni</td>
<td>Maruta</td>
<td>Śrī</td>
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<td>Śvātīkāra <em>(Bhrūga)</em></td>
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**Centre**
- Brahmā [B]  
- All the gods

**Intermediate Directions**
- Śiva
- (in inner rim)

**8 Directions**
- Lokapālas  
- Viṣṇu; but not in the North;
- Pañcaśiras

**Outside**
- Viṣṇu; but not in the North;
- Bhairava

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1. A and B indicate different traditions recorded in the 'Isānaśiva gurudvapa-paddhati'.
2. The words within brackets denote the plots of the divinities of the Vāstupuruṣa-māṇḍala.
3. Gūha, Skanda, Sāmmuka and Subrahmaṇya are names of Kāśṭikēya.
4. The chart shows the positions of most, though not of all the temples given in the respective texts.
(XXVI. 8), and other texts in the South is said in this text (ib. 18) to have been performed but recently by the Brāhmaṇas. Apart from the unalterable positions of the Śiva principle in the North-East, Sūrya in the East, the Viṣṇu principle in the West and the Brahmā principle in the Centre, the temples of the many forms of God are frequently assigned more than one place even in each single text.

The latitude in assigning positions to the temples contrasts with the definite rules for their orientation; the margin of their application however, is equally broad. Given any position it is of primary importance where the temple faces. In the orientation of the temples three principles combine (1) the orientation proper, for the temple should face the East, the rising sun; (2) the temples should face the Centre—of the settlement, the village or town, etc.; (3) God in his peaceful (śānta) image should be located in and turned towards, the habitations of men; God in his wrathful (ugra) image should be situated outside and face away from the habitations of men. The ‘ugra’ aspect of the image is linked up with the quality ‘tamas’, which implies destruction.

The cosmic orientation, with reference to the Sun; the metaphysical orientation, with reference to the Centre of the Vāstupurūṣamāṇḍala and of every settlement of men; and the orientation with regard to man, the living being (jīva), his welfare and peace are the considerations which determine where a temple faces.

The first consideration is primeval and remains the basis of orientation. Most of the preserved temples face the East, others the West. It is therefore said that it is best if a temple has its door to the East and that it is good if its door is to the West. While however it is admissible that a temple faces South it is not desirable that it should face North.1 This is observed also when the second consideration prevails, for it is said that the temples in the East, should face West, and those in the West should face East, and the others clockwise (pradaksīṇa) so that those in the North face South but those in the South should not face

1. 'Vaikhānasāgama' ch. II.—The cremation ground is to the north of the village, etc. and the Čāṇḍālas live there. The contagion of the dead body, its impurity, must not enter the temple.
North (‘Samarāṅgaṇasūtradhāra’, X. 112). Not only the temples in the
town should face its centre but also those outside the town. If for some
reason, such as the terrain, etc., the temple and with it the image in the
Garbhagṛha have to face away from the town this is remedied by painting
on the wall of the temple a likeness, identical in all iconographic matters
to the image in the Garbhagṛha. The painted proxy on one of the walls of
the temple then faces the town, for in paintings, the gods may face in
any direction (ib., X. 125; 128).

The temples and images that are turned away from the village or
town are those which are not auspicious, says the same text (ib. 124). The
terrific forms of Viṣṇu, should be placed outside the village or in the forest
(‘Kāmikāgama’, XXVI. 25) and temples of Narasimha should face away
from the village (‘Mānasāra’, IX, 270) whereas all other images and temples
of Viṣṇu should face the village or town (ib. 268). While images of
Rudra are not to be placed within the settlements of men (‘Kāmikāgama’,
l. c., 30), the image of Śiva in the North-East should also be outside and
face away from the town (‘Īsānaśivagurudevapaddhati’, Pt. III. ch. XXV. 68).
The latter applies also to temples of Śiva in the intermediate
directions. Only those situated in the East or West should face the
village, town, etc. (‘Mānasāra’, IX. 271-75). The latter two situations are
not particularly those of Śiva temples; should these be built there,
they conform with the rule valid for the other temples; like the gods of
the Vāstu-puruṣa-maṇḍala they all face the Brahmasthāna, the Centre.
In its principle however, which is Tamas, destruction, the Śiva temple has
its proper position in forests and on mountains (‘Samarāṅgaṇasūtradhāra’,
X. 122). Even though a Śiva temple may be placed not only in the outer,
but also in the inner border of the Vāstu-maṇḍala, it should face away
from the settlement of men.

The triple orientation, towards the Sun, towards the Centre
and towards man, provides for diverse contingencies, so that in a late
text, the ‘Mānasāra’ (l. c., 276), it is said that the main door of the
temple of all images—except those of Viṣṇu, which always (but not in his
terrible aspects) face the town, and those of Śiva which, as a rule, face
away from it—may be in any direction. In truth, wherever the temple faces,
to a Tāntrik the East lies between him and the image:

पूज्यपुज्यक्रियामात्रे प्राची तु परिकल्पनेद।