Digital Preservation of Art, Architectural and Sculptural Heritage of Malwa (Madhya Pradesh)

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Abstract

Digitization is also an outcome of development of technologies. The distinct form of art and culture requires preservation for the study of mankind and its progress. Paper stresses need to capture them in digitized form for future interest of the researchers. It will also give an account of art and architecture and sculpture of Malwa region of Madhya Pradesh (India). It had one of the ancient civilizations in India and World. History of Malwa region of Madhya Pradesh (India) dates to prehistoric period. The archeological excavation and heritage structures of Malwa are of no less importance than any other part of India. Much is being done on digitization of manuscripts but very little is thought of these valuable heritage structures lying unprotected and open. Digitization of cultural heritage will be best preservation for future generations' .The paper suggest for 3 dimensional picturization of these heritages and preserve in digital form. It also suggests for hardware, software and human ware requirements for such work and gives a plan and provides few beautiful slides. A practical LCD projection of digitized heritage site is also prepared.

Keywords : Digital Preservation, Manuscripts, Digitization.

0.   Introduction

Information Technology has changed the shape of the face of the Libraries and Library and Information Science. Earlier the activities were limited to management of books but ICT has brought many other activities in its domain. Digitization is one such activity, which has changed the entire gamut of LIS. There are distinct forms of art and culture, which require preservation for the study of mankind and its progress but not in original conditions. Our traditional heritage is quite old and will perish some day if not preserved in time. Thousands of architectural and sculptural beauties have perished. Recently Archeological Survey of India (ASI) has accepted that minarets of 356-year-old Taj monuments are tilting. The international beauty symbol Taj may perish someday. (1) Aggressions, social clashes, natural calamities, and the earthquakes have already demolished hundreds of thousand heritage buildings and architecture and sculptures. Theft and smuggling   are two important factors for big loss of such treasure. Foreign aggressions have already caused unreplacable losses. Our heritage has been taken to foreign countries by aggressors and rulers and has either been destroyed or has been kept in their museums. They cannot be replicated by pooling national resources. At present maintenance of monuments is also not so easy.The only way with the available technology is to capture them in digitized form for future interest of the researchers in the form of 3 dimensional models. Now 3D scanners have made it possible to digitally capture these in all their glory. With the help of suitable softwares for storage and maintenance these can be made available on the Internet. We can create virtual museums and virtual palaces, etc. (2)

There were 3200 Hutongs about 800 years old, out of which only 930 are remaining to be digitized. Hutongs are ancient city alley or lone typical in Beizing (China). Museums and online Archive of California (MOAC) is a project for virtual museum in California. (3). In Malwa there are few museums at Ujjain, Indore, Bhopal, Dhar, Mandu, Mandsour, Neemuch, Shajapur, Vidisha, etc containing cultural heritages. The articles found in excavation and pieces of structures demolished by aggressors or due to natural calamities are stored in these museums. Vikram University has one of the richest museum of Malwa. It

has different types of Brahmanical Gods Icons several types of ancient rare coins and some Inscriptions and excavated woodens. Now we need to digitized our cultural heritage and make virtual museum. Cherish before these perish.

The Malwa

The Madhya Pradesh is known as heart of India and its Malwa region keeps an own geographical and historical importance in Indian History. This region was famous to the name of Avanti in the 6th century B.C. From the occurrence of 5th century B.C. this region was comprehensively called as Malwa. This word is related to Malwajan of Punjab in contemporary period. After the invasion of Alexander (King of Babilone) the Malwajan made their residence in Rajasthan and after some time their some branches came in Avanti region and they were reign here hence this region got other name- Malwa.

1. Early Architecture

Malwa region being kept the peculiar heritage from the Palaeolithic period in its lap. Bhimbethaka is one of them discovered by V.S.Vakankar in 1958 at Raisen district. At Bhimbethaka caves we can see middle Palaeolithic (1,00,00-40,000 B.C.) paintings. Paintings are related to hunting of Animals. We can see the tools used in hunting and types of hunting and the types of animal in contemporary age in these lexicon middle and upper Palaeolithic paintings.

The precious heritage art and architectural, Sculptural work, being started virtually from 6 century B.C. In this period religious movement gave an impetus to the development of art and architecture. But from the Shunga-Satvahan-Shaka period (186 B.C.-318B.C.) large stupas and temples began to be constructed. At Sanchi (Dist-Raisen) there is the first instance of true masonry used for constructional purpose in any ancient building. At Sanchi there is the original brick stupa built by Ashoka. It was later encased during the Shunga period. The new structure is about twice the original Mauryan Stupa covering an area 120 feet in diameter with a total height of 54 feet. (4)

There are three Stupas installed at Sanchi, with semi-circular domes, lofty terraces (Medhi). Pradakshinapaths, flattened summits, small square pavilions (Harmika) and railings. On the ground level each stupa has a second processional path, paved with stone, encircling the stupa. In the 1st century B.C., the four elaborate and richly carved gateways were built in the four directions of the Stupa. They are similar in design and 34 feet in height. The bas relieves of four gateways and railings relate to Buddha's (God Buddha) life, showing his birth (Jati), Enlightenment (Sambodhi), first sermon (Dharmachakrapravartan) and death (Mahaparinirvana). Each is represented by its own peculiar symbol: the lotus, the pipal tree, the wheel and the stupa (5,6,7). (Photo 1, 2)

At Udayagiri (district – Vidisha) and Besanagar (District- Vidisha) and in the neighborhood of Sanchi, at the site such as Sonari, Shatadhara, Bhojapur and Andher, some Buddhist stupas and monasteries of the Shunga period have been found. Like the Sanchi Stupas, they are also made of stones. (8) A few freestanding statues of yaksha and yakshi (Local God) of the Shunga period found at Besanagar (District-Vidisha). The Statue of yaksha measures over 12 feet in height, and is decidedly the biggest yaksha image of an early period so far discovered in India. It is the peculiarly Indian in their dress and ornamentation and also in spirit and outlook. It reflects primitiveness in art and indicates the earliest phase of the indigenous art of India and Malawa. (8,9,10) (Photo 3).

2.   **Gupta Period Architecture**

After declining of Shunga-Satavahani Shaka period the Gupta-Aulikara Empire/ (319 to 700 A.D.) came in light in the Malwa. The original capital of Gupta emperor was Pataliputra (Bihar) but after the victory on Western Kshatrapas of Ujjain. Gupta emperor Chandra-Gupta –II (375-414 A.D.) installed the sub-capital at Ujjayini (Ujjain). He is also known as Vikramaditya of Ujjain. During this period, the Aulikaras emperors also occupy an important place in the history of Malwa.The Gupta period was the golden age in the history of India and also Malwa. We found historical buildings in the form of caves and structural buildings of this period.

The earlier examples of structural temples can be seen at Eran (Dist. Sagar). The temples of Vishnu and Varaha, though in dilapidated condition, are rectanguter in plan. The walls of the temple are quite plain, but there is decorative richness on the pillars and doorframes. (11)(Photo 4).

The cave architecture has been found at Bagh (145km to Indore dist.) and Udayagiri, (Bhilsa, dist. Vidisha). The Bagh caves are sacred to Buddhism and Udayagiri are related to Brahmanical religion and Jainism.

2.1   Bagh Caves

At the Bagh, rather there were many caves but owing to the weakness of the rock they has been seriously damaged. Some caves are preserved so far. Cave no. 3 is a pure vihar, cave Nos. 2 and 4 are combinations of the Chaitya (The monuments of prominent person's bodies remains) and vihara. The most important cave is the Great Vihara (No.IV), known locally as the Rangmahal. It consists of a central hall of about 96 feet. In this hall we can see the highly reached development of paintings during Gupta period. In the Rangmahal painting, there are a group of women, playing dance with well-decorated apparel and ornaments. Other one painting is related to procession, which is going on elephant (12,13) (Photo 5).

These paintings are related to indigenous culture and the subjects covered by the paintings are varied and numerous, such as the representation of the Buddha and Bodhisattvas, decorative scroll works, friezes and other patterns. The jatak stories have been beautifully illustrated in the Bagh Caves (14).

2.2   Udayagiri Caves

The Udayagiri Caves situated in Bhilsa (Dist. Vidisha) are twenty in number. They are partly rock cut and partly stone built. Some of the caves contain inscriptions also. Out of these caves all are Brahmanical except one or two Jaina caves. Caves no. 1,2,4,7,16,17 and 19 show distinct features of architectural value. Cave no.4 has shrine, which is much large and more ornate. The cella of cave no.19 is more spacious. We can see the evolution of temple architecure and decorative motifs in various caves. (15)

Cave no.6 of Udayagiri was laid by Maharaja Sankanik (Feudatory of Chandra – Gupta –II) in the year of 401 A.D. It's entrance gate is highly ornate. Both sides of the gate, the piller are carved in the form of trees and at head of the piller lions are sitted in bell shaped (Photo.5). This cave has also the figure of Mahishasurmardini (i.e. the Goddess Durga killing the Buffalo demon or Mahisasura) having 12 arms holding different objects. With her foot, she is shown trading upon the head of the Buffalo. The Umamaheshvara in amorous mood found at this place, is also noteworthy. The peculiarity of Gupta art is, that the two rivers, Ganga and Yamuna make their appearance for the first time in scheme of the temple architecture. On the doorways of cave no. 6 these deities are found as attendants of the great God. (16) (Photo 7,8)

Cave no.5 of Udayagiri keeps important place in the History of Indian caves art, because there is a large vision of Varah. (Incarnation God Vishnu) inscribed on the rock here. In this Icon we can find all alluring vision from divine world to material world and they all became a part of architectural world. This caves has given the wide prestige to Malwa in the Indian art. (Photo.9).

Cave No. 13 shows the fantastic colossal statue of Sheshshayi Vishnu. God Vishnu (Photo.9) is sleeping on the coils of the primeval snake with head resting on the palm of one of his four hands. He is attended by his vehicle Garuda (the Eagle) (17) (Photo 10).

Cave No. 20 is a Jaina Cave, having Jain Tirthankar Parshvanath icon laid foundation at the time of Gupta ruler kumar Gupta I. 5thCentury AD. (Photo 11)

3.   Post Gupta Period Architecture

After the decline of Gupta Empire the Pratiharas ruled in Malwa and after their decline the Paramaras (Ujjain and Dhar) became powerful.

3.1   Shitaleshvara-Mahadev Temple

The earliest dated temple of post Gupta period is the Shitaleshvara-Mahadev at Chandravati, near Jhalarapatan (Now in Rajasthan State) founded in 689 A.D. It has been demolished and crudely rebuilt but it still retains some original parts. The pillars of the temple are minutely carved. These are unique example of such intricate stone work (18) (Photo 12).

3.2   Dhamanar Caves

At Mandsour there are 70 caves known as Dhamanar caves of 8-9th Century A.D. It may be possible that the ancient name of Dhamanar would be Dharmanath but in present time this place is known as Dharmarajeshawar. These caves are heritage of Buddhist religion of Malwa in the rocks. Caves no. 6,11,12,13 are known respectively in the name of Badi Kachahari, Bhimabazar, Hathibaghi and Chhotabazar. (19) (Photo13).

There is also a temple of Dharmanath at Dhamanar), originally dedicated to Vishnu (God Vishnu). It belongs to the 8th Century A.D. This monolithic temple is of the same general style as that of the famous Kailash temple at Ellora (Aurangabad) (Maharashtra.) (20).

3.3   Maldevi-temple

At Gyaraspur (Dist. Vidisha) the Maldevi temple, which is partly rock-cut and partly structural, is a mature instance of pratihara style of 9th Century A.D. The roofs of the porch and roofs of the hall is pyramidical composed of horizontal tiers. The hall doorways shows a figure of Chakreshvari as the tutelary image. (21) (Photo.14)

3.4   Bajra- Matha Temple

It is an example of rare class of temple, belong to 8-9th Century A.D. at Gyaraspur Dist. Vidisha) containing three shrine in an arrow. Three shrines dedicated to the gods of the Hindu trinity Brahma, Vishnu and Shiva. The carving of the doorway is exceptionally fine and vigorous. (22) (Photo.15).

4.   Parmaras Period Architecture and Sculpture

4.1   Architecture of Parma's

This section studies architecture and sculpture of 9-13th Century A.D. After the decline of Gurjar Pratihara Empire the Paramaras of Ujjain and Dhar became powerfull. The rulling dynasty were inspired by the earlier rich traditions of art, architecture and sculpture and vied with one another in building temples. The temple built during this period in Malwa are known as the Bhumija style of architecture. This style was not confined to Malwa but spread to Rajasthan, Gujarat, Maharashtra and Deccan (23).

4.1.1 Bhojashala and Lata Massed

The Paramara ruler Bhoja was a great patron of art. He has established a college known as Bhojashala, It consist large open court and prayer hall. The pillars and ceilings of the prayer hall are carved delicately. There are numerous slabs of black slate stone carved with the writings of the Parijatmanjari (of Arjun Verma) and Kurmashatak (of Bhoja). Similarly the Lata Maszid (Mosque) of this place is planned with carved pillars and brackets of older temples. (24)(Photo 16, 16a)

4.1.2 Shiva Temple

A magnificent temple of Shiva was built in the 10th Century A.D. during the reign of Bhoja at Bhojapura (20 miles South of Bhopal). This temple is situated on a low rocky hill to the northeast of the great Bhojapura Lake. It is square in plan. Four massive and monolithic columns surmounted by flowered capitals, support a circular lower most of which is decorated with figures of musicians and demi- gods (25).

4.1.3 Nilakantheshvara or Udayeshvara Temple

The temple of Nilakantheshvara or Udayeshvara is the grandest specimen of Paramara architecture by Udayaditya at Udayapur (Near Vidisha) in 1059 to 1080 A.D. It is stellate in plan and a hall with three porches. Great ingenuity has been employed in designing the Shikhara (Cresent) of sanctum, which is decorated with seven vertical and five horizontal, rows of miniature. (26) (Photo.17, 17a)

4.1.4 Siddheshvara Temple

At Nemawar the temple of Siddheshvara is one of the most important ancient monuments of India in Malwa. The temple stands on the bank of the river and has been built on a massive platform of stone. The interior of the main shrine below the shikhara is adorned with numerous decorative carvings and figure sculptures. (27). (Photo18, 18 a)

4.1.5 Sun Temple

The so-called Sun-temple at Jhalarapatan (Dist. Jhalawar at Rajasthan. During that period this region came into Malwa dynasty.) is orthogonal and Saptaratha in plan (Technial term) with a seven storeyed elevation and has a complicated Shikara (Cresent) design. The temple introduces eleborate toranas at the entrance to the porch. (28)). (Photo.19)

4.1.6 Mahakaleshvar Temple

The Mahakaleshvara temple at Ujjain is famous in 12 Jyotirlinga of India. It is mentioned in skand-Puranas Avanti Segment. Its history is related to Satayuga and Treta age   but historically it was rebuilt, after the invasion of Iltutmish (Sultan of Delhi at 13 th Century A.D.) by Parmara and Marathas in contemporary age. It is Shiva temple in Bhumija style of temple architecture. (29) (Photo. 20)

4.2   Sculptures of Paramara

In the 10th Century A.D. under the Paramara ruler Bhoja, paramara art was prolific in sculptural output and at the stage of its highest development. Dhar, Mandu, Ujjain, Udayapur, Gyaraspur and Nemawar were the main centers, where there are excellent specimens of Paramara art. These figures were largely and vigorously conceived and were modelled in ample dimensions.

4.2.1 Shiva-Sculpture (God Shiva)

Different types of Shiva images found in Malwa. The dancing Shiva of Jhalarapatan is superb instance of the sculptor's art of the paramara period. An image of Shiva, the lord of dance, belonging to the 11th Centuries A.D. is discovered from Ujjain and is now in aGwalior fort Archaeological museum. Image is dancing in Aindra posture. On the slope of a hill at Udayapur; there is a gigantic unfinished sculpture of Shiva, carved in a single boulder of rock. (Photo.21 , 22).

4.2.2 Vishnu-Sculpture

The extant varieties of Vishnu image found in Malwa. At Udayagiri (district- Vidisha), Dhar, Mandu (Dhar) Dhamanar (Mandsour) Gyaraspur, Bhilsa (Vidisha) and the other large site of Malwa Vishnu images spread-out in numerous. (Photo 23 , 24).

Including other sculptural work we can see the images of Brahma of Modi with four heads, Surya (Sun) image of Gandhwal, deity Saraswati (Vagdevi) of Dhar, Buddha image of Sanchi- God Buddha seated in meditation, Gyaraspur Buddha-Buddha seated in Padmasan. (Photo .25, 26,27,28,29).

5.   Medieval & Modern Architecture

Besides these there are numerous medieval and modern structures increasing the beauty of Malwa in which Mandu (Dist. Dhar) is fabulous in natural heritage and famous in India with its Architecture. Mandu was installed as a capital by Husang Shah in 15th Century A.D. There are so many prominent buildings in Mandu like Kamal Mola Mosque, Laat Mosque and Mausoleum of Malik Mugis. The most prominent Architectural buildings are Fort of Mandu, Jama Mosque, Hindola Palace (Swinging palace), Asharfi Palace, and Seven Storey Palace. Victory Piuer, Mausoleum of Husang Shah, Jahaj Palace (Ship Palace), Bajbhadur and Rani Rupmati Palace.

Raja Bhrirtrahari caves, Umbrellas of Durgadas, Kalidas Palace, Kothi Palace are architecture of Medieval and Modern Arts. There is Astrological Observatory in Ujjain installed by Raja Savai Jaysingh (King of Jaipur (Rajasthan) in 18th Century A.D. As a greenwitch of India, Ujjain was famous for determination of time that's why Jaysingh made observatory here. This is one of the five observatories in India.

Rajvara (King Palace made by Holkar Kings in District of Indore and many Umbrellas are importance instances of Maratha Architecture. Jama Mosque of Bhopal and Muslim Structures are of great important architects of Malwa.

6.   Management of Digitization

6.1   Digital Collection

Over the past few years there has been an explosion in the number of online Information resources implemented by museums, libraries, archives, historical societies, and other cultural heritage institutions

as they attempt to more aggressively exploit the potential of the web .The benefits of having a rich diversity of quality and authoritative information available online is clear, but the magnitude of that data is meant for many end-users in location of specific, desired resources within the almost overwhelming aggregation of information available. The community continues to struggle in developing new techniques for managing the glut of information and to transform the traditional methods of curator and librarianship for better organization of the available information and make it easier for end-users and to find the specific online information they want.

A digital collection is a group of information items in digital format, related to each other by subject or origin. Digital collections can contain full texts of a wide variety of documents, photographs and images, recordings, videos, or other multimedia A digital collection requires a logical structure, a cataloging or indexing scheme, an archiving policy, and a mechanism by which curators can assess and measure its collection. Digital collections comprise a digital library." In the digital library Collections are transformed through the integration of new formats, licensed content and third-party information over which the library has little or no direct curatorial control. The "Digital Collection" describes a growing collection of original, multi-format content such as:

- ✍   Images,
- ✍   Data sets,
- ✍   Audio/video,
- ✍   Text files.

6.2   Images

An image is an online graphic. It may be photographs, line drawings or anything that could be scanned in or created online. Images may be part of a Web page or they may be attached to a hyperlink on a Web page. CONTENTdm is one of the image database software. It was used by WICR (World Civilization Image Repository) and the photos online project. It started using from 1999 onwards as a part of Digital Images. Using this library staff can design the image databases with a range of searching options including Pre-selected searches, such as single hyper-link for a particular search, a drop-down list of search topics, a simple keyword or Boolean- enabled search box, an advanced search engine and the ability to browse all of the objects in a given collection.Collection may also be combined for cross database searching. All of these features can then be placed on a website, with the result that the database interface can be designed for intended audience. The most important thing we need to considered while Digitization of Image is to follow the standards like Dublin Core Metadata .So that we can maintain the changes brought about by the Technologies. By adopting these standards in the open archives initiative ensures that the metadata created in CONTENTdm collection can be harvested by others. This software also allows for several export options, including ASCII and XML.

According to the DiMeMa website, " CONTENTdm provide support for the open Archives initiatives protocol for metadata Harvesting Version 2.0, an emerging standard for Metadata harvesting. So, CONTENTdm servers can function as OAI repositories". It can also burn CD and DVD Disks with full resolution images. Full-Resolution images have been also been made available to the department of general for use by teaching faculty .The metadata from CONTENTdm and the storage of the full resolution images both online and an CD/DVD, we should be ready to migrate the databases to other systems if necessary.

6.3   Photo's Online

This make to create a web-accessible image database for use in website. The photos online oversees the additions of new images complete with metadata to the database.

The FrontPage of photos online includes three search options

- ✍ A keyword search
- ✍ A dropdown box of predefined searches.
- ✍ An advanced search Engines.

Dataset : Datasets are organized collections of related information.

6.4   Audio/Video

Audio has come to mean a method by which sound is recorded digitally and stored. Audio files can be sequenced along with MIDI to form complex arrangements. Many professional musicians and producers use an audio and MIDI combination for the creation of contemporary music.

Video : A moving picture, accompanied by sound. Digital video is useful in multimedia applications for showing real life - such as people talking or real life illustrations of concepts. Here the digital music also has a place. The digital music is an artistic form of auditory communication incorporating instrumental or vocal tones in a structured and continuous manner. The Maine Music Box (MMB) is one of the interactive multimedia digital music library that enables users to view images of sheet music, stores and cover art, playback audio and video renditions and manipulate the arrangement of selected pieces by changing the key and Instrumentation. The library of digital resources which should integral to online music education channel that provides an instructional. The impetus for the endeavor should be a unique collaborative effort within and among diverse institutions and individuals. The music channel should contains metadata and cataloging, music and music education, library science, collection of printed sheet music , scores, graphic design, database design, interactive web programming and network administrations. Through Digitization, musicians, scholars, educators, students and the general public would be able to search textual data and retrieve images of scores or sheet music and cover art, link to the full text of lyrics, hear selected computer generated sound files, and link to other digital conversion of piece .The archive would also be accessible through a web-based Instructional channel integrated with music database.

Digital Conversion: The collection of music scores, manuscripts and sheet music for digitization based on the following criteria. The condition of the original materials, their historical importance and the need to preserve and broaden access to them through digital conversion should be the primary consideration. The other criterion includes:

- ✍ Copyright Status,
- ✍ Availability of metadata,
- ✍ Feasibility of Image Capture,
- ✍ Feasibility for second file conversion,
- ✍ Relationship to other digital sheet music.

The outsource for the Digitization of the collection will be in the cost effective way:

- ✍ TIFF (300 dpi RGB) and bitmap (300dpi-1bit) file formats.
- ✍ JPEG images (72 dpi RGB) and thumbnail (115X150 pixels)
- ✍ MARC records
- ✍ Text of lyrics
- ✍ Administrative metadata
- ✍ Preservation CDs.

7.   Conclusion

Preserving the art architecture, sculptural in the original form is not only difficult but rather impossible. Thus we should work towards processing the contents in different formats. Thus it has to be clearly understood that it is not simply videography or photography. But the advent of the web and other related digital technologies presents a good opportunity for increase content sharing and collaboration in the development of information systems. Making specialized scholarly digital content that is frequently non-textual often hidden within complex database structures and collection contexts more visible and easily accessible requires higher precision search and discovery systems that can exploit richer and more highly structured metadata. Digital preservation expects more care and high expertise for future generation.

8.   Suggestions

1.   Various agencies engaged in such work should meet and plan for digitization work of art, architecture and sculpture in various regions.

2.   Historians at each level should prepare text and mark each object for digitization.

3.   There should be an agency in each state, which should be responsible for entire digitization work. There should an apex body at national level for coordination.

4.   NGO's should come forward to cooperate in the projects.

5.   Sufficient fund may be contributed by various participating agencies.

6.   A little tax may be levied from visitors of each buildings of tourist interest to meet financial requirement.

7.   NRI can contribute to such a project by providing funds and equipments and technical know how.

8.   International agencies like UNESCO may come forward to help the projects.

9.   Start now before they perish.

10.   A local library should be recognized under the project for collection of material and work as a node for dissemination by providing high broadband connection and large capacity storage devices.

11.   Indian Cultural Heritage Information Network (ICHIN) should be developed with the use of ICT.

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11.   Important Web Sites

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Some Heritage Structures Historical)OME HERITAGE STRUCTURES (Historical)
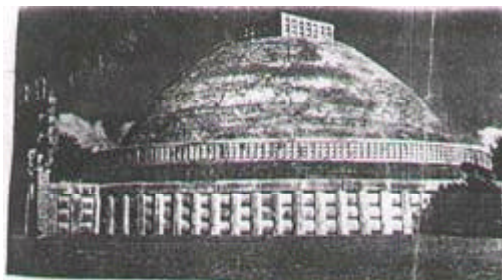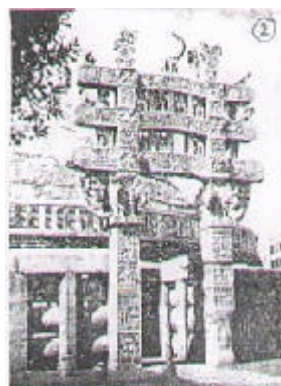
1. Sanchi of Stupa   2.Sanchi North Gate   3.Besnagar Yakshi

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