



VII.9. Mathura

GEOGRAPHICAL FEATURES OF MATHURA REGION

Mathura is one of the most important ancient settlements of the region popularly known as *Braja-ksbetra*, a term which in spite of occurring in ancient Indian literature became popular only in the medieval period. The old district of Mathura lay between Lat. $27^{\circ}14'$ and $27^{\circ}58'N$ and Long. $77^{\circ}17'$ and $78^{\circ}12'E$ and covered an area of about 3625 square km. The area of the modern Mathura district is 3340 square km with a population of over 2 million). The whole district of Mathura is a part of Yamuna plains. The area in the north is slightly higher while in the south and south-east it is less than 600 feet MSL. Hence the slope of the land is from north to south and south-east direction. In between this area the River Yamuna flows from north to south.

From geo-morphological point of view, the region of Braj can be divided into three categories: 1. the plains; 2. the hilly area; 3. the *khadar* area. The plain area is much larger and is spread on both sides of river Yamuna in the east and in the west. The area to the east of Yamuna (the trans-Yamuna tract) is more fertile in comparison to the area to the west of Yamuna (the cis-Yamuna tract) as trans-Yamuna area comprises of *domat* soil (fertile clay). In the cis-Yamuna area, there are many fertile pockets like near Tarauli, Bathain-Jab, Mora-Sakna etc. Generally the soil of cis-Yamuna tract is *piliya* (a light yellow loam). Vegetation in the district is of a dry-deciduous type and the original scanty tree species include *Faras*, *Pilu*, *Chheokar*, *Reonj*, *Babul*, *Kharjal*, *Kadamb*, *Karil*, *Hins* and *Bansi*. Other trees and shrubs do not differ from

those in Gangetic doab, though, hilly outcrops at Barsana and elsewhere produce some *Dhau*, *Kadamb*, *Paserid* and *Pilukhan* (Joshi 1968: 14).

The hilly area is limited to the west and north-west of Braj. These low hills (height less than 100 feet) are the off shoots of Aravalli and are considered of religious significance. The important hills in the region are: Govardhan, Barsana, Nandgaon, Kaman, Sikri and Charan Pahari. Khadar area is situated on both sides of River Yamuna in the form of thin strips and is made of soil brought in by river floods but the undulating sandy area near the river channel is also known as *khadar* land.

Among the major rivers and streams in the region mention may be made of Yamuna, Karban/Jhirna, Patwaha, Sengar/ Arind, Gambhiri, Agra Canal, Govardhan Drain and Manth Branch of Ganga Canal. Among these rivers Yamuna is the most important along which lie the major sites of Mathura, Vrindavan, Manth, Nohjhil, Gokul, Mahavan, Shergarh, Surir, Agra and Bateshwar. Frequency of ancient sites is quite high along the Govardhan Drain and the Manth Branch of Ganga Canal. Gambhiri in the major part flows in Bharatpur district. Location of Mathura district is the most important factor which makes it archaeologically and culturally so important. It is situated at the entry-pot of Ganga-Yamuna doab. The trans-Yamuna region is climatically a part of the Ganga-Yamuna doab, while the western part of Mathura district with Aravalli off shoots is more associated with the geographical and climatic conditions of Rajasthan. Moving from north to south, it changes from the climatic conditions of fertile Haryana land to a mixed climatic condition. Because of its geographical location as a nodal point various ancient routes passed from here which have now taken the shape of highways and railway tracks, though some have lost their importance

because of modernization. One route coming from Indraprastha and going to Malwa-Gujarat region passed from here, following almost the present day route. One route went to Vidisha via Pawaya; one went to Kausambi following the course of Yamuna in the east while one very important but less studied route went from here to west and north-west Rajasthan via Kaman, Firozpur Jhirka; other routes went towards Bareilly region crossing Yamuna and Ganga and met with the Mauryan royal highway in between. Thus Mathura district served as meeting place for the desert with doab, hills with plains, north with south and east with west. All these routes were so important that Mathura became an important centre for international trade, position of which, during the Islamic period was acquired by Agra and Delhi, both having quite the same geographical and nodal importance. Location of ancient routes passing via Mathura is also clear from the study of Indian Railways as Mathura is still the biggest junction point of Indian Railways and possibly the only place in the country from where trains can be taken to reach any place.

MATHURA IN ANCIENT LITERATURE

The epic literature, especially the *Mahabharata* is stocked with references to Mathura and the Surasena region. The genealogy of solar and lunar dynasties describes several kings who held sway over this land. Panini's *Ashtadhyayi* mentions a number of references related with Mathura (all indirectly), some of which have been further elaborated by Patanjali while elaborating the *sutras*. It says that the glory of Mathura owes to the traditions of *Mahabharata* (IV.1.14, IV.2.82 and VI.2.34). The place has been described as a stronghold of Andhaka-Vrishni clans (Agrawala 1952: 361-64). In Patanjali's *Mahabhashya*, a text composed



Fig. 1. Naga shrine, Sonkh.

during c. 2nd century BC, Mathura is mentioned on at least eight occasions (Keilhorn 1962 Vol I: 1/1/57, p. 144; 1.2.1, p. 192; 1.2.64, p. 244; 2.4.7, p. 474; Vol. II; 4.1.14, p. 205; 7.1.1, p. 239; 7.2.62, p. 299) and at one place the text admires the general conditions of this place saying that the people were happy and good looking and probably better off than the residents of Sankasya and Pataliputra (5.3.57). *Manusmriti* (II.19) mentions Vraja region (Surasena) as part of Brahmarshi country. The *Garuda Purana* (II.28.3) mentions Mathura along with six other most holy cities of India. Uttarakanda of *Ramayana* (Sarga 68-70) deals with the incidents of Madhupuri, the fight of Satrugna with Lavanasura and the establishment of the capital city Madhura. *Harivamsa Purana* (54/56-62), which is one of the early *Puranas* provides some important information about Mathura. It also tells that this city was established in the forest area of Madhuvana by Satrugna after killing the demon Lavanasura there. It tells about the fortification wall, the moat, the crescent shape, gardens, high rise buildings, prosperity (in terms of crop production, availability of precious jewels) and the commerce of the city.



Fig. 2. Katra Bodhisattva-Buddha.

Padma Purana (73/44, 45) mentions Mathura to be even holier than the holiest city of Kasi. It further adds that Mathura is the city of Lord Vishnu and is worshipped by many deities as a *sanatana puri* (583/12, 13, 14). In *Varaha Purana* (152-8, 9), Lord Varaha tells the Goddess Earth that no place on earth, space or nether world is so liked by him as is Mathura which is higher than the heaven in its reputation for being the birth place of Krishna.

Even Buddhist literature as well as the Jaina literature is replete with references about Mathura. *Majjhimanikaya* (Madhuriya Sutta 2.4.4) mentions that once upon a time Mahakatyayana used to reside at Gundavana in Madhura. The *Dipavamsa* account that 'in the past, Sadhina and twenty two of his descendents, the last of whom was Dhammagupta, ruled in Madhura' (Dipavamsa III 1879: 21) is also of some significance. *Ghata Jataka*, composed in Sri Lanka, mentions a much altered story of Krishna legend, actually, for which Mathura is famous as such. The sources enumerate Surasena in the traditional list of sixteen

janapadas and include Madhura within that kingdom, but there is no specific mention of it as a capital city. The Mula- Sarvastivada *Vinayavastu* places Mathura lying near Bhadrasva and Ojala, all within territory of Surasena kingdom. It designates the latter as the first kingdom (*adi rajya*) and hence was known as *Mahasammta*, 'the Great Elected' (Gilgit Manuscripts 1947: 3). *Lalita Vistara* (1977: 21-22) mentions Mathura city along with other great cities like Hastinapur. *Milinda Panho* mentions Mathura along with Ujjaini, Saketa, Magadha, Surattha, Kotumbara, etc. (1885-1900: 211). In Beal's translation of the Chinese version of *Abbinishkramana Sutta*, Mathura has been styled as the capital of whole Jambu- dvipa (Growse 1883: 105).

The early Pali canonical texts are silent on the issue of the Buddha's visit to Mathura region but one passage in *Anguttaranikaya* does say that he journeyed along the highway between Madhura and Veranja (II 1885-1900: 57). The Mula-Sarvastivada *Vinayavastu* repeats the prophecy of the Buddha regarding the founding of Natabhata vihara and the advent of Upagupta in Mathura (*Gilgit Manuscripts* 1947: 3).

ARCHAEOLOGICAL SURVEY OF INDIA EXCAVATIONS AT KATRA KESHAVDEV

In 1953, M. Venkataramaiyya and Ballabh Saran of the A.S.I. (*Indian Archaeology - 1953-54 - A Review*) conducted the first systematic excavation at the Katra site. This excavation was done in a very limited area. The site for the excavation was selected for its rich tradition in terms of literature, culture, inscriptions, coins, terracottas, sculptures and the surface find of P.G.W. sherds. The excavators were inclined to excavate the site also because of two rings of mud-ramparts, one elliptically shaped and the other quadrangular suggesting citadel. The



Fig. 3. Jain chaumukhi.

detailed report of this excavation would possibly never come out.

The excavators laid a small trench at a distance of about 500 feet to the north of the superimposed mosque of Idgah. The natural soil was touched at of depth of 42 feet and their last point was the portion of earth composed of hard clay and *kankar* bands. The most striking finding of the excavation was the presence of



Fig. 4. Dvimukha Sivalinga, Aring, Mathura.

handmade potsherds besides the natural soil. No fragment of P.G.W. was found from the layers

although some pieces were collected as surface finds. It was possibly because of very limited area of excavation. The six feet deposit above the natural soil revealed plain grey ware and black slipped ware pottery types along with normal red ware pottery. This phase would have dated to pre-600 BC period. No N.B.P.W. sherds were found in this deposit. The other antiquities from this layer included terracotta discs, balls, beads, a boat-shaped bird and perforated pottery.

The next period was distinguished by the occurrence of N.B.P.W. and in the chronological sequence it can be divided into three periods. The earliest remains include bamboo and reed huts with slightly baked or unbaked bricks, bone styli or needles, carnelian amulets and beads. The terracotta objects included grey mother goddess figurines and animal figurines including a dog in red colour. The ring-wells also came into existence at the site for the first time in this level. The second phase of finds was characterized by square copper coins, cylindrical terracotta beads, ear ornaments, etched carnelian beads, copper antimony rods, terracotta mother goddess figurines in grey colour with appliqué treated girdle, elephant figurines with lozenge shaped eyes and bodies decorated with punched, stamped or notched circlets, monkeys with three legs (mostly in red colour). No complete plan of a house had come to light but well laid out walls, drains and ring-wells suggest a high degree of planning. This period can be assigned a date ranging between 6th century BC and 3rd century BC.

The site was deserted for a very short period of few years after late 2nd century BC as the sealed ring-wells indicated. The third period is typified by a large variety of beads of semi-precious stones like agate, carnelian, lapislazuli, jasper, amethyst as well as beads of shell,



Fig. 5. Vaikuntha murti.

faience and copper coins, some of which belonged to Kushan period. Stone caskets and a turquoise blue glazed finial were also found in this period. The fourth period assignable from AD 100 to AD 300 is to be identified by the terracotta figurines of dwarfs prepared by using double mould technique. The fifth and the last period belonged to the Gupta period as evidenced by coins, terracotta, sealings, Naigmesha, elephant and horse riders.

MATHURA EXCAVATIONS OF 1973-77

Under the supervision of M.C. Joshi, A.S.I. conducted excavations in Mathura from 1973-74 to 1976-77 at nearly fourteen sites in different parts of the city (*IAR 1973-74 to 1976-77*). These excavations unfolded a cultural sequence divisible in following five periods:

Period I: from c. 6th century BC to closing decades of 4th century BC.

Period II: from closing decades of 4th century BC to c. 2nd century BC.

Period III: from c. 2nd century BC to about the end of 1st century BC.

Period IV: from the beginning of the 1st century AD to about 3rd century AD.

Period V: from c. 4th century AD to the close of 6th century AD.

Some later remains and antiquities were also found in a very limited area but the excavators could not find regular sequence of post-Gupta cultures.

PERIOD I

The excavated data suggested the beginning of the settlement at Mathura right on the natural soil in the form of a small habitation during Period IA around Ambarish Tila (MTR-8), close to Yamuna, towards the northern end of present city; the community used the P.G.W. and associated pottery including B.S.W., though in small quantity. The early settlers of Mathura lived in small huts and in some cases built them on mud platforms. Evidence from the later levels of Period I (Period IB) indicated slight, although insignificant, growth of settlement. A notable feature of the sub-period was the emergence of nearly 17 sherds of N.B.P.W. along with P.G.W. with some new designs suggesting an overlap of the two classes of pottery.

During sub-period IB, the availability of antiquities like terracotta discs decorated with painted parallel strokes or incision along the edges, gamesmen suggesting some kind of indoor game, terracotta *ghata*-shaped and semi-precious stone beads, and a pestle, antimony rods of copper, a few iron implements, bone arrowheads and a circular object (ear-ornament) of a greenish glass were indicative of some general improvement in the living conditions of the community.

PERIOD II

It has been associated by Joshi with the process of urbanization as the mud fortification wall with



Fig. 6. Vasudeva chaturvyuha.

a moat running by the side of it came into existence during this period. The most significant pottery of the period was plain grey ware and N.B.P.W. A number of terracotta mother goddess figurines and animal figurines were found in this period's deposit. Other antiquities of note other than semi-precious stone beads were: square punch-marked copper coins, terracotta discs, beads, gamesmen, skin-rubbers, bone arrowheads, a legged quern carved with *triratna* motif, stone pestles and a variety of copper and iron objects especially arrowheads. The size of the settlement was as extensive as 3.9 square km during this period. Use of mud bricks was quite popular in this period while the burnt bricks were used for few selected structures.

PERIOD III

Joshi termed the Period III as the period of urban refinement. The archaeological material of this

period shows certain signs of urban prosperity like the people used lime plaster for floors and tiles were used for roofing. This period witnessed the last phase of ring-wells, N.B.P.W and grey ware. Red ware was used as the main ceramic industry, some with stamped marks. Most of the items of household use continued with addition of some sculptures, inscriptions etc.

PERIOD IV

Joshi termed this period as the period of cosmopolitanism. This period saw the all round development in terms of material culture as is suggested by a number of Kushan coins, sculptures, inscriptions etc. Sprinkler as a new pottery type came into use.

EXCAVATIONS AT SONKH (HARTEL 1993)

German excavation team under the leadership of Dr. Herbert Hartel excavated the site of Sonkh about 24 km southwest of Mathura. It was one of the better preserved mounds with fewer disturbances in District Mathura. The excavation work at the site started in the year 1966 and ended in the year 1973. The site provided a continuous sequence from P.G.W. period to late medieval periods without any significant break. The concise framework of various periods at Sonkh is as follows⁴⁵-

PERIOD I

It was observed in the levels 37-40. The excavator termed it as P.G.W. and B.R.W. period. The main pottery type of the period was P.G.W. and to a lesser extent B.R.W. Other important pottery types were B.S.W., ordinary red and red slipped ware. Vessels were partly decorated with incised, impressed or applied patterns. At the end of the period coarse grey ware was observed.

PERIOD II

It was observed in the levels 29-36. The excavator divided it in sub-periods of Pre and Early Maurya, Maurya and Sunga cultural phase. The exclusive pottery of the period was N.B.P.W. along with coarse grey ware, B.S.W. and ordinary red ware.

PERIOD III

This period belongs to Mitras and was observed in the levels 25-28. The pottery included red ware continuing from the previous tradition. Some new shapes, especially ovoid shaped storage jars with appliqué cordons and symbols (*svastika*, *nandyavarta*) came into use. Some handles in shape of monkeys were also found. Ring-wells and structures of baked brick came into existence.

PERIOD IV

This period belonging to Kshatrapas and Ramadatta was observed in the levels 23 and 24. The typical pottery of this period was red ware, characterized by definite differences in the shapes like globular water jar, small goblet, beaker. In the end of this period the fashion of stamping the vessels with symbols begin.

PERIOD V

This period belonged to Kushans and was observed in the levels 16-22. The pottery include red ware with the characteristic Kushan stamping of storage vessels, jars etc. with symbolic, floral and geometric ornaments. Moulded small bowl and spouted water jars were also observed in good number.

PERIOD VI

Levels 12-15 of this period were ascribed to Gupta and early medieval period. Red, mostly



Fig. 7. Nagadeva - Balaram.

red slipped ware was the main pottery of the period which was delicately thrown and had

smooth surface with distinct black horizontal stripes. Later on black painted swans and floral motifs were observed. Other important pottery types of this period included moulded bowls with relief ornaments, goblet with moulded bowl and stem, bottles with sprinkler necks and spouts.

PERIOD VII

The medieval period was observed in the levels 8-11. In this period the quantity of pottery finds reduced considerably. Decoration was mainly of black painted stripes, swans and peacocks. Cone lid with knob replaces bell-shaped lid as well as bowl lid. Besides appearance of thin grey ware with white slip, incised and painted variety were observed.

PERIOD VIII

This period found in levels 1-7 belonged to Late Mughals and Jats. The main pottery was black on red painted pottery. In levels 6, 7 and 8 moulded grey and red jars and bottles with relief decoration were found. Appearance of hookah was a new significant feature of this period.

MATHURA SCHOOL OF ART

Besides being a great urban centre, Mathura is renowned worldwide for being one of the greatest art centers of ancient India. Mathura has provided two gigantic Yaksha sculptures from Parkham and Baroda village belonging to c. 3rd century BC which are considered to be the oldest images of historic India. There were many other Yaksha sculptures produced at Mathura. Terracotta art especially the figures considered as mother goddesses belonging to pre-Mauryan and Mauryan times would simply outnumber such images from anywhere else in India. During the Sunga period, Mathura continued to maintain its importance as a great art centre and a number

of Sunga reliefs of Yaksas, Nagas and Buddhist railings are known from Mathura. It was the period of Kushans when Mathura became the greatest centre of Indian art. Almost every deity's iconography originated and evolved here. For the Buddhist art, the first carved image of Lord Buddha was the handiwork of Mathura artist. There are two dated Bodhisattva images from Mathura of the 2nd and 3rd year of the reign of King Kaniska found from Kausambi and Sarnath. The red sandstone images of the Buddha have some typical features which were the invention of Mathura artists. For Jaina art too, the earliest Jina images (except for Lohanipur torsos) were carved at Mathura. Rsabhanatha, Aristaneminatha, Parsvanatha and Mahavira were the most popular among the twenty-four Jinas. Besides the individual images, Jinas were represented as Sarvatobhadra/ Chaumukhi. There were some life-episodes of the life of Rsabhanatha which were carved at Mathura like the dance of Nilanjana etc. There are some rare portraits of Kushan rulers found from Itokri Tila near Manth, Mathura. The three kings identified from portraits are Vima Taktu, Kaniska and Chastana. In terms of Brahmanical art, the activities were even more important as the Matrkas (individual or in groups), Mahisamardini, Durga, Sri/Laksmi, Sarasvati, Kubera, Skanda-Karttikeya, Siva (in form of Astamurti, Lingas, dvimukhalingas and panchamukhalingas), Visnu as Vasudeva-Krsna, Samkarsana/Balarama, Ekanamsa, Chaturvyuha murti, Vaikuntha murti etc. all find forms in stone at Mathura by the artists working here. Even during the Gupta and post-Gupta periods, Mathura's importance as an important art centre continued. Two Buddha images from Jamalpur mound carved by artist Yasadinna (one housed in Asoka Hall of the President's House and the other one in Mathura Museum) and a Visnu image (now in National Museum) are the

masterpieces of c. fifth century. Iconography of Trivikrama, Nrsimha, Varaha, Visvarupa, Ganesa etc. continued to evolve at Mathura. It is the work of Mathura artists which later on evolved in other art forms including the other great school of Sarnath during the Gupta period and the Pratihara art during the post-Gupta period.

ANCIENT SETTLEMENT PATTERN IN BRAJ REGION

For the study of settlement pattern in the region during different time periods the recently acquired exploratory data is going to shed some new light on the existing knowledge. The earliest cultural horizon of this region starts during the proto-historic period, though, there are confirm evidences of the presence of palaeolithic men in the Govardhan hills.

Potsherds belonging to O.C.P. cultural tradition have been observed at the sites of Aring and Gantholi in the cis-Yamuna tract and at Gosna and Nohjhil in trans-Yamuna tract.¹ The postsherds had incised zigzag designs on the surface (sometimes interior also). Some black-and-red ware sherds were also part of early cultural tradition, similar to sherds observed at the sites of Atranjikhhera and Jakhera in Etah district. In the region of Mathura various varieties of black-and-red ware can be observed of different fabrics at different sites. It is not only one variety of the thick black-and-red ware of later tradition, which M.C. Joshi and his team found at the sites of Ambarish Tila, etc. From the site of Chaubara Tila, a copper celt, possibly belonging to Copper hoard tradition was found by Cunningham (*Ancient India* No. 9, 1971: 37). In the year 1993, Mathura Museum purchased a lot of Copper hoard implements (Acc. Nos. 93.5, 93.6, 93.51, 93.65, etc.) from a person of Mahavan *tehsil* who found these implements while digging somewhere near Baldev.²

When we consider the archaeology of old Mathura district (until 1995), there were certain evidences of copper hoard findings from a site near Sadabad, possibly Rasgawan. In the records of Mathura Museum some Copper hoard objects (acc. Nos. 75.33, 75.34, etc.) are said to have been recovered from the digging of Rasganwan drain in Sadabad *tehsil* which came to Mathura Museum in the year 1975. I doubt the find of a Copper hoard implement from Chaubara mound from Mathura to be actually belonging to a site in Sadabad *tehsil* near the site Chaubara. It is clear from the above discussion that the area of Mathura was well in habitation by the people of Copper hoard cultural tradition. In this study, if we associate the finding of O.C.P. from Noh, a site very near to Mathura border with Bharatpur district, it becomes very clear that Mathura region was an important area for the development of O.C.P.-Copper hoard cultural tradition.

Except for the excavations at Sonkh and at some peripheral sites of Mathura city, no major excavation has taken place in the district. As far as the excavations at Sonkh are concerned these were definitely done meticulously by Herbert Hartel and his German team and according to them the earliest culture at the site started with P.G.W. using people. As their area of the excavation was quite limited (about 1/3rd of the total site and this total area was even less than half of the actual area of the ancient site), there are chances that the few spots where O.C.P. related potsherds might have been present, were not excavated. Otherwise, it has to be accepted that at the majority of archaeological sites the significant cultural sequence starts with P.G.W. period. Another important point about the excavations of Sonkh is the finding of P.G.W. cultural horizon in all the trenches in different parts of the mound where the lowest levels could be reached. It makes it clear that during P.G.W.

period the settlement of Sonkh was quite extensive and on the basis of archaeological data and the present condition of the mound it can be considered to be about 300 x 250 m in area at least. It makes the case more powerful for supporting the area of P.G.W. using cultural tradition at most of the sites as equal to the archaeological mound present at the site.

Mathura is itself one of the largest P.G.W. period settlements P.G.W. pottery can be observed right from Raja Bali Ka Tila in south to Ambarish Tila in the north and from Katra area in the west to Kans Ka Qila in the east. In between at an under construction site in Chowk area, a lot of fine quality P.G.W. was observed in the deposit. Various localities in the peripheral area of Mathura town developed during the Mauryan and the early centuries of the Christian era like Hathi Tila, Bhuteshwar area, Kankali area, Chaubara mounds, Chaurasi mounds, Govind Nagar, Chamunda Tila, Gokarneshwar, Jaisinghpura, etc. A number of monastic settlements (especially Buddhist) came up on many of these sites as well as on various routes going out of Mathura to Govardhan, Sonkh, Bharatpur, Agra etc. From today's level of finding of P.G.W., it cannot be said that these deposits lie on some elevated soils but in the past, those spots might have been slightly elevated than the normal ground level. Most of the roads and lanes in old Mathura city seem to be following the ancient roads and lanes. Mathura's importance is not just limited to its being one of the largest urban centers but it was the most important art centre of its time. Development of most of the iconographic forms whether it is the Buddha, Jaina Tirthankara, Vasudeva-Krishna, Vishnu, Durga, Parvati, Sri-Lakshmi, Hariti, Surya, Siva, Linga, Royal Portraits etc. all owe a lot to the Mathura school. This school was at its peak during the early

centuries of the Christian era and Gupta period and continued to survive till much later times in spite of various major hiccups.

The sites of Ambarish Tila, Hathi Tila and the part of Katra mound seems to be the later extensions of P.G.W. using people. The dating proposed by Joshi and his team needs a re-analysis. The main disadvantage of Joshi's dating is that he was biased towards a particular theory as he wrote what he believed "the origin of NBPW is regarded by most of scholars to be somewhere in the 6th century BC in the mid-eastern India; its transportation to Mathura (from eastern India) might have taken considerable time in those days. Therefore we dated Period IB around 500 BC" (Joshi 1978-79: 43). It was the reason that he discarded a number of early dates.

Some of these early dates were:

PRL-333 (Late Level of Period II, N.B.P.W.)- 610 + (-) 150 BC, uncalibrated.

PRL-336 (Mid Level of Period II, N.B.P.W.)- 660 + (-) 100 BC, uncalibrated.

Besides these dates, some other dates indicated that the average date of Period II at Mathura might have been earlier than 650-700 BC after calibration. Keeping it in mind, it is obvious to consider a date of about 1000 BC for the early phase of P.G.W. but it has to be kept in mind that it is for the single site of Ambarish Tila, not the heartland of ancient Mathura city. Prof. B.B. Lal also tried to prove that the date of P.G.W. horizon at Mathura would date back to c. 9th-10th century BC (Lal 1985: 109-112). This exercise was presumably done for fitting Mathura in his theory of associating P.G.W. culture with the Mahabharata Age.

Painted Grey Ware Culture sites in old Mathura district

P.G.W. sites in *cis*-Yamuna tract =138

P.G.W. sites in *trans*-Yamuna tract = 67

Total no. of P.G.W. sites in Mathura district = 205 (for their locations please refer to Map 1)

Considering the total area of old district of Mathura to be 3625 square km and dividing it with the total number of P.G.W. sites, we roughly get the presence of a P.G.W. site in an area of about 17.7 square km.

For the western sector, if we consider its area to be about 2200 square km, we come at the figure of about 16 square km for the presence of a P.G.W. site.

For the eastern sector, if we consider its area to be about 1400 square km, we come at the figure of about 21 square km for the presence of a P.G.W. site.

In the area west of Yamuna in the toposheet no. 54 E/ 9, the total no. of P.G.W. settlements in an area of about 540 square km is 37 including the largest site of Mathura city which also has some isolated mounds as well. Hence in this area if we derive the minimum area required for the presence of a single P.G.W. site, it comes out to be 14.5 square km. This is the least area required for the presence of a P.G.W. settlement throughout the country as per the information available till now. Even in this area if we calculate the minimum area required per P.G.W. site in south, east and west sides of Chhata town, it would come out to be about 9 or 10 square kilometer for the presence of a P.G.W. site. This area shows the highest distribution of ancient sites in the country and it continued in the similar manner during the succeeding periods of possibly Mauryan period, Sunga period and definitely during the early centuries of the Christian era. The trend of occupation of the sites has been quite similar until the recent years. Only an increase of 10-20% can be observed in

the number of modern day settlements in this area.

In the toposheet no. 54 E/ 7 in the region of Kumher and Deeg, the total no. of P.G.W. sites is about 40.

In the area of roughly 700 square km total no. of P.G.W. sites = 40

So the area required for the presence of a single P.G.W. site = 17.5 square km.

Total number of P.G.W. sites near Hathras and Sasni in the toposheet no. 54 I/ 2 ranges between 30-35 (35 or more Mauryan sites).

The minimum area required in this region for the presence of a single P.G.W. site = $700/30 = 23.3$ square km.

For a single Mauryan site this minimum area would come out to be lesser than 20 sq. km.

Mauryan archaeological sites in the old Mathura district

It must be kept in mind that during the survey of Mathura district, more than 98% of ancient sites were found to be occupied by the modern villages. At all the sites which are lying in major parts as abandoned mounds like Gosna, Sonoth, Bhadravan, Bhagosa, Barnauli ki Dhari, Sankhi, Sehi Garh, Tarauli, Karnawal, etc., all the early phases were identifiable in the form of P.G.W., N.B.P.W., B.S.W., B.R.W. and coarse grey ware. It is clear from such sites that there was certain degeneration in the fabric of grey ware from P.G.W. period to Mauryan period in which the place of deluxe pottery was taken by N.B.P.W. and the continuing tradition of B.S.W. up to some extent. At almost all the sites from where I have reported the finding of P.G.W., associated coarse grey ware was also found. Black-and-red ware pottery as well as Black Slipped Ware pottery are the pottery types which were found associated with both P.G.W. and N.B.P.W.

cultural traditions. At most of the sites these pottery types were observed. But it is quite difficult to ascertain the period of such potsherds which were generally found without any particular shape except for the findings of N.B.P.W. pottery. I must accept that except for the above mentioned few mounds and few other sites; at a number of the sites N.B.P.W. potsherds were not observed. Even at these sites the quantity of these sherds was very less in comparison to other pottery types. I strongly feel that the typical pottery of Mauryan period in this region is the coarse grey ware along with B.S.W., B.R.W. and red ware. The grey ware which was observed from majority of P.G.W. sites was of both fabrics- finer and coarser. Finer sherds were definitely part of P.G.W. tradition but the coarse grey ware sherds may belong to any of the two periods. The pieces found at the sites occupied by the modern villages were too small to differentiate as to which cultural tradition these belonged to. But to me it did not appear at any of the sites that the site got abandoned after the P.G.W. period. The sites continued to inhabit during Mauryan, Sunga, Kushan and later periods without any major break. All the cultural periods were present at most of these sites. I am not aware of any site which actually got discontinued after any of these early periods. There might have been some small intervals during various cultural periods but these were not long enough to deprive a site from the cultural deposit belonging to any of these major periods. It is highly probable that many of the sites which have been described as new Kushan settlements might have come into existence during the Mauryan or Sunga period, but in the present condition of knowledge this point can neither be proved nor discarded. We can safely assume that the total number of Mauryan sites would have exceeded the total number of P.G.W. sites and it would have been in excess of 225.

KUSHAN ARCHAEOLOGICAL SITES IN THE OLD MATHURA DISTRICT

No. of Kushan sites in cis-Yamuna tract = 235

Hence if we derive the minimum area required for the presence of a Kushan site, it comes out to be, Total area of cis-Yamuna region / Total no. of Kushan sites = $2200 / 235 = 9.36$ square km

Total no. of Kushan sites in trans-Yamuna region = 110

So, the minimum area required per site = Total area of trans-Yamuna region / No. of Kushan sites in the trans-Yamuna region = $1400 / 110 = 12.7$ square km

Total number of Kushan sites in Mathura district = 345

So the minimum area required per site in the district of Mathura = $3625 / 345 = 10.5$ square km

Total number of Kushan sites near Hathras and Sasni in the toposheet no. 54 I/ 2 = 60

The minimum area required in this region for the presence of a single Kushan site = $700 / 60 = 11.66$ square km

From P.G.W. culture settlements to early historical settlements, a certain increase in the number of sites can be observed. The total number of P.G.W. sites which is about 205 in Mathura district might be higher than this number with an approximate fluctuation of + 10%. In this way the total number of the sites might be more than 225. There is strong possibility of the presence of an earlier cultural horizon like P.G.W. at the sites of Sakna, Fenchri. Ganeshra, Maraura, Junhedi, Barauli etc., so this higher number is quite a possibility. If we take the number of total P.G.W. settlements about 225 in the Mathura district, then considering the total number of early

historical settlements at around 345, we derive at the conclusion that there was an increase of about 50% from P.G.W. period to early historical period. For the number of Kushan archaeological sites, we can again assume an approximate fluctuation of + 10%. In this way the total number of Kushan sites might increase to about 380. So, we may safely derive at the conclusion that during the period between P.G.W. (c. 9th century BC) and early centuries of the Christian era, there was an increase of about 50-60% in the number of archaeological sites. Many of the sites which have been dated to Kushan period might have actually come into existence during Mauryan or Sunga period (4th-2nd century BC). The grey ware which is generally associated with Mauryan period of the late N.B.P.W. phase had continued during the Sunga period up to some extent, so there are possibilities of many Kushan sites actually dating back to this period. Even during the Kushan period itself, we do not mean only Kushan period but the Saka Kushan period which actually starts in 1st century BC and there are evidences that many of important Kushan sites (many even dating back to P.G.W. period) got their name from Indo-Greeks and Parthians. Examples of some of these sites are Mandrak near Aligarh, Maryak near Hodal, Helak and Halena near Bharatpur, Amokhri, Tikari, Mursan, Tuksan and Lutsan in Hathras district, etc. This number of early historical sites again gets around 50% additions in the form of new settlements during the early medieval period and medieval period (9th-13th century AD and 17th century AD). Many of these sites might have come into existence during Gupta period and late Gupta period (4th-7th century AD), but in the present state of our knowledge, we cannot say much about it. Another important point about this late period is that even as the number of total sites increased to about 540, we cannot say that their

economic and social condition had improved. Many of the already existing sites might have been occupied for a brief period and might have had lesser population. This period is quite long for any specific data but there are some evidences indicating a wave of new arrivals of Thakurs and Jats during this period especially from Rajasthan side about 10th century AD. Except for the villages named as Naglas (with a very few exceptions) most of the village and town sites of Mathura district were occupied by the late medieval period (till about 16th-17th century) whether for longer periods or shorter ones. At more than 90% of modern villages in the region, I observed sculptures of medieval period. This occupation of almost all the habitation settlements in Braj is further corroborated after looking at Growse's data as almost all the sites before 1880 had been in occupation for many generations.

ANCIENT ROUTES

1. MATHURA TO PALWAL

Mathura - Jaint - Ajhai khurd - Chaumuha - Akbarpur (Sanpli Khera) - Senmari - Chhata - Dautana/ Tumola - Kosikalan - Kotvan - Hodal - Banchari - Bamni Khera - Palwal.

During the Kushan period some smaller settlements mostly religious in nature came into existence near this route. The new sites were- Sarai Azampur, Kota, Allahpur, Chhatikara.

Alternate Route following Yamuna

Mathura - Vrindavan - Parkham Gujar – Sehi – Nandghat – Shergarh - Majhoi to sites in the Hodal region.

During Kushan period many other sites came into existence on this route like Jaisinghpura, Kankor Tila, Ahalyaganj, Akrur Tila between Mathura and Vrindavan, then Sunrakh, Gond and Badi Atas, Sakraya between Vrindavan and Sehi,

then Mai, Basai, Jaitpur, Bhogaon, Ogaha between Sehi and Shergarh.

2. MATHURA TO AGRA

This route more or less followed the river Yamuna and went via Karnawal, Jhandipur, Runakta, Agra. Another route which is almost same as the N.H. 2 went via Baad (possibly a P.G.W. site), Mahuan, Farah (possibly a P.G.W. settlement), Pingri, Kitham, Arsena, Runakta and Agra.

During the Kushan period on both the routes many new sites came into existence like Sarai Azamabad, Aurangabad, Ronchi, Ladpur, Baburi Khera, Shahpur, Khairat along Yamuna in the *kbadars*. On the N.H. 2, the important sites which came into existence are Baad, Aganpur Khera, Farah and Kurkanda.

Alternate route from Mathura to Agra

This route would have passed from Mathura via Aruki, Bhainsa, Chhargaon, Bhahai, Mahwan and then would have followed N.H. 2. Another option for the ancient travellers would have been via Dhauli Piyau (Chandrapuri) crossing–Aruki–Bhainsa–Chhargaon–Beri–Parkham–Pingri–Kitham–Arsena–Runakta–Agra.

3. MATHURA TO BHARATPUR AND UCHCHEN

This route is going towards Bayana and Karauli via Bharatpur and Uchchen. The ancient route (P.G.W. period) from Mathura to Uchchen passed via Dhauli Piyau–(Chandrapuri) crossing–Narhauili–Tarsi–Murhesi–Kosi Khurd–Sonoth–Rasulpur–Rarah–Jaghina–Bharatpur–Sewar–Uchchen.

4. MATHURA TO KUMHER AND NADBAI

The route to Nadbai and then towards Dausa and Jaipur region was very important route of the

region. The sites which lie on this route are: Pali Khera–Naugama–Jansuti–Sonsa–Sonkh. Another alternate route to Sonkh was Maholi–Mukundpur–Usphar–Unchagaon–Sonsa–Sonkh. During Kushan period two new sites came into existence on this route – Shahpur between Unchagaon and Sonsa and Borpa between Sonsa and Sonkh. From Sonkh the ancient route to Kumher would have passed via Bachhagaon – Talphara – Pengor – Kumher.

5. MATHURA TO ALWAR AND SIKAR VIA GOVARDHAN, DEEG AND NAGAR

Mathura - Satoha – Khamni – Jachonda – Aring–Jamunata – Govardhan – Gantholi – Bahaj – Deeg. During the Kushan period some new sites came into existence but these were small settlements more of religious nature than regular habitation sites. These sites were Chaubara mounds, Girdharpur, Asgarpur (two sites) and Palai. From Deeg to Nagar the route passes via ancient sites of Panhori – Rasiya – Siswar – Nagar.

6. MATHURA TO FATEHPUR SIKRI, JAGNER AND FURTHER SOUTH

Mathura – Narhauili - Tarsi – Murhesi – Kosi – Sonoth/ Mal – Santruk – Ol – Pipla – Ikran/ Hansela – Undra/ Chiksana) – Mahadau – Churyari – Sikri.

Another stone quarry very near to Sikri is at Santha and for that one would have followed the route Chiksana – Daulatabad – Sikri/ Santha.

There is another route which might have been used to reach Sikri. This route goes via Aruki – Bhainsa – Chhargaon – Pilua Sadakpur–Beri – Jhurawai – Sandhan – Arua Khas – Biyara– Daulatabad – Sikri/ Santha.

7. MATHURA TO DHOLPUR AND GWALIOR REGION VIA ACHHNERA

Mathura - Aruki – Bhainsa – Chhargaoon – Sersa – Pilwa Sadakpur – Beri – Parkham – Baroda – Kachaura – Achhnera.

From Achhnera the route to Gwalior region would have gone via Puramana/ Muriapura – Nahchani – Akhwai – Gahera Khurd and then towards Saiyan-Dholpur region. Another route would have gone via Raibha – Mahuar – Khalua and then towards Saiyan region of Agra.

8. MATHURA TO FIROZPUR JHIRKA AND PUNAHNA VIA KAMAN

- a) Mathura – Arahra – Bati – Ral – Bhadal – Pelkhu – Sahar – Kamai/ Mandoi and Karahla– Barsana – Unchagaon – Akata – Kaman.

From Pelkhu another route with slight variations would have passed via

- b) Bharna Khurd – Bharna Kalan – Dahrauli/ Seeh and Palson – Hathiya – Dhabhala – Sunhera – Bhajera – Kanwara/ Kaman.
- c) Neemgaon – Palson -Seeh – Dahrauli – Barsana – Sanket – Rithaura – Dhilawati – Akata – Kaman.

Another popular route which is quite longer passes via Govardhan – Deeg – Parmandra – Khera – Kaman.

Ancient alignments of Braj going to *trans*-Yamuna region

9. MATHURA TO KASGANJ, SORON AND TRANS-GANGA REGION VIA HATHRAS

It would have been a very significant ancient route linking Mathura and Rajasthan site with mid-Gangetic doab region. The ancient route passes via Isapur—Lohvan – Gosna – Raya – Sonai – Mursan – Hathras Qila. From Hathras the ancient route might not have followed the

present road to Sikandararao and Soron because on this stretch of about 35 km, I could locate only two P.G.W. sites. One of these two sites, Maindhu is also a part of another important ancient alignment while another site of Jau Inayatpur is about 9 km distant from Sikandararao. Some new Kushan sites came into existence on this route like Kanchana near Sonai and Thulai, Salempur and Jaitpur between Maindhu and Sikandararao. During ancient times the route from Hathras to Sikandararao would have passed via Hathras – Maindhu – Rajpur – Paharpur – Punnaur – Todh – Khitauli – Pichhaunti– Jau Inayatpur – Sikandararao.

There are two possible ancient routes to Kasganj and Soron. One would be:

Mathura – Hathras – Maindhu – Daryapur – Tikari – Gangraul – Khera Sultanpur and then after crossing the G.T. road, towards Kasganj and Soron. From Soron the ancient route goes to Ahichchhatra (Anwla) near Bareilly.

The second altered route would have been via Mathura – Mursan – Asroi/ Khera – Tuksan– Ahbaranpur – Ruheri – Lutsan – Daryapur – Tikari – Barhad – Bijaigarh and then to Kasganj, Soron and trans-Ganga sites. A very important river from archaeological point of view, Kali Nadi is crossed near the important city site of Kasganj and the Ganga at Soron.

From Sikandararao another important route goes towards Sahawar town via Bargawan, Naglakhara, Kapretha, Qazikhara, Akhtauli, SinSh and Atranjikhara.

10. MATHURA TO NIDHAULI KALAN AND ETAH VIA HATHRAS

The important route to Etah from Mathura goes via Hathras. Up to Hathras the route is similar as discussed in the previous route. From Hathras the route would have gone via Ladpur – Chaturbhuj Khera – Maho – Band Abdullahpur–

Hasayan – Andauli – Kanau – Maqstudpur (P.G.W.?) – Pilkhatra – Gadri/ Mitraul – Margayn – Nidhauili Kalan. From Pilkhatra, Nidhauili Kalan can also be reached going via Khera Nuh but it would be slightly longer. From Nidhauili Kalan which is definitely an important town site, Etah can be reached via Dholeswar – Songra – Baragaon and Mukharna.

11. MATHURA TO KAMPIL, SANKISA AND TOWARDS SRAVASTI VIA JALESAR

The major sites on this route are Mathura, Raya, Hathras/ Sadabad, Maho/ Sahpau, Jalesar, Awagarh and then the sites towards Ganga plain like Sankisa and Kampil.

One of the important routes would be from Mathura to Hathras and then Hathras – Parsara – Lakhnu – Aihan – Gwarau (Kushan site) – Simrao – Jalesar.

Another alternate route would have been Hathras – Ladpur – Jalalpur – Khera Chaturbhuj – Shahpur – Maho – Gwarau – Simrao – Jalesar.

The second important route would have gone via Mathura – Lohvan – Sihora – Karab – Pachawar – Jugsana – Unchagaon – Sadabad – Sahpau – Isonda – Berni – Jamaun – Jalsear.

The third route to Jalesar would have gone via Mathura – Gokul – Mahavan – Baldev – Sadabad.

12. MATHURA TO ALIGARH

Mathura – Isapur – Lohvan – Gosna – Raya – Aiyera Khera – Nimgaon – Gorai – Kaimawali – Hastpur – Mahua – Aligarh.

Another alternate route to Aligarh would have passed via Mathura – Aiyera Khera – Beswan – Kanka – Sasni – Aligarh.

From Aligarh the ancient route went towards Harduaganj, Atrauli, Morra, Karnawas (crossing point at Ganga), Bahjoi, Sambhal/ Chandausi,

Moradabad and Himalayan region sites. Another route went towards Jawan and further north.

13. MATHURA TO NOHJHIL AND JEWAR

This important route went towards north after crossing river Yamuna. The route would have been via Mathura – Vrindavan – Chamar Nagla – Barnauli Ki Dhai – Manth – Bhadravan – Irauli – Samauli – Ohawa – Bhidauni – Surir – Mirpur – Bagharra (Sher Ka Khera) – Nohjhil – Bajna – Awakhera – Gairaula – Jattari – Khandeha – Tappal – Jewar. From Jewar the route goes towards Dhankaur, Ghaziabad and Meerut region.

14. MATHURA TO KHAIR

The Mathura to Khair route passes via Mathura – Vrindavan – Nagla Chamar – Barnauli Ki Dhai – Arua – Jabra – Jaiswan – Nasiti – Harnaul – Karahari – Lohi – Khayara – Arni – Khair. Another route from Mathura to Khair would have been via Arua – Nimgaon – Gorai – Deta – Rajawal – Arni – Khair. Another route can be traced as Mathura – Vrindavan – Manth – Bhadravan – Eroli Gujar – Samauli – Ohawa – Bhidauni – Surir – Hasanpur – Jarara – Khayara – Arni – Khair.

OTHER IMPORTANT LINK ROUTES OF THE REGION

1. KAMAN TO KHAIR

This route passes via Kaman – Akata – Rithaura – Sanket – Anjnokh – Khayara – Bhadawal – Chhata – Ladpur – Ranhera – Shergarh – Nohjhil – Parsauli – Shall – Pachahra – Khera Kasison – Khair.

2. KUMHER TO KHAIR

Kumher – Pengor – Kasot – Krenwa – Konder – Dehiya – Govardhan – Radhakund – Kaunhi – Pelkhu – Siwal – Sihana – Akbarpur (Sanpli

Khera) – Pelhora – Tarauli – Sainwa – Ranhera–
Shergarh - Nohjhil – Parsauli – Shall – Pachahra–
Khera Kasison – Khair.

3. ALIGARH TO JALESAR

From Aligarh the route goes via Mandrak –
Sasni– Lutsan – Daryapur – Punnaur – Heta
Raghunathpur – Maho – Chirgawan – Jalesar.

4. ETAH TO REWARI

From Hathras the route would have gone via
Rohai – Tuksan – Kaimawali – Gorai – Khair –

Gomat – Jattari – Tappal. From Tappal after
crossing Yamuna, the route would have passed
via Kusnak, Palwal, Dhatir, Sohna towards
Rewari. From Sohna one important route goes
towards Gurgaon, Bahadurgarh and Rohtak. One
could also reach Palwal following the Grant
Trunk Road up to Aligrah and then moving from
Aligarh via Lodha, Andla and Khair to Palwal
and Rewari. This link route would have been
quite important joining the main *Uttarapatha*
route with the other areas of Mathura–Taksasila
trade route.

ENDNOTES

1. This observation is based on my personal
explorations as well as the observations of Prof. D.
K. Chakrabarti and his team. Besides at the site of
Aring, one officer of A.S.I. Mr. L.M. Wahal (*J.A.R.*

1982-83 : 99) had reported finding of O.C.P. and
late Harappan potsherds.

2. Personal information received from Mr. Shatrughna
Sharma, a senior employee of Mathura Museum.

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