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INTRODUCTION, METHODS AND HISTORY OF INDIAN ARCHAELOGY

Unit Structure:

1.0 OBJECTIVES:

After going through this unit the students will be understand to:

1. Understand the meaning of Archaeology.
2. Understand the history of Indian Archaeology.
3. Know the various methods of Archaeology
4. Evaluate the relations of Archaeology with other Social Sciences.

1.1 INTRODUCTION

History is a record of the achievements of man. For the reconstruction of past of any country or people, we have to depends on events of past. Such events are called as the 'historical facts'. We can study only about those people, whose existence is known to us from some records that they have left behind. These records are known as the 'historical sources'.

The historical sources are classified into two main broad categories. They are Archaeological and literary. They archaeological sources include in it the inscriptions engraved on the stones or the metal plates or on some other object, coins and the structural remains, pottery, tools and Weapons, sculptures, paintings and various types of other antiquities found in the excavation. Archaeological sources provide the information

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regarding contemporary, political, social, economic, religious and cultural conditions. These sources are treated as more authentic because of their contemporirity for reconstructing the history of any particular country or community.

1.2 DEFINITION, AIMS AND SCOPE OF ARCHAEOLOGY

The term 'archaeology' comes from the Greek word Archaios means Arche or ancient or the beginning. Logos means theory or science. A simple definition of archaeology is "Archaeology is essentially a method of reconstructing the past from the surviving traces of former societies." Archaeology is mainly concerned with the material vestiges of man, which means everything made by human beings from simple tools to the machines and from simple houses to splendid palaces. All these material remains are studied under the archaeological study.

Some of the definitions of the term archaeology are as follows:

a) "Archaeology is a technique by which facts are obtained for the construction of history and pre-history, is humanity a way of looking at man and his work."

b) "The archaeological excavator is not digging up things, he is digging of people" – Sir Mortimer Wheeler.

c) "Archaeologists are students of material evidence surviving from past of tangible and visible products, and achievements of the extinct communities" – Stuort Piggot.

d) "Archaeology is that branch of science which is concerned with according to O.G.S. Crowford past phases of human culture" – O.G. Crowford.

e) "Archaeology deals with everything from eoliths to time capsule and covers such an enormous field much of it dealt with in specialist studies such as history of art or architecture" – Glyn Danial.

The main aim of an archaeologist is to study past. He focuses his attention on the material aspects of culture. These material objects are tangible and visible, which provide us valuable information about the socio-economic and cultural life of the past people. It serves as the prime source of knowledge for the long saga of man in the pre-historic times.

Archaeology provides us with a systematic framework of cultural and chronological sequence besides the technological advancement from time to time. With the study of other fields such as geo-chronology, stratigraphy, carbon dating system and thermoluminscence techniques, we can study the environment of the Stone Age man and his responses to and adaptions to the climate, flora and fauna.

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Archaeologists employ many ways to reconstruct the stages in the tool making techniques of the stone age. Archaeology is the only source of history for understanding the cultures of "Proto historic period". The discovery of the great Indus Valley Civilization was the result of the excavations of Mohenjo-Daro and Harappa. The discovery of these two cities buried thousands of years ago is an outstanding contribution of archaeology to the history of Indian Civilization.

Archaeology has an important role to play in understanding the people and their culture in the "historic Period" too.

The discovery of Buddhist sculptures in the Greek styles in the Gandhara region has proved the Indo-Greek contacts. The discovery of Roman gold coins in South India revealed the act that there was brisk trade between India and the Roman Empire. The excavation done in Andhra Pradesh at Nagarjunkonda is a land mark in the historical archaeology of India. From this excavation we have got a clear idea about ancient town planning. The excavation of mound at Nalasopara in Thane District has proved the spread of Buddhism in that area in the early period of the Buddhism. The excavations done in several other places which are associated with the Buddha such as Saranath, Bodhgaya, Kaushambi, Rajgriha, Kapilavastu etc. have yielded remarkable archaeological evidences which have enriched our knowledge about history of Buddhism. Most of the times the excavations have provided historical source material in the form of antiquities. Thus archaeology has become a very significant and effective method and tool for the reconstruction of history.

Archaeology provides ample materials for reconstructing 'the common man's history', our literary sources put emphasis more on the higher classes and the heroes and the leaders of the society who were great men of the time. But the archaeology often brings to light day to-day objects of the common man and thus it supplies the source material for a social history.

In brief, the study of archaeology is the study human struggles, efforts, and victories of the society. It is the study of not only a particular country or a particular society, but also different parts and societies of the word.

1.3 FOUNDATION OF ARCHAEOLOGY:

In the wake of Renaissance movement is Europe; there was a new wave of interest in the classical world. The glorious past of ancient Greece and Rome became the subject of the study of the scholars. It became a fashion to decorate, their houses with ancient art treasures and antiquities. They sponsored excavations in the ancient sites. These men of Renaissance made wonderful collections which were enriched by European museums. In the 16^{th} and 17^{th} centuries in England, a different trend was developed which was known as 'Antiquarianism'. It was a sort of interest in visiting and studying the monuments and other objects of antiquarian interest which became very popular. Many detailed studies of

historical monuments were conducted. In the 18th century, many developments took place which laid the foundations of new approaches and study of the past. Growing interest of people in the history, and natural science resulted into the growth of archaeology. Several excavations were undertaken and many societies such as the Royal Society (London) established in 1666, the society of Antiquaries of London (1718) took active part in the excavations. The antiquaries and natural historians laid the foundation of archaeology in 19th century. and the growth of archaeology was accelerated. Many important discoveries were being made in other parts of the world such as near East and the Mediterranean Countries like Babylon in Mesopotamia and Arco polis in Athence (Greece). This period witnessed further developments such as geological revolution, the development of sciences, an antiquarian revolution and the doctrine of evolution. These developments witnessed a climate of thought in which archaeology flourished and made further advances in the 19th century.

1.4 HISTORY OF INDIAN ARCHAEOLOGY:

Since India was part of British empire, during this period, a systematic study of archaeology in India began. The immense epigraphical, architectural and sculptural wealth of India was the subject of the attraction for the foreigners. Especially, the holy religious centers were always the subject of reverence for Indians and the curiosity for the foreigners who visited India as traders, travelers and rulers. As a matter of fact, Indians had respect and interest for preserving the old objects and their epigraphical records. But we do not get evidence for any effort to study them in an orderly manner until the Brahmi script was successfully deciphered.

From the 18th Century onwards the Officers of British East India Company began to take keen interest in the antiquarian wealth of India. In 1784, under guidance of Sir William Jones, a Judge of the Supreme court, the 'Asiatic Society' was started in Calcutta for the study of history, the Antiquities, Art, Sciences and Literatures of Asia. This Society started publishing its own journal i.e. 'Asiatic Researches' in 1788. This gave a Phillip to Ideological studies in which archaeological methods were also applied.

Archaeological work was limited to the preparation for notes on monuments in its initial stages. But the explorations done by H. H. Wilson in Afghanistan and Francis Buchanan in Bengal and Mysore brought to light many interesting antiquities such as coins, structural remains to temples etc. James Fergusson conducted an architectural survey of India between 1829-1847. After the survey, he classified the monuments of India. Many other people, who were mainly concerned with field work, collected coins, and some of them tried to study them. Many epigraphic records were also found in almost all parts of India. Unfortunately the script remained undeciphered in which the records were written. It was successfully deciphered by James Princep in

1838. He was an officer of Calcutta mint. He deciphered the brahmi script in which Ashokan edicts were written. This opened a new vista in the historical studies in India.

Alexander Cunningham is known as Father of Indian Archaeology. He, as an army engineer had worked with Princep in his work on the decipherment of Brahmi script. He took keen interest in the study of ancient monuments and cities of India. He insisted on the systematic exploration and approached Lord canning – the Governor General of India. Accordingly in 1861, Governor General established the 'Archaeological Survey of India' and appointed Alexander Cunningham as the Archaeological surveyor. He and his surveyors visited several historical monuments and remains and published reports with photographs and drawings. He identified the Chief Cities ad sacred places of ancient India such as the City of Taxila, Sravasti, Kausambi, all connected with Buddha, the Great Stupa of Bactrian, the inscriptions of Ashoka on the new rock edicts in Barhaut, characters. He published all his discoveries through which many scholars were attracted towards the field of archaeology. As a matter of fact, the archaeological techniques were not advanced, but Cunningham and his assistants had a great enthusiasm to explore and study the glorious past of India. They were the pioneers of Indian Archaeology.

The other Pioneers were K.F. Fleet Government Epigraphist and Hultzsch – epigraphist for South Indian inscriptions. They made a wonderful job in discovery, study and publication of many inscriptions. Others were Meadows, Taylor and Bruce Fotte. They contributed to the study of geology of peninsular India and took keen interest in archaeology. They discovered numerous Paleolithic, Neolithic and Megalithic sites. His collections of antiquities were published in two volumes in 1914.

James Burgess succeeded Cunningham as the archaeological surveyor. He made many contributions in Indian Archaeology. He started publication of two journals viz. 'Indian Antiquary' in 1872 'Epigraphia India' he also published the results of his elaborate surveys in 'Archaeological Survey of India' and 'New Imperial series' in twenty volumes.

Lord Curzon (1899-1905) also had sympathetic attitude for the preservation or ancient cultural relics and archaeological researches. His programme included exploration, excavation, research, epigraphy, publication and preservation of monuments. He recognized and enlarged the archaeological survey of India.

Sir John Marshall (1876-1958) was appointed as the District General in 1902 at very young age when he was just 26 years old. He placed Indian archaeology on a permanent footing. During his tenure an administrative department was formed to maintain the monuments. He led many excavations. A number of historical and Buddhist sites were excavations was the discovery of many sculptures, inscriptions seals and coins. Besides, impressive structural remains of the Mauryan palace were

discovered at Pataliputra and a fine town planning system under indo-Parthians at Taxila.

It was during this period, that the great Indus Valley Civilization was discovered at Harappa and Mohenjo – Daro in Sind. The work of the excavation of these sites was done earlier by D. R. Sahani and R. D. Banerjee. Later on the sites were extensively excavated by John Marshall and his assistants K. N. Dikshit, M. S. Vyas and Hargreaves. This discovery of Indus – Valley Civilization created widespread interest in archaeology in India which led to further more excavations in India.

In 1939, the distinguished British archaeologist Sir Leonard Wooley was invited to advise on the further policy on exploration and excavation. He criticized the excavation techniques as outdated and propounded the need for latest techniques adopted in Europe and America.

It was in this situation that Mortimer Wheeler was appointed as Director General of Archaeology in 1944. he recognized the department of archaeology and expanded its activities in many branches such as excavation and conservation. He invited the scholars from the Universities to participate in the excavation. His excavations gave significant results and were published. He started a new series of publication. They were Ancient India and Indian Archaeology. HE realized the need to train young scholars in the field of archaeology and started the training center at Taxila. In post-independence period in 1960, this center was transformed into the 'School of Archaeology' Archaeology was introduced in Indian Universities. Indian archaeologists were sent abroad to learn the latest techniques. In brief, wheeler brought Indian archaeology in line with the best International Standard.

After Wheeler the Archaeological survey of India is practically manned by Indian Archaeologists. Most of them were trained by Wheeler. In 1960 a School of Archaeology was established under the Archaeological Survey of India. In present days it is functioning as the Institute of Archaeology. In addition, many universities offer archaeology as a subject. There are many state level and University departments of archaeology. May universities such as Deccan College (Pune), Karnataka University (Dharwar), Calcutta University and many other Indian Universities have their departments of ancient history and archaeology. In these universities a large number of young scholars are trained in many branches of archaeology such as explorations, excavations, art and architecture, Numismatics, etc. the work now is carried on by may research institutes such as "Deccan College Post Graduate and Research Institute", Pune, "Jayaswal Research Institute", Patna. The eminent archeologists viz, H. D. Sankalia and his associates such as S. B. Deo, A. Ghosh, V. D. Krishnaswami, B. Subba Rao, B. B. Lal, G. R. Sharma, K. R. Srinivasan, M. N. Deshpande, B. K. Thapar, S. R. Rao, K. V. Sunder Rajan, R. V. Ghosh, K.N. Dikshit, J. P. Joshi, Suraj Bhan and others. All

these institution and individuals have made a valuable contribution in the field of archaeology.

1.5 ARCHAEOLOGY AND OTHER SCIENCES

History is an inquiry into the past. History is a record of the growth of human mind. It is the reflection of what goes on in the realm of reality with which man is concerned.

1) Archaeology and History:

Archaeology is on the border of humanities and social sciences. We have already seen that History mainly aims at the study of human cultures. Like history, archaeology also focuses on the study of material aspects of culture. History, can study the culture of mankind only on the availability of the written or oral records. In one way the scope of History is limited to the period of which we get some historical evidences in the form of literature. But Archaeology has a much wider scope and it studies the pre civilized or non-civilized cultures. The smallest cultural unit is called as artifacts in the field of archaeology. The material culture of mankind consists of such tangible forms, as tools, implements, pottery, burials, ornaments, and structural remains such as house patterns, religious monuments or other buildings. All these are called as artifacts. In artifact is a product of human workmanship. In the words of Gorden Child "an archaeological culture is an assemblage of artifacts that recurs repeatedly associated together in dwellings of some kind and with burials of the same rite. Artifacts hand together in assembles not only because they were used in the same age, but also they were used by the same people, executed in accordance with techniques, rites or styles prescribed by a social tradition, handed on by precept and example and modifiable in the same way."

In brief several similar assemblages found in several sites and covering a reasonably full range of human constitute a culture according to an archaeologist.

The artifacts are studied by the archaeologists. Artifacts are studied mainly in relation to man and they tell us they story of human culture. For studying the artifact in an orderly manner, it is necessary to document, classify, analyses and interpret them. An archaeologist has to place the artifacts in their historical and environmental contexts.

2. Archaeology and Environment:

Archeology is closely related with environmental because the archaeologist studies the artifacts in their environmental contexts. The evolution of man depends upon his surroundings the therefore, the environmental study is necessary to understand the economic and social life. Almost every culture is influenced and affected by it environment life. Almost every culture is influenced and affected by it environment i.e. geographical features. The rivers, hills, lakes, mountains, seas & plains have always played a vital role in the history

and the development of human culture. Therefore, the environmental study is necessary to understand the economic and social life which is directly related to human ecology or environmental setting. The artifacts i.e. antiquities and the art factual remains like the soils, seeds, bone, water source are also equally important for understanding the culture because they provide the environmental background for the cultural study of a human settlement.

As a matter of fact, in the early stage of archaeology, an archaeologist did not pay due attention to those ecological factors. But this is a recent development in archaeology which is called as 'Palaeo Ecology'. The ecological study helps in the study of many archaeological problems. For example, with the help of ecological study of the sites of Indus – Valley civilization we are able to know that the decline of that civilization, way due to the extensive, decline of rainfall and the aridity that had set in.

Since archaeology is an interdisciplinary subject, an archaeologist has to collect varied data and reconstruct the ecology of the past societies. It is called as the ecological approach to archaeology. This ecological method is more useful in the excavations of the pre-historical site than the historical sites. In this method, an archaeologist takes the help of other sciences such as botany, zoology, and geography to identify and analyses the remains as the plants, animals, soils, rocks, bones and other factors.

Archaeology has its relation with many other sciences. According to Gorden child, 'Archaeology and Anthropology are twin branches of a single science'. But according to Glyn Danial, 'Archaeology and Anthropology are not sciences, but are social sciences.'

Whether it is a science or a social science, is not the matter of study here. But archaeology and anthropology are closely related to each other and seek the help of various other sciences for their studies.

3. Archaeology and Anthropology:

An archaeologist has to study the decline of anthropology for better understanding of evolution of human beings and his culture. An archaeologist uses the methods, techniques and result of physical and biological sciences. An archaeologist at the same time, it's a humanist and a fact finder. According to Crowford, 'Archaeology is an art which employs scientific technique'. It is an interdisciplinary science which seeks help from various other disciplines like geology, anthropology, physics, chemistry, zoology etc. It is mainly concerned with the history and culture of mankind and therefore it is a human science.

4. Archaeology and Geology:

Geology is the science which deals with the condition and structure of the earth and the evidence afforded of ancient forms of life. It is the study of rocks, minerals, soils, climatic changes and their effects on land formation. Geological law of stratification has become a major tool for

the archaeological excavations. Geology has its own method of dating which is known as 'Glacial Verve Chronoly'.

5. Archaeology and Physics:

Physics also contributes in the archaeological investigations in many ways. Physics provides the scientific aids in the archaeological survey like the Proton-Magneto Meter (Material survey to detect buried iron and kiln sites), Thermo-remnant. Magnetic survey (to detect burnt clay artifacts and brick structures), Electricity Resistivity metric survey (to study the buried soils, rocks, pits etc.). All these survey methods have made a valuable contribution in developing the exploration techniques. In methods of dating the cultures also, physics has contributed a lot by the methods of the Radio – Carbon dating. Thermoluminescence dating Arhaeomagntism dating and potassium dating.

6. Archaeology and Chemistry:

Chemistry plays a vital role in preservation. Chemistry also has contributed to the development of the archaeology especially in the field of cleaning and preserving the antiquities. Metal objects like iron, copper, or silver found in the preservation. Similarly it plays a vital role in cleaning, Strengthening and preserving the ancient wall paintings. The conservation of Ajanta Paintings is an outstanding example of the work of chemistry. Chemistry has developed several methods like elector – chemical and electrolytic reduction for cleaning the metal object found in the excavations. Chemistry helps in dating of some of the antiquities by the methods of flouring, Uranium and Nitrogen dating of Bones.

7. Archaeology and Botany:

Archaeology and Botany also are closely related. An archaeologist has to seek the help of Botany to study the flora and fauna for understanding the ancient environmental setting. The study of ancient plant remains is called as 'palaeo Botany'. The method of pollen analysis is very useful in palaeo – botanical studies. This study provides information regarding the nature of vegetation climate, and the history of cultivation of any place and also the food habits of the people inhabiting it.

8. Archaeology and Zoology:

Zoology is the science of animal biology. It deals with the structure, classification and distribution of various members of the animal kingdoms. Knowledge of Zoology helps the archaeologist in many ways. Animal bones of various species are often found at historical sites. For the study of fossil bones of the animals of the past ages, Zoology helps us. It helps us to understand how man learnt to control and domesticate animal like sheep, goat, dog and pig in the Neolithic age.

9. Archaeology and Statistical Methods and Computer Science:

Statistical method is also of great value to document archaeological data. Statistical formulations serve as a tool for the easier handling.

Recently computer science also has become an important aspect of archaeological analysis. Especially it is necessary for artifact analysis on sites. It helps us in controlling, indexing and storing information and also the classification of the data in the archaeological method.

Thus it is clear that archaeology is very much dependent on a multitude of sciences and is itself increasingly adopting the methodology of a natural science. In recent years i.e. last three decades a school of archaeologists led by Binford and David Clerk has been strongly advocating that archaeology is a scientific discipline. This approach is known as 'New Archeology'.

Historical archaeology can again be divided on the basis of periods such as ancient archaeology, medieval archaeology etc. Archaeology can be classified on the basis of the subject matter or the problem of study such as Economic archaeology, Ethno- archaeology, Temple archeology.

There are some other types of archaeology also such as Marine Archeology, Aerial archaeology and Salvage archaeology.

Aerial Archeology means the aerial survey of the site through the study of the aerial photographs and preparation of maps a plane based on the survey.

Aerial Photograph of Ancient site of Shishupal Garh in Orissa

Check Your Progress:

1. Explain the types of Archaeology?
2. What is the relation between Archaeology and Chemistry?
3. Write the important names of various Archaeological sites of Ancient India?

1.6 CONCLUSION:

Archaeology has a much wider scope and it studies the pre civilized or non-civilized cultures. The smallest cultural unit is called as artifacts in the field of archaeology. The material culture of mankind consists of such tangible forms, as tools, implements, pottery, burials, ornaments, and structural remains such as house patterns, religious monuments or other buildings. All these are called as artifacts. In artifact is a product of human workmanship.

Through this unit the meaning and defination of archaeology and its relation with other social sciences are studied.

1.7 QUESTIONS:

1. Explain the meaning and scope of Archaeology?
2. How Archaeology is related with other social sciences ? Explain with example.
3. Evaluate the relations of Archaeology with Basic Sciences?

1.8 ADDITIONAL READING

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2

FIELD ARCHAEOLOGY

Unit Structure

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2.0 OBJECTIVES

After reading this unit the students will be able to:

1. Understand how to formulate the sites.
2. Know the historical methods to excavation sites.
3. Understand the Characteristict of archaeological excavation.
4. Evaluate the importance of Carbon -14 method.

2.1 INTRODUCTION

The field archaeology begins with the discovery of location of ancient site of burial monument or an artifact. The chances of discoveries may be casual, accidental or deliberate. The increasing activities or man like construction of new road ways or railway lines, extension of land for cultivation often lead to accidental discoveries.

Many ancient sites and settlements were covered by soil or the river silt or sometimes by sea. Sometimes the floods or river and sea erosion suddenly covered the presences of these ancient sites. To cite an example, Madurai, the capital city of the Pandean rulers was eroded by sea. Sometimes even buried structures would be exposed by the river erosion. These sites are suspected sites from the archaeological point of view.

2.2 FORMATION OF A SITE

Formation of a site is the first important step in field archaeology. A site survey can be undertaken for different objectives. It depends upon the nature of the study taken up by the explorer. It depends on the interest of archaeologists for example, if an archaeologist is a specialist in prehistory, he would like to study the Paleolithic and Neolithic sites of a region. If an archeologist is interested in the study of proto-history, he would make a survey according to his requirements (For example the survey of Indus Valley sites in Rajasthan and Gujarat). As regards the survey of historical sites the best examples are the exploration of the sacred Buddhist sites in India. One best example of the exploration is the exploration of a small mound at Nalasopara in Thane district which gave clues for the excavation of a Buddhist Stupa there.

Thus, the survey of cities, the study of land features, collection of the artifacts and the strategy to be adopted in the field archaeology depends on the objectives of survey.

2.3 EXPLORATION :

Site survey is a preliminary study of the field data available on the surface of a site or an area. Site survey is preliminary study of the field, data available on the surface of a site or an area which is called as surface exploration. It is known as 'Site Survey' or 'reconnaissance' in U.S.A. The term Exploration is used in India to distinguish preliminary site survey from the actual excavation. Crawford called it as 'archaeology without digging'.

Surface explorations play an important role in bringing to light the nature and the distribution of artifacts of cultures not only in site but also over a wide region. Field exploration helps us to enlarge our knowledge about the archaeological materials of an area and acts as a good indicator of the nature of the cities or cultures that one could expect in an area. It collects various coins, terracotta, seals, figurines and thus helps up to recognize or reconstruct the different cultures and periods, represented in the collection. Especially when excavations are very expensive and

time consuming, surface exploration is of great value for an archaeologist to plan his excavations in selected sites.

Map reading provides the information of the cities, towns, villages' temples and other religious places, major highways, railways, stations and rest houses and hotels. With the help of this information, an explorer can plan his trip in a better way.

In the exploration of the prehistoric sites – especially in areas where the hunter, gatherer and simple agricultural groups still exist, an ethnographic study of the local inhabitants is necessary.

2.3.1 Historical Information of a Site:

The explorer must know the historical background of a site, which he is going to be explorer. This historical background can be got from the historical literature either in the form of the literary or epigraphic evidences. However this historical data is not available for the study of pre-historic sites and therefore it can be used only for the exploration of a cite of historical period. Exploration of historical site enables us to know the names of cities or villages.

The explorer of an area or a site must study the data available from the early exploration or excavations conducted in that area. It can be available in the form of published works or unpublished notes prepared by an explorer. For example, Cunningham's notes on his exploration and his discoveries are very useful for the explorer in North-Indian sites. The explorer must consult the Annual Reports of the earlier Archeological Survey of India and now India Archaeology.

Local traditions also are very useful for the reconstruction of regional or local history because local people and knowledgeable persons are able to point out certain spots of historical importance. This helps the explorer to choose the spot of his excavation.

2.3.2 Scientific methods for survey:

In the exploration, an explorer may take help of some scientific methods such as Magnetic and Electricity resistivity which can be helpful in his exploration.

In Magnetic Survey – The Proton Magnetometer which is a scientific apparatus is used for detecting buried from iron kiln sites and certain kinds of soil. Another method is Thermo – Remnant Magnetic Survey by which the existence of Burnt Clay, artifacts, burnt brick structures can be detected.

In the Electricity Resistivity Survey the resistivity meter is used. This method is use by geologists also. IT can be applied to detect buried archaeological structures. This method was first used by Atkinson in 1946. Some other scientific are probe Augur, Drills geochemical methods, Aerial Survey and Photography which helps an explorer in his work.

2.3.3 Exploration Kit:

Exploration is a team work. The team consists of archaeologists who are specialitzed in different branches of history.

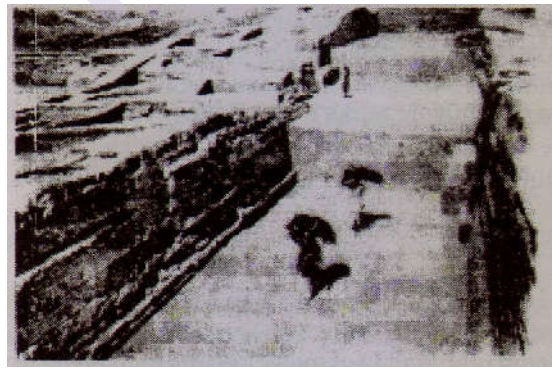
In actual exploration an explorer has to carry an exploration kit with him. It consists of many things:

1) Knapsack with Shoulder straps for carrying equipment's to the site.
2) Pottery cloth bags for collecting specimens like stone tools or potteries.
3) Antiquity Packets to collect smaller antiquities like beads, coins, etc.
4) Tape for measurements and excavation knives of scrap for finding stratification.
5) Pocket compass to know the direction.
6) Portable camera, exposure meter and film rolls,
7) Site note book, pen pencils to record the field data for every site explored, drawing sheets and geometry box etc.
8) First aid box and vehicle.

Surface exploration is a skillful job. If needs training and experience. The field data which is collected and the features observed on a site should be recorded accurately in his notes.

2.4 EXCAVATION:

When the exploration of a site is cover, and the ancient sites or mounds are plotted and the field data about them is collected, the archaelogist can proceed with the excavation work. Excavation literally means the digging of the earth removing the buried soil. It is just a destructive process. But the archaeological excavation is much different than the simple excavation because in archaeological excavation, and excavator is interested in knowing every inch of the soil which he digs below the earth to find out, whether it is a part of an occupation layer or it contains any traces of human activity. Archaeological excavation is a slow, systematic and planned digging to study the nature and the contents of the occupation layers.



Excavated site at Kalibangan (Indus Valley Civilization)

Archaeological excavation is an elaborate which involves time, money, labour and equipment. Excavation goes through many stages such selection of site, setting up of the camp, laying out of the trenches, proper excavation, documentation of the evidence, sorting out of the excavated objects and then preservation and transportation of materials back to the

headquarters, preparation of technical reports, and publication of the result.

2.4.1 Characteristics of an Archaeological Excavation:

The main characteristics of an archaeological excavation are as follows:

1. An archaeological excavation is done with great care and planning so that every artifact discovered from the site is preserved.
2. Its position in relation to the layers or deposits in which it is found (stratification) and relation to other objects is documented in records for the verification at any time.
3. Environmental data such as flora, fauna, soil are recorded and studied to know the ecological setting of the site.
4. The record of excavation is published.

2.4.2 The Excavation Team:

In the process of excavation, an archaeologist needs the services or different technical persons. The actual excavation staff leads an excavation the staff consists of:

1. Director – who is the chief of the excavation team.
2. Assistant Directors who closely work with the director.
3. Excavation Assistant who is called as Technical Assistant.
4. Site Supervisors or trench records.
5. Pottery Assistant who mainly works in the Pottery yard.
6. Antiquity assistant cum curator.
7. Photographer
8. Surveyor
9. Draughtsman for the preparation of measured drawing of the plans and sections or the excavated trenches.
10. Marksman for making the pegs on lay out.
11. Foreman cum store – keeper who maintains stock register and roll call and who is the charge of all the materials, like camp equipment, excavation tools and plants etc.
12. Field Chemists – who help in many ways like consolidation of bones before their removal, cleaning of coins etc. He attends the work of conservation of excavated objects. Like chemist, services of an Anthropologist, Zoologist, and Botanists are also required.
13. Labourers – Indian archaeologists employ manual labourers to do all the mechanical work.

The above mentioned technical and non-technical staff requires tools and plants. Usually excavations are conducted in interior areas. Therefore the team should be well equipped with boarding and loading facilities. They also should be well equipped with various kinds of tools facilities.

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They also should be well equipped with various kinds of tools required for excavation. For a proper understanding of a detailed history of a site on a sequential basis excavations are undertaken to know:

i) The vertical dimension of a site from its earliest inception from the soil upwards.

ii) The different period or phases in its history including the different occupation levels and building levels.

iii) The horizontal dimension, the material contents of each period like the lay-out of the town, the house patterns, nature of buildings and a host of human artifacts throwing valuable light on the material culture of the people.

As a matter of fact, excavations was considered merely as a method of collecting antiquities, a glorified treasure hunt, but later on archaeologist as emphasized on the context in which they were found and their relation to the layers and objects. In earlier excavations, the chronological factor was neglected but in the modern excavations, the chronological factor is carefully studied by the archaeologist. The cultural sequence and chronology are important in an excavation and therefore, the methods of dating are very important from the archaeological point of view.

2.5 METHODS OF DATING ANTIQUITIES

There are two types of dating system i.e. absolute and relative dating. In archaeology of historical period, we often get evidences for absolute dating with the help of a datable objects like coins or inscriptions or literary evidence. Coins and inscriptions of the rulers of some dynasties given an absolute idea of the dates of the dynasties some copper plate inscriptions also are very helpful for absolute dating system. However for the archaeology of pre- historic and Proto historic cities, we have to depend on the relative dating method, which is based mainly on the stratigraphic sequence and typological comparisons etc. In this relative method, a numbers of Geo-Chronological and other scientific methods of dating such as Radio-Carbon, Thermo-luminescence etc. are employed in modern times.

2.5.1 The Typological Method:

Artifacts are classified according to their form or shape and their relative antiquity assigned on the presumption that the main criterion-simple to elaborate, poorly preserved to well preserve- which is co-related with age. This a logical evolutionary arrangement constructed by the archaeologist which is called as Serration. This method when we apply in corrobation with stratigraphic method serves as a very useful tool to understand the different forms and traditions in the manufacture of different classes of artifacts.

2.5.2 Stratigraphic Method:

William Smith was also called “Strafa Smith”. Later on this method was adopted for the archaeological investigation, which has been universally accepted.

This method consists of surest method of determining the order of succession of events and cultures in a given site and hence, it has been a major tool for archaeological interpretation of a site. This method plays an important role in the archaeology and therefore, an archaeologist has to understand the principles of stratigraphy.

Stratigraphical excavation means excavation – layer by layer, keeping all the artifacts from each deposit in separate groups. The last laid deposit must be removed first and the earlier ones successively unit the natural soil is reached. This procedure gives an idea of the earliest culture at the site and the later culture that came up successively unit the latest represented by the uppermost layers. This procedure is known as the sequence of cultures built on the principles of stratigraphy. The excavations by this method ends at the layers where there is no longer any trace of human workmanship i.e. artifacts.

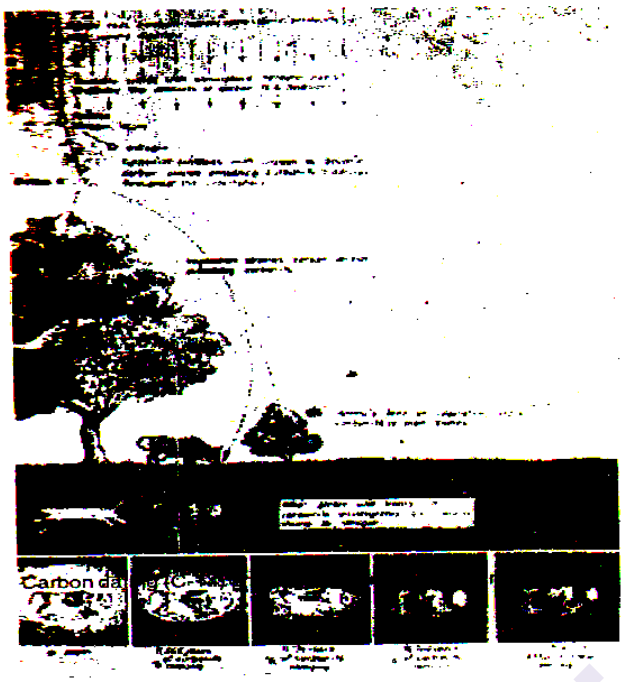
Different kind of soil depends upon the cause of the deposition either natural or human such as the layers of sand, clay, silt, gravel or lime (chalk) can be identified. For example the layers or sand and clay on a settlement usually can be by the floods or river. As regards the contents of layer, they contain ash or charcoal, gravel or pottery pieces, layers of brisk bats etc. the texture is hard, it has gravel or pebble. Within the layers itself, we may find some local patches such as a patch of phase or lime flooring. (Within a layer there may be many smaller laminations or patches). Natural layers can be differentiated from manmade or cultural layers. The layers deposited by natural agencies like wind, floods etc. are known as natural layers.

Thus method of stratigraphy provides us the sequence of cultures or the order or succession of events in a site. It also enables u to make the conclusion about the probable (relative) dates in terms of centuries.

2.5.3 Carbon – dating method (C-14):

This method of C-14 dating was devised in U.S.A. by Wilward F. Libby in 1984.

Carbon 14 is a ratio – active heavy of isotope of carbon. It I present in the upper atmosphere of the earth. The C-14 atoms combine with Oxygen to form Carbon dioxide and get mixed in the earth's atmosphere. They enter into all living organisms like plant



Carbon dating (C-14) Showing the process of Carbon decay

and animals. All living organism absorb carbon -14 (the radio – active carbon) and carbon – 12 (ordinary carbon) in constant proportion till the moment of death. After death, the radio – active carbon which was absorbed already, starts decaying. It decays at a rate determined only by half-life of the iso tope. The half-life of C-14 is 5568 + 30 years, it is possible to determine the ages of an organic sample by ascertaining the specific carbon – 14 activity in the sample. The amount of C-14 remaining in the dead organic matter is indicated by its radio – activity – which will be proportionate to the time that elapsed since death. This dating system is possible on the basis of the present day C-14 content of living matter and the known half-life of C-14. the dating of an ancient organic sample results from the measurements of its C-1 contents and the calculation of its age from the amount of disintegration that has occurred since death – The ample of organism burnt in the laboratory, reduces it to pure carbon and measuring the ratio – activity in a specially constructed radiation counter.

Many materials are suitable for carbon dating system. They are wood, charcoal, textile piece, parts of the body, shell, dung, charred gains etc. The sample should be collected in moisture free jars or aluminum or plastic foils.

There are many institutions in India undertaking C-14 analysis. These institutions are extensively used by archaeologist. The Tat institute of Fundamental Research Bombay, The Birbal Sahni Institute of Palaeo Botany, Lucknow, and the physical science laboratory Ahmedabad are the chief laboratories in India. These institutions have helped a lot for dating different cultures and sites in India which are very useful for archaeological dating.

There are some other dating systems also such as Thermoluminescencfe dating (T.L), Archaeo – magnetism, Potassium – Argon dating, Flurine,

Uranium and Nitrogen Dating of Bones etc. In many ways these methods are helpful for dating the cultures.

2.6 METHODS OF EXCAVATION:

When an excavator starts his work, he has to make a layout of the trench. Different strategies and methods can be adopted in the excavations depending upon the aims, the area and the time available for excavation. Many a time, artifacts and structures are found in the trenches at excavation time. There are different types of lay out of the trench. They are

i) Trial trenching or sondage

ii) Rectangular Trenching System or Vertical excavation iii) Grid system or Horizontal excavation

iv) Open striping

v) Quadrant method

2.6.1 Trial Trenches:

Trial Trenches are helpful for an archaeologist because they serve as Preliminary sounding before excavation. It gives an idea of the nature, depth and contents of the archaeological deposits in a site which is to be excavated. In this method, usually the trenches of one square meter are dug out. The area of the dig is small in this method and hence their value is limited because they cannot give a more detailed information.

2.6.2 Vertical excavation or Rectangular Trenching System:

Another method of layout of an excavation is the rectangular trenching method. It is a regular method with definite objectives. It is one of the popular methods of the excavation. This method is more useful when the area of dig is small and especially, when the objective of excavation is mainly to know the vertical sequence of cultures. It is also useful for cross trenching a line of fortification to co-relate its Stratigraphical sequence with that of the enclosure within. This method was used in Harappa to establish the Stratigraphical relationship between two cemeteries far away from each other.

Vertical excavation at the Ancient site of Ujjain

According to wheeler, recording the artifacts and other features in the excavation is "There dimensional measurement." With the help of this measurement, we can understand and study the exact location and stratigraphical position of the antiquities, structural remains and other features that are discovered in the excavation.

In the vertical excavation a trench is dug out in the vertical direction. This method gives an idea of the vertical depth of the object. Vertical excavation supplies the information to the length of an occupation. The vertical dig reveals the stratified deposits and furnishes the sequential frame work.

2.6.3 Grid System or Horizontal Excavation:

There are two methods of investigation or lay in the system. One is the Grid system in which a series of squares of uniform size are laid out, and the other is Open Stripping System complete are without the aid of square division or balks.

The Grid System: The orientation of grid system is necessary because it enables the archaeologist to describe accurately any point on the size in relation to the north south axis. (Here the surveyor lays out the metric grid parallel to the datum line) usually 5 to 10 square meters trenches are taken in the excavation.

This system helps the excavator the Co-relation or stratigraphy from the different parts of the sites. This is a very convenient system to excavate a vast area or a town site and every part of it can be plotted and integrated in the overall site grid.

2.6.4 Open Stripping System:

Open Stripping may be used after knowing the stratigraphy of the site. The square unit system which is used in the grid system is avoided here. The open stripping system means each layer and feature of the site of excavation is followed individually and cleared completely. This method is often used when there is time limit for excavations. Open stripping method is very useful to clear a large area. It can save the time and energy also.

In the horizontal excavation, an excavator takes up an experimental dig at the highest point of a given site. Here he takes a quick survey of the nature of the different layers (control pit) in a pit of maximum deposits of the variety of material objects which are associated with these layers.

2.6.5 Quardrant Method:

For excavating a circular mound such as a stupa, the trenches can be laid out the Quardrant method. The mound is divided into four quarters, each of which excavated sequentially.

2.7 SUMMARY

The process of archaeological exacavation is destructive, irrecoverable changes of the nature. Most of the archaeological investigation gives rise to an inhearant conflict between the practices of archaeology,

requirements for physical conservation of fabric, the cultural values other then archaeological ones that are associated with particular sites. Therefore, the Archaeologists may therefore be regarded as having an ethical responsibility to care for and conserve the sites they put at risk through excavation. Awareness and acceptance of this obligation have come slowly. The excavation of historical sites are important but simulteniously the limited irrecoverable changes of the nature needs to be taken care by the team of exvacation with the help of geological experts.

2.8 QUESTIONS

1. Which methods are used for the formation of archaeological sites?
2. what kind of preperations are issential to initiate the excavation of any archaeological sites.
3. Explain the various methods of excavation?

2.9 ADDITIONAL READING

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3

PALAEOLITHIC AND MESOLITHIC CULTURES

Unit Structure

3.0 OBJECTIVES:

- To trace the origin of Prehistoric archaeology
- To understand the different prehistoric traditions found in India
- To make students aware of the geographical spread of the Prehistoric cultures
- To analyze the development of stone tool technology.
- To observe and understand the environmental conditions and the location of sites during the Prehistoric period.
- To develop an understanding of the lifeways of the various Prehistoric cultures found in India

3.1 INTRODUCTION

Archaeology is the study of past human behaviour and cultural changes through the study of material remains. In other words, it's a scientific study of the past cultures and lifeways of the people based on things made, used, and left behind by them. So, archaeologists study people by examining the tools they used and places they lived. Prehistory is referred to the period in human history when there was no written record or before writing was known. Dr. Sankalia (Sankalia, 1962), mentions that Prehistoric archaeology refers to that period in human history for which we have no legend, no tradition, but only stone tools and bone tools and remains of animals. Prehistory also refers to that period when man was evolving biologically through its various extinct species to its present

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form. This evolution of human species to modern man took millions of years spanning most of the Stone Age.

3.2 BEGINNING OF STUDIES ON PREHISTORIC ARCHAEOLOGY

The beginning of prehistoric archaeology was laid by the findings of stone tools (hand axes) in association with fossil animal bones in the cliff over the river Somme in France by Boucher de Parthes in 1836. This was followed by the discovery of Pengelley in cave at Brixham, South Devon, England in 1863. These discoveries led to the realization of the antiquity of human past which was not only millions of years old but also associated with a very different climatic and geographical condition. Then came the discovery of skeletal remains of man. In 1857, a human skull was found on the river Dussel in Germany. This was identified later as skull of a Neanderthal man (now extinct). Herein lay the foundation of the beginning of association of past environment and changes that it underwent, with prehistoric studies. The finds of skeletal remains made it an important part of the prehistoric archaeology.

Paleolithic records span from the Pliocene through the Pliestocene. The Paleolithic period is dated to the glacial age. This entire period underwent frequent climatic changes. Climatic conditions varied from Glacial or Ice Ages to similar conditions like present day. During the Ice Ages, there was significant increase in ice cover. It increased by 30 percent. Sea level also reduced by 100 metres. Areas located in higher latitudes were covered by continental glaciers. This led to abandonment of sites and relocating during favourable periods in these regions. In the Indian subcontinent, though the climatic changes were significant, conditions remained favourable for humans through all fluctuations in weather conditions. Climatic studies have also given evidence of evolution of tropical grassland condition in the late Miocene in the Indian subcontinent.

The site of Dikika (Ethiopia) has yielded skeletal remains of an Australopithecine child dated to 3.3 million years old. This skeletal material was found along with animal bones showing cut marks, probably made by stone artifacts (Padayya, 2017). The earliest hominid *Australopethicus* (4.4 and 1.8 mya) lived in Africa. Some of the oldest stone tools are found at Gona in Ethiopia (4.5 million years old). Also, Omo valley and Afar valley of the Hadar region have yielded stone tools dated between 4.3 and 4.4 million years. These stone tools made on pebbles are called Oldowan because they were first found at the site of Olduvai Gorge, Tanzania and are associated with a later species known as *Homo habilis*. *Homo erectus* appeared 1.7mya and are found in Europe and Asia apart from Africa. He is traditionally associated with the discovery of fire. Important changes occurred in human evolution between 4.5 and 1.8 million years ago. Not only the stone tools first appeared, brains expanded, bodies enlarged, limb proportions also developed significant differences. Added to this there was a reduction in size of cheek teeth. The changes in crania resulted in it sharing more unique features with later *Homo* (McHenry and Coffing, 2000). The evolutionary

tract of modern humans leaves a very complicated trail. Research is still ongoing as to the relation of the various extinct species with one another and their role in the eventual evolution into the modern *Homo Sapien* genus.

In Indian context, the evidence of hominid fossils are extremely rare. The site of Hathnora in Madhya Pradesh has produced archaic form of *Homo sapiens* skull. *Homo Sapiens* fossil in well stratified context were also found at the site of Jwalapuram, Andhra Pradesh. Its dated to 20,000-12,000 cal BP.

Prehistory of India, as elsewhere, is divided into three broad periods-Paleolithic (paleo-old, lithic-stone, i.e., Old Stone Age), Mesolithic (meso-middle, lithic-stone, i.e. Middle Stone Age) and Neolithic (neo-new, lithic-stone, i.e. New Stone Age). Each of these periods is marked by different features as well as gradual improvement in tool making skill and technology. The Paleolithic period is further divided into Lower, Middle and Upper Paleolithic followed by the Mesolithic. Mesolithic period gives evidence of domestication of plants and animals and eventual move towards settled life in the form of temporary settlements. These sites are found all over the Indian subcontinent.

The prehistoric period in India is divided into the following timescale

Paleolithic

a) Lower paleolithic	1.5 to 0.2 million years
b) Middle paleolithic	0.2 million to 40,000 years
c) Upper Palaeolithic	40,000 to 10,000 years

Emergence of microlithic tradition 10,500 years to 48,000 years based on blades (Jwalapuram in Kurnool area and Mehtakheri in central India)

Mesolithic	10,000 to 6,000 years

3.3 LOWER PALEOLITHIC

The discovery of the first stone tool by Robert Brucefoot in Pallavaram, Tamil Nadu in1863 was the starting point of Indian prehistory. This was followed by three decades of work by Robert Brucefoot in which he further discovered sites in Gujarat and South India. Numerous studies focusing on the prehistoric archaeology of India has been conducted since then. Sites have also been found all over the country in arid, semi-arid, dry deciduous, moist deciduous zones. Though most of the finds are open air sites, there's also evidence of cave sites.

The period when the Paleolithic occupation took place is marked by significant changes in climatic and environmental conditions. Mighty rivers, originating from the Himalayas, flowed during the Early Pleistocene in the semi-arid region of Rajasthan. Due to tectonic movements, these were replaced by pools and lakes. It was near these

lakes, pools and exposed gravel beds where Acheulian remains are found. The climate during this period fluctuated between warm wet and cool dry periods. Semi-arid climate prevailed. In Madhya Pradesh, Bhimbetka rock shelter, chemical analysis has shown existence of humid climate like today. Faunal remains like, cattle, hippopotamus, wild boar, rhinoceros, horse recovered from riverbeds suggests existence of forests and grasslands and availability of plentiful water round the year. The Acheulian hominin adapted themselves to a variety of ecological niches.

Acheulian -The beginning of Indian Lower Paleolithic is marked by the acheulian cultural tradition. It is so named after the site St. Acheul in France where these tools were first discovered. It is a phase of the Lower Paleolithic. Earliest dates from the Indian subcontinent come from the sites of Isampur and Atirampakkam which have produced dates of 1.2million years and 1.5 million years respectively (Padayya,2017). It flourished in the Indian subcontinent from 1.5 to 0.5 mya. It is typified by assemblages of large cutting tools, hand axes, knives, and cleavers. The hand axe occupies a significant position. It was produced by knocking off flake systematically from several directions most probably with the help of large stone hammers. It is a heart or pear-shaped piece with a thick blunt butt or holding hand and tapering working end to form a point. Cleaver is another important tool which is flat and made from a big rectangular flake and has a broad axe like cutting edge. These tools are primarily bifacial, i.e., worked on both sides. Handaxes and cleavers could have been used for cutting, chopping, animal bones. Handaxes could also have been used for digging in the soil for roots or mollusk shells. Large flake tools are associated with this tradition. Some of the sites yielding Lower Paleolithic acheulian tools include Morgaon, Chirki-on-Pravara, Bori, in Maharashtra, Isampur in Karnataka, Jwalapuram in Andhra Pradesh, Attirampakkam in Tamil Nadu etc. Cleavers with sharp edges on the end of the tools and handaxes with a pointed end are the handheld tools found at these sites. Hammerstones are also found, though they are less in number.

The Indian Acheulian is closer in date to African Acheulian(1.8mya). Acheulian tradition is also divided into early and late Acheulian. Early Acheulian is marked by the large flake tools. Late Acheulian sees earliest evidence of prepared core and Levallois technology. In Levallois technique the core is prepared by giving centrally directed blows on the surface of the core. A platform is created, so it's no longer convex but flattened. Then perpendicular blows were struck at that point. This was done either directly or with the use of an intermediary tool. The flake detached in this way would need very little further working because its edges were already sharp. In this technique the core is totally reduced, and numerous flakes are produced. Beginning of production of large blades are also recorded at different sites., e.g., Bhimbetka during this period

Peninsular region is rich in Lower Paleolithic sites. The site of Morgaon located in Deccan plateau, the central part of Indian peninsular region is charcterised by acheulian stone tools. Morgaon excavations yielded large number of tools (handaxes, cleavers, knives, hammerstones) made on basalt which is found as bedrock in that part of the country. Large

weathered nodules or core were utilized weighing as much as 20 kgs and more than 30 cm in dimension. An anvil stone seem to have been utilized to split the core stone into two. Flakes were than detached. These kinds of flakes are also called Kombewa flakes. Kombewa, named after a site in Kenya..

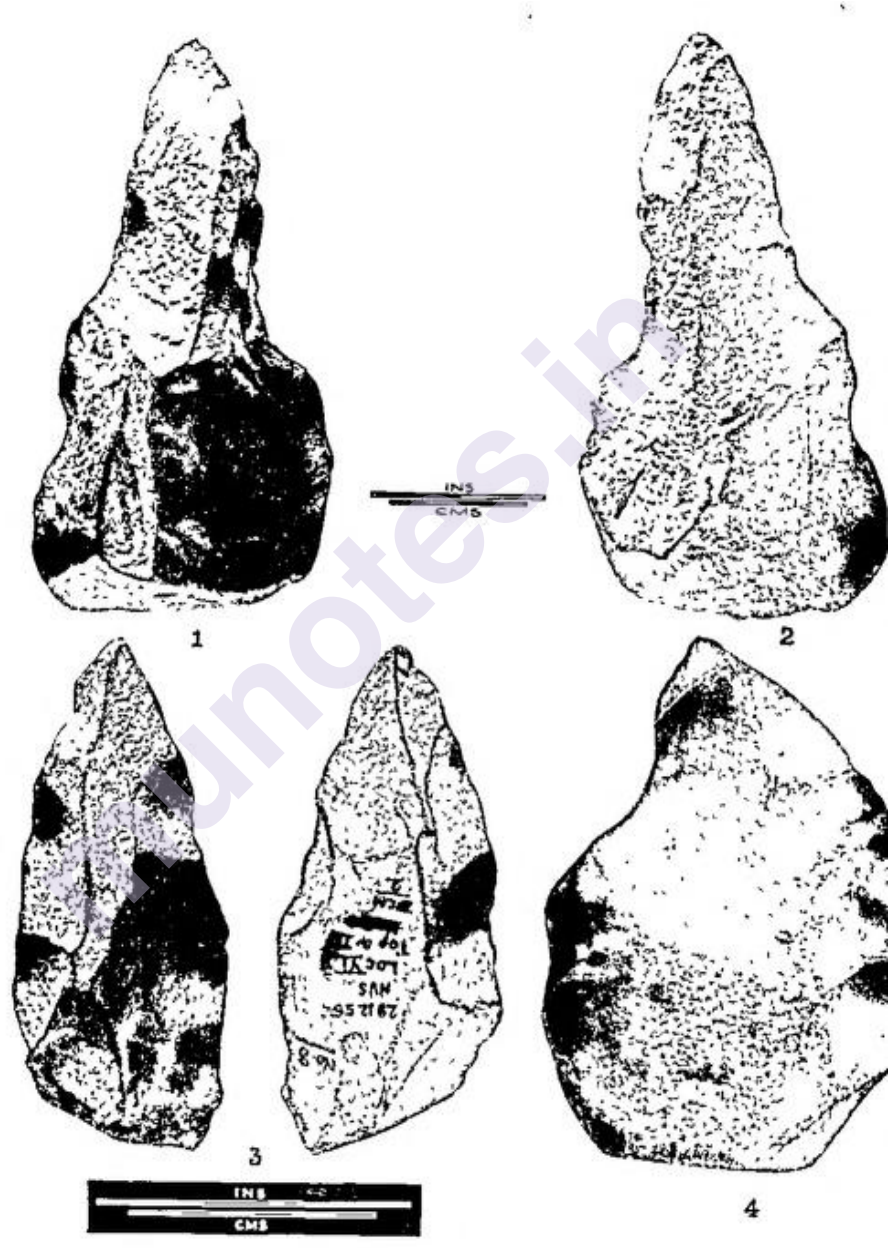
The excavations at the various sites have given us a lot of evidence of the Lower Paleolithic Acheulian tradition in India. In the southern peninsular region of India, excavations at the site of Isampur in Hunsgi Valley Karnataka has given evidence of different activity area. It's a quarry cum workshop associated with a weathered outcrop of silicified limestone. Limestone blocks, finished tools, debitage, hammerstones of chert, basalt and quartzite highlight the nature of the site as a tool processing workshop. Finds of fossilized dental and bone remains of bovids and cervids show that the site was also used for food processing and consumption. Isampur has also given evidence of perforators and steep sided hollow scrapers indicating woodwork according to the excavator. Acheulian hominin is also associated with the carrying of tools. The earlier tool makers made and discarded tools at one place. The Acheulian hominin made tools at one place and discarded at other places. Although manufacturing of tools occurred near the source of raw material, the finished tools were discovered at other places. The site of Isampur and its surrounding area give evidence for the same.

In western Rajasthan, Didwana region has given evidence of Acheulian localities. Excavations at the site of Singi Talav has yielded evidence of early Acheulian. Its thought to be more than 800 ka on regional chrono stratigraphy. The tools here are made on quartzite, quartz. Handaxes, cleavers, scrapers, denticulates, also a fair amount of debitage are part of the assemblage. Nearby, at another site named 16R (fossilized sand dune site), Lower Paleolithic to Mesolithic is recorded.

Rohri hills in southern Pakistan acheulian industry is also noted. This falls in the late Acheulian category. Here the Lower Paleolithic industry is based on chert. Late Acheulian Lower Paleolithic occurrences made on quartzite were also observed in the Siwaliks.

The raw material used for tool making was quartzite, basalt, limestone, dolerite, and granite. Local variations depended on the available raw material. In Maharashtra, basalt was commonly used and in Hunsgi, Karnataka, limestone was used. Handaxes, cleaver, knives, picks, chopping tools could have been used for variety of purposes. Procurement and processing of plant and animal foods, clearing of vegetation, from patches selected for occupation, creation of shelter, woodwork etc. Evidently structural remains of hut were also found in the excavation of Lower Paleolithic sites like, Chirki-on-Pravara (Maharashtra), Paisra (Bihar), Hunsgi (Karnataka). Recent focus on the settlement pattern of these early hominins has shown selection of sites with accessibility to water resources (ponds, lakes, paleochannels, floodplains) and as well as a wide variety of wild flora and fauna and the raw material (bedrock outcrops) for making tools. The sites were located close to the higher

riverbanks or the hill terraces. Hunsgi Baichbal Valleys, Kortallayar valley of Tamil Nadu, Tirupati Hills of Andhra Pradesh, Kaladgi basin of Karnataka, Pravara valley of Maharashtra, Raisen area of Madhya Pradesh, Belan and Son Valleys of the middle Ganga basin and Paisra valley of Bihar were intensively surveyed and have yielded similar evidence of prolonged Acheulian occupation. The monsoon regime of the Indian subcontinent, which was present since the Miocene times played an important role in the evolution and development of the Indian stone age.



Handaxes,Nevasa(After Sankalia,1960)

3.4 MIDDLE PALEOLITHIC

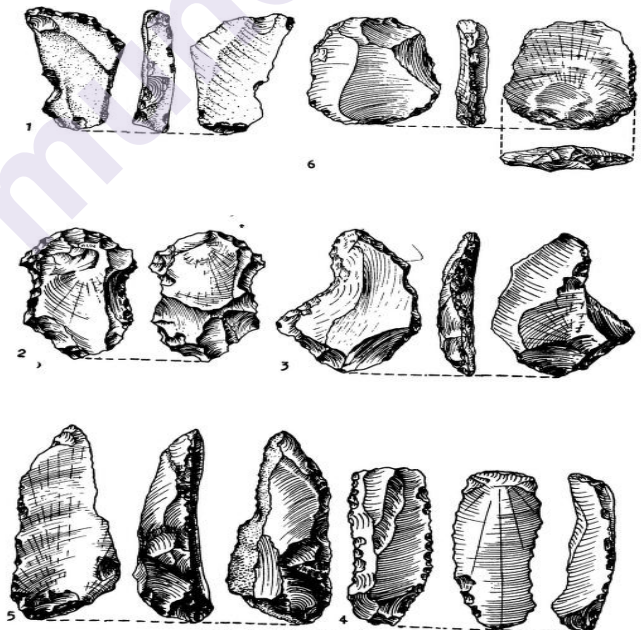
The Indian Middle Paleolithic culture was first identified by H.D. Sankalia at the site of Nevasa during his excavations (1954-56). There he came across flake industry comprising scrapers, points, borers. Subsequent excavations at other places revealed that the Middle Paleolithic culture comprising of tools, similar to those he found in Nevasa, was spread over different regions in India. The acheulian culture slowly evolved into the Middle Paleolithic. New forms, new tool types and techniques of making them are found here. The earlier hand axes and cleavers continue but more refined tool making technology becomes predominant. During the Middle Paleolithic phase tools were made on flakes, cores, and nodules. Tools made on flakes being predominant, it's also termed as flake industry These flake tools are smaller and thinner and mostly made on siliceous material like chert, jasper, agate, chalcedony. The flake-based industry uses mostly prepared core technique. Levallois technique is commonly employed. Progressive diminution in the size of the stone tools are observed. The main types include points, borers, and scrapers. Though quartzite, basalt continued in use, agate, chert, jasper was commonly used. Acheulian sites have given evidence of gradual evolution of Middle Paleolithic stone tool technology. The excavations at Attirampakkam have given oldest dates for Middle Paleolithic of India.

In other parts of the world Middle Paleolithic is associated with the Neanderthal man and at the same time India is conspicuous by the absence of physical remains of the Neanderthal man. But the tools associated with the remains of Neanderthal man is the same as those found in Indian Middle Paleolithic. The Middle Paleolithic culture developed during upper Pliestocene. During this time areas in northern latitudes were facing severe cold and glaciation. India was not facing the same. But the areas bordering these areas were facing severe aridity. This is why there are less sites in Middle Paleolithic than the Lower Paleolithic. The Middle Paleolithic population is generally found in the areas occupied by the acheulian population. They are found in western Rajasthan, Son and Belan valleys of Uttar Pradesh, Central India Narmada valley and its tributaries, Chotanagpur plateau, Deccan plateau and the Eastern Ghats. Atirampakkam (Tamil Nadu), Jwalapuram (Andhra Pradesh), Patne (Maharashtra), Bhimbetka, Samnapur (Madhya Pradesh), Hunsgi, Devapur (Karnataka)are among the sites giving evidence of Middle Paleolithic phase.

The Middle Paleolithic sites gives evidence of extensive workshops like the preceding Lower Paleolithic. But now they obtained siliceous stones as nodules from veins or cobbles or pebbles from the river gravel. Sites like Samnapur in Central India and Kovalli in Ghataprabha valley in the Kaladgi basin are two elaborate workshops of the Middle Paleolithic hominin. The chert occurred as veins or bands in the limestone formation They procured the chert nodules to make tools. Kovalli has given evidence of scrapers, points, burins, borers and knives. Scrapers dominate the

assemblage here. Levallois technique is absent here. The assemblage is both core based and flake based. Similarly, Samnapur has also given evidence of use of chert as raw material. Fossil fauna was also associated with this level. Jwalapuram site has given evidence of limestone as dominant raw material during this phase. Limestone is followed by dolerite, chert, quartzite, chalcedony, quartz etc. Prepared cores discoid cores, retouched flakes, scrapers are found in the assemblage here. Also, micro blade core start appearing in Middle Paleolithic assemblage at this site. Production of blades, though few, is observed in sites, e.g. Bhimbetka, Patne, Thar desert, Attirampakkam. During this phase bone tools also start appearing. The site of Kalpi (Uttar Pradesh) on the southern bank of the Yamuna has also given evidence of bone tools. Cattle were used for manufacturing large number of bone tools. These artifacts included end scrapers, burins, points found along with stone tools. This phase is dated to 45,000 years ago.

The Middle Paleolithic hominin were using cores of different types to shape single sided scrapers, double sided scrapers, denticulate with saw like edge, notched tools, points, borers. Scrapers are retouched flakes, formed by chipping the end of a flake to keep one sharp side. Both sides are retouched are double sided scraper. Burins are made on blade like flake. It has a screwdriver edge equal to the thickness of the blade. It is thought to be used to engrave on bone. Notch is a flake on which lateral incurve is made. More than one notch in the same border or contiguous to each other is denticulates. Flakes with lateral incurves made and has a projected part is borer. Borer was used on leather or animal skin for making holes.



Scrapers Maharashtra (After Sankalia, 1962)

3.5 UPPER PALEOLITHIC

The Upper Paleolithic succeeds the Middle Paleolithic and precedes the Mesolithic. In geological timescale, it developed during the later part of the Late Pleistocene. This period is marked by a dry and arid climatic condition. This is further substantiated by the finds of ostrich (bird adapted to arid climate) eggshells in many sites of Maharashtra, Madhya Pradesh, Rajasthan during the later part of the Pliestocene. There was a decrease in rainfall and poor vegetation cover in many parts of the country. Paleoclimatic research in different parts of India shows that there was intense cold in high altitudes and severe aridity in much of the country. In northwest India, including Rajasthan, Gujarat, Punjab, Harayana, extensive sand dunes formed and there was a westward shift of rivers during the Late Pleistocene. The vegetation cover reduced significantly throughout the country as is suggested by the geomorphic data. Lowering of sea level is recorded in coastal Tamil Nadu, Saurashtra and Kutch. Fossil fauna evidence of elephant, buffalo, cattle, hippopotamus comes from Godavari, Ghod, Manjra and Krishna valleys of the Deccan, the Mahanadi valley in Central India, southern part of Allahabad, the Mahanadi valley in central India. This implies the existence of grassland environment with pockets of swamps and forests.

M.L.K. Murthy's discovery of blade and burin assemblages at Rallakalava complex in the Chittoor district in 1960s established the Upper Paleolithic in South Asia. Subsequent discovery of several blades, burin assemblages in Uttar Pradesh, Gujarat, Maharashtra, Bihar, Andhra Pradesh, Karnataka and Jharkand established the Upper Paleolithic presence in Indian context. Upper Paleolithic sees further reduction in size and weight of the tools. This phase is dominated by production of parallel sided blades and burins. Quartzite continued to be used alongside siliceous materials like chert, chalcedony. Bone tool technology emerges as an important aspect. Working on bones, antler, ivory for both tools and ornamentation is observed during this phase. Characteristic feature of Upper Paleolithic also includes cave paintings, engravings, female figurines 'Venus'.

Jwalapuram (Andhra Pradesh), Metakheri (Madhya Pradesh), Patne Maharashtra, Baghor (Madhya Pradesh), Muchchatla Chintamanugavi (Andhra Pradesh), are a few sites yielding Upper Paleolithic artifacts. The Upper Paleolithic sites gave evidence of mass production of blades and blade tools, backed blades, flake blades etc. Blade is a flake tool, the length of which is more than twice its width. A blade with parallel sides is known as parallel sided blade. The knife blade is the elongated flake with deliberately worked sharp edge. The technique used in Upper Paleolithic is also known as pressure flaking. Pressure was applied by chisel like stone, which removed parallel sided blades with regular width and

thickness. Backed blades are made by retouching one side to make it blunt. Lithic tool repertoire of this period also included scrapers (End scrapers, single side scraper, double sided scrapers, notched scrapers), points, knives, burins, borers, denticulate, small choppers. Chert and chalcedony were preferred. The Muchchatla Chintamanugavi, bone tool assemblages consisted of scrapers, perforators, chisels, spatulae, tanged and shouldered points, splinters apart from several worked bones, bone blanks, broken and cut bones were also found. These formed important components of Upper Paleolithic kit. Evidence of faunal remains like gazelle, deer cattle, horse, rhinoceros, hyena, freshwater fish etc. from the above-mentioned site suggests humid conditions prevailed in this area. The presence of fossilized cattle bones, at the Upper Paleolithic site of Maralbhavi, shows food processing activity also happened.

The use of various types of scrapers were probably used for woodwork. Thrusting spears, barbed fishhooks, fishing arrows, spear points, arrow points, knives could have been made by using simple blades and backed blades as inserts. Grinding stones could have been used for food processing.

Muchchatla Chintamanugavi has also given evidence of fireplace (Nambi and Murty,1983). The structure of the fireplace is between 1.50 to 1.85m. It was made by arranging limestone boulders in a horseshoe shape. Its evident that it was used for roasting meat and would have been used for fire treatment of chert nodules for further production of artifacts.

Patne has given evidence of beads of ostrich eggshell and marine shell along with the lithic tool implements. These beads of ostrich eggshells have engraved designs on them. Forty or more sites in India have given evidence of beads of ostrich eggshell. The site of Baghor II in Son Valley Uttar Pradesh, has given evidence of a shrine identified with the worship of mother goddess associated with the Upper Paleolithic periods. Here, a rectangular rubble platform was exposed with a triangular stone with natural concentric circle installed in its centre. The present-day traditional hunter gatherer of that region worships similar stones installed on stone platforms as mother goddesses. So, the archaeologists concluded that this practice may have begun in the Upper Paleolithic and showcases continuation in cultural practices. Decorative beads of ostrich eggshells were also found at the site.

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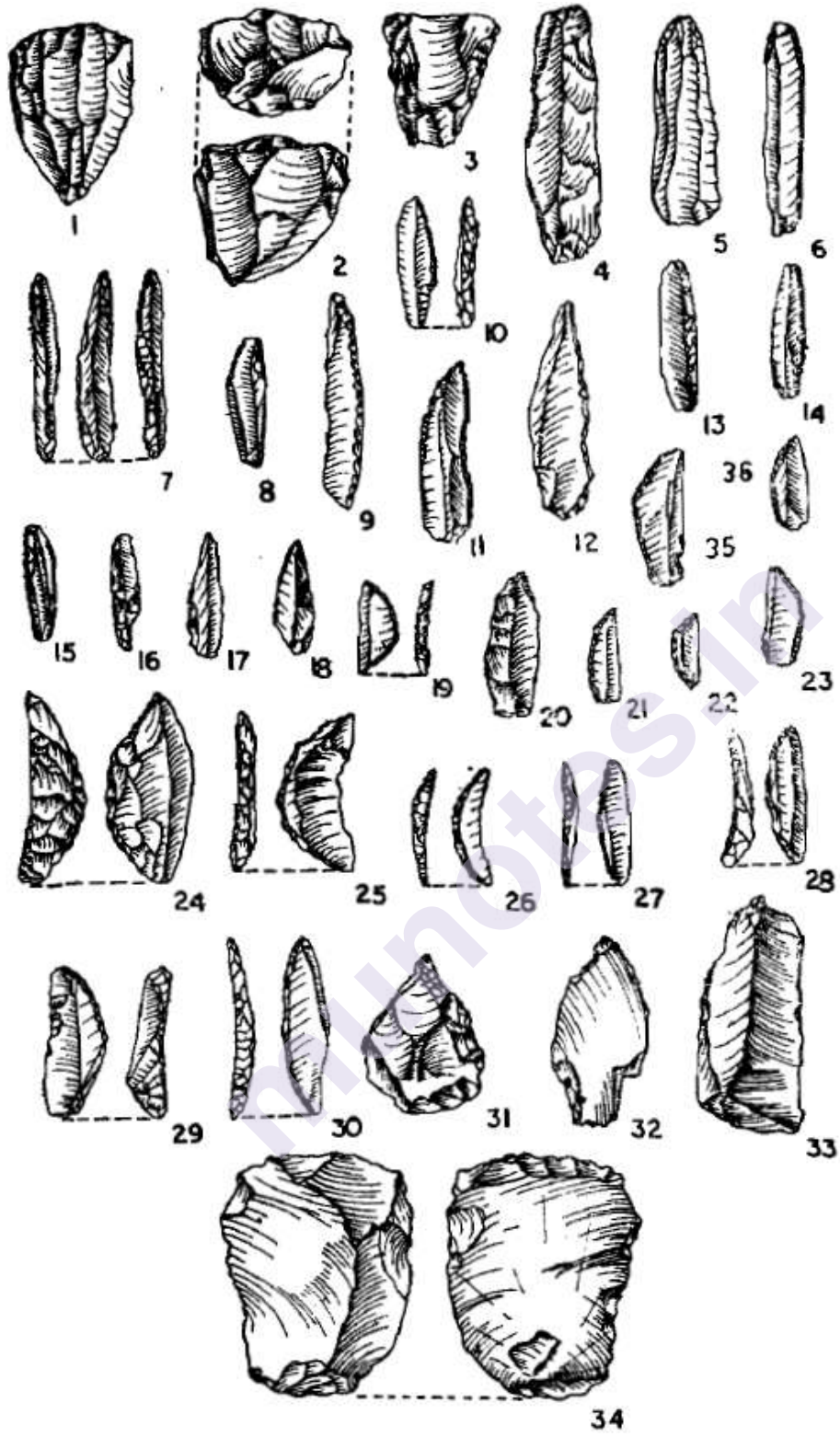


Patne Upper Paleolithic (PC:Sali,,1989) 1-3 cores,4 notched blade, 5 simple blade,6 minutely retouched blade, 13,14 backed blades, 12 backed point, 10 and 16 tanged blades,8 truncated blade, 9 blade with retouched ridge, 11,21-23 pen knife blades, 7 and 33 borers on blades, 31 borer on flake, 15, 17, 18 and 20 points, 32 tanged arrowhead,19,24-30 lunates, 34 scraper on flake

Check your Progress:

1) What changes were noticed in the Upper Paleolithic tool industry?

2) Examine the development of art and religion in the Upper Paleolithic

3) Discuss the role of paleo-environment in the development of the Paleolithic in the Indian subcontinent.

3.6 MESOLITHIC

Mesolithic was first identified by ACL Carlyle (1867-68) an assistant of Alexander Cunningham. He found microliths in the caves and rock shelters of Kaimur range in Mirzapur district of Uttar Pradesh. Next important work was in 1950s at Langhnaj and few other places in Gujarat, where excavtions were undertaken by H. D. Sankalia. This was followed by V.N. Misra's work in Central India and Rajasthan. Eventually numerous sites of Mesolithic were explored and excavated.

Mesolithic succeeds the Upper Paleolithic. It connects the Old Stone Age and the New Stone Age. It further represents the transition from the previous hunting gathering stage of the Paleolithic to the agricultural stage of Neolithic. Mesolithic phase is generally identified with warmer and a very favourable climatic condition in the beginning of Holocene. Lakes were formed and sea levels rose. The increase in rainfall led to an abundance of plant and animal life. This also led to significant growth in population. This abundant supply of water, food also led to the increasing number of Mesolithic sites. This growth of population manifested in the presence of Mesolithic sites in almost every part of the Indian subcontinent. This phenomenon can be well understood by substantial increase in the number of Mesolithic sites in areas previously inhabited by the Paleolithic population. Mesolithic artifacts are present on the thousands of sand dunes present in western Rajasthan and Gujarat. Similarly, in the case of rock shelters in Central India, earlier when few of them were occupied, now all of them, amounting to several thousand yielded evidence of Mesolithic occupation. A small district in Odisha, Koraput, yielded more than one hundred Mesolithic sites. First human colonization of the Ganga plains happened during this period which is evident from over 200 archaeological sites found in the districts of Prayagraj, Jaunpur, Mirzapur, and Varanasi districts. Effective colonization of deltaic West Bengal and parts of West coast (around Mumbai), Kerala took place.

The Mesolithic is dated to early part of Holocene 8,000 BP to 10,000 BP. But the antiquity of microlithic tradition based on absolute dates from sites like Metakheri in Madhya Pradesh, Jwalapuram in Andhra Pradesh, goes back to 48,000 BP. Though the Mesoithic way of life began from the early part of Holocene, the microlithic tool tradition evolved way back in the Pliestocene.

Microlithic tool tradition was marked by the use of mass production of microliths or blades. Nodules of siliceous stones like chalcedony, chert

were used to produce these tiny tools or microliths which were 1cm to 5cm in length. Microliths were produced from prepared rectangular or cylindrical core with help of a bone or wooden hammer. A variety of blades were made including triangles, trapeze, lunates, backed blades, points, etc. These microliths were hafted in wooden rods or bone and used as a composite tool like knife, barbed harpoons, spearheads, arrowheads. Such composite tools are reported from some of the Mesolithic sites in Europe and some later sites in India. Mesolithic tool kit also included querns and mullers used for food processing. Querns, mullers, give evidence of domestic activities like increased exploitation of wild food plants. Perforated stone discs or rings-stones would have been used as weights for digging sticks. Also, some sites from Odisha have given evidence of choppers, chopping tools, picks etc. These would have been used for clearing forests.

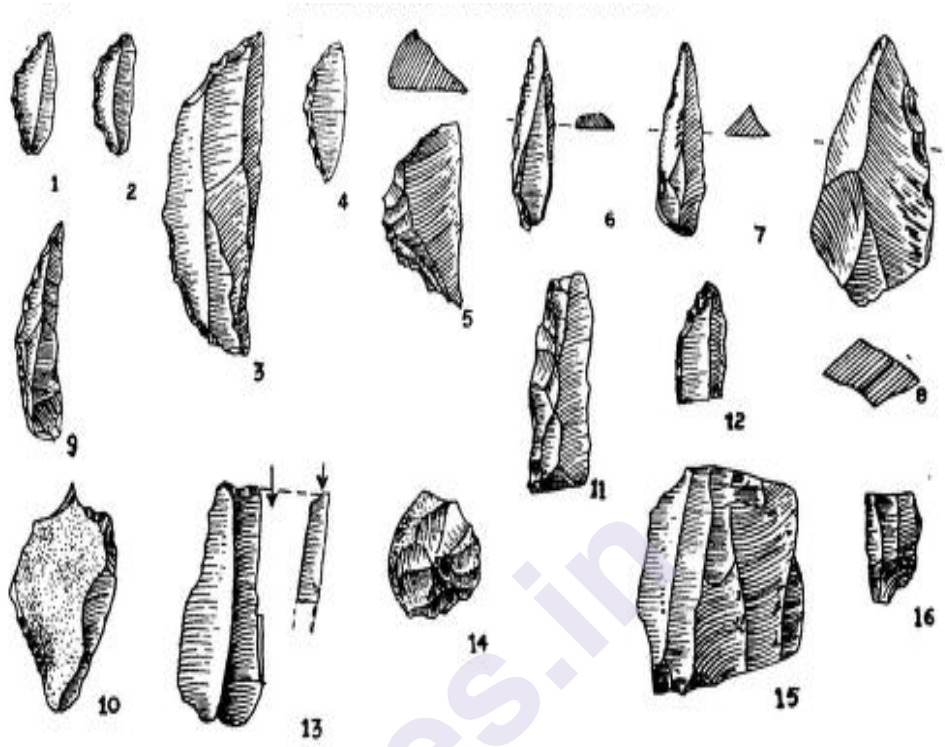
Exacavations at various sites have given us lot of information about the Mesolithic life. Some of the excavated sites include Sarai Nahar Rai, Mahadaha, Damdama (Uttar Pradesh), Adamgarh, Bhimbeka, Metakheri, (Madhya Pradesh), Bagor (Rajasthan), Billa Surgam cave, Jwalapuram (Andhra Pradesh), Patne (Maharashtra), Hunsgi, Maralbhavi, Mudnur (Karnataka), Ayodhya hill sites (West Bengal) etc.

It is thought that increased food supply would have led to decrease in nomadic lifestyle. This is evident from the large size of sites, thickness of habitation deposits and the presence of burials specifically in the Gangetic Valley. Mesolithic people lived in semi-permanent habitations. Evidence of structures are obtained from stone alignments, postholes, rubble wall, paved floors etc. Intentional disposal of dead for the first time appears during this period from different sites. Langhnaj in Gujarat, Damdama in Uttar Pradesh, Bhimbetka in Madhya Pradesh are some of the sites giving evidence of burials. Detailed studies on the skeletal remains of the Mesolithic and protohistoric sites have been done with focus on paleopathology, palaeodemography etc. Robust health of hunting gathering societies is evident from these studies. Grave goods like microliths and bone ornaments were also placed in the burials.

Mesolithic sites are also associated with rock art. It includes paintings and engravings made on rock surface. Rock paintings are found in different parts of the country but the most prolific is in Madhya Pradesh in sandstone hills of the Vindhyas. Bhimbetka is one of the most important site associated with rock art. It has around 600 painted rocks in an area of 10sq. km. Red is most common, followed by white. Green is also used but rarely. .Haematite seems to have been used for colours. Depiction of wild animals and hunting scene is quite common. Wild animals like deer, nilgai, wild buffalo, boar, rhinoceros, tiger etc are depicted. Fishing and gathering activities like collection of plant foods, honey is also portrayed. Social life, religious life is also depicted.

Beads of jasper, agate have also been found in Bagor, Bhimbetka, Adamgarh. Pottery also makes its appearance in the late Mesolithic sites

such as Bagor dated to fifth millennium BCE as it came in contact with the neighbouring agriculturist communities.



Microliths from Birbhanpur (After Sankalia,1962)

Check your Progress:

1) Trace the evolution of semi sedentary lifestyle during the Mesolithic phase.

2) Give a short account of the beginning of Prehistoric archaeology.

3) Analyse the Middle Paleolithic tool industry at the site of Jwalapuram.

4) Critically evaluate the role played by the Middle Paleolithic phase in human cultural development.

3.7 SUMMARY

The Paleolithic period is the longest phase in human history. Decades of research in Stone Age archaeology has enabled the reconstruction of Stone Age settlement with reference to accessibility of raw materials for making stone tools, availability water bodies and food resources like wild animals and plants. Stratigraphical cultural sequences are also available from Lower Paleolithic to Mesolithic in most of the sites. Paleoclimate studies has helped in understanding Stone Age sites and its available resources during the different periods of time. Evolution of tool technology is traced from the Lower Paleolithic itself which over time evolves into finer technology. Wood work seems to have begun from the later part of Lower Paleolithic itself. The advent of Holocene sees the emergence of semi sedentary lifestyle and the expansion of art forms. Rock arts depicting

various aspects of life is an important development. Micro wear analysis of microliths along with associated features like hearths and grinding stones point to increase exploitation of plant foods during the Mesolithic phase. Apart from variety of wild animals, domesticated animals like sheep, goat, cattle are present. This move towards partially settled life and more exploitation of plant foods paves the way for the emergence of agriculture.

3.8 QUESTIONS

Q1. Discuss the importance of settlement pattern studies in understanding Lower Paleolithic sites with reference to Isampur.

Q2. Write a note on the Upper Paleolithic site of Muchchatla Chintamanugavi

Q3. Critically examine the site of Jwalapuram with reference to Middle Paleolithic phase,

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4

NEOLITHIC

Unit Structure

4.0 OBJECTIVES:

- To trace the origin and growth of Neolithic
- To understand the different Neolithic Cultures found in India
- To understand the spread of domestication of plants and animals
- To analyze the development of tool technology in the New Stone Age.
- To observe and understand the environmental conditions, location of sites and the development of agriculture

4.1 INTRODUCTION

In the nineteenth century, it was the Danish archaeologist Thomsen who first divided his museum artifacts into Stone, Bronze, and Iron. Subsequently, prehistorians further expanded the divisions into Paleolithic, Neolithic, Copper, and Iron. This was further modified to include the three stages of the Paleolithic. Neolithic or New Stone Age is the last phase of Stone Age. Chronologically and stratigraphically, it follows the Chalcolithic phase but it's also contemporary with the Chalcolithic in Indian context. Ground polished stone tools, having smooth and round surface, are the chief characteristic feature of this period. Added to that is the beginning of settled life with introduction of agriculture. It also marks the use of handmade and wheel made pottery.

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V. Gordon Childe used the term Neolithic revolution to highlight the importance of the change in lifestyle during this phase. It's identified with a new subsistence economy based on farming and stock raising. And marks a major turning point in the progress of mankind. So, the Neolithic phase led to the emergence of sedentary living and small village communities. Some of the earliest Neolithic Cultures in the world are also located at Jericho, Ain Ghazal in Jordan, Catal Huyuk in Turkey, Spirit Cave in Thailand. These are dated to 8000-6000 BCE.

Identification of Neolithic stone tools or celts started in nineteenth century. Le Mesurie identified a celt or a Neolithic stone tool in 1842 in Raichur district, Karnataka. This was followed by many more such identifications including by John Lubbock, Meadows Taylor etc. Eventually hundreds of such tools were discovered in various parts of the country. Robert Brucefoot, pioneer in Stone Age studies, is also associated with the identification and interpretation of the Neolithic sites in India. Mortimer Wheeler's excavation of the site Brahmagiri led to the identification of the Neolithic cultural remains below the Megalithic. Neolithic cultural material like pottery, stone tools were found below the Iron Age Megalithic. This established the cultural sequence of the South Indian Neolithic. Further research carried out in the last few decades has brought to light many Neolithic and Chalcolithic Cultures located in a variety of ecological zones across the country. They were the pioneers of settled life in most part of the country.

Interestingly, the Neolithic phase in India developed in different regions at different time periods. In the Ganga Valley, its dated to 7^{th} to 6^{th} millennium BCE. The rest mostly fall in the range of 3^{rd}-2^{nd} millennium BCE. The variation in time and space in the Neolithic Cultures was also a result of adaptation to different ecological zones. Most of these Neolithic Cultures have also given evidence of indigenous development from previous Mesolithic phase. Some of these cultures were also contemporary to the copper using Harappans and other Chalcolithic Cultures.

Check your Progress:

1) What is the importance of Neolithic phase?

4.2 INDIAN NEOLITHIC COMPLEX

The Indian Neolithic is spread across the Indian subcontinent. The Indian Neolithic was divided into four zones by V.D. Krishnaswami (1962). These were, A – Central and Western India, B – southern India, C- East Indian Neolithic and D– Kashmir Neolithic. East Indian Neolithic was further divided into two regions, i.e. Assam and Bengal-Bihar-Odisha.

B.K. Thapar (1978) divided the Neolithic of India into six geographical zones, (i) Northern covering the Kashmir valley, (ii) Belan valley covering

the Vindhyan Plateau in districts Allahabad, Mirzapur, Rewa and Sidhi, (iii) Northern Bihar or Mid-eastern covering district Saran, (iv) North-eastern covering Assam and the adjacent sub-Himalayan region, (v)

Central-eastern covering Chotanagpur plateau extending in West Bengal and Odisha and (vi) Southern, covering the Peninsular India.

So, broad division of the Neolithic- The Northern India with Kashmir Neolithic, Central India with the Vindhyan and the Gangetic valley Neolithic, Eastern India Neolithic with Bengal, Odisha, Northeast and the Southern Indian Neolithic.

As noted earlier the site of Jhusi in the Gangetic valley, Koldihwah in the Vindhyan region have given dates going back to 7^{th}-6^{th} millennium BCE. So, it precedes the Early Harappan in some case, but it is also contemporary to the Chalcolithic and the Harappans (eg. South Indian Neolithic). The difference between the Chalcolithic and Neolithic mainly lies in the appearance of copper in the former and the presence of polished stone tools in the latter.

4.3 NORTH INDIA (KASHMIR NEOLITHIC)

The Kashmir valley has revealed the remains of Neolithic habitations at a large number of sites. Gufkral and Burzahom are two most important excavated sites. One typical characteristic of Kashmir Neolithic are dwelling pits. Here people lived in underground dwellings with wooden roof covers most probably as protection from cold. Hearths and storage pits were found outside the dwelling pits. At Gufkral there is also a double chambered dwelling pit the first phase is without pottery but stone celts, querns, pounders, were found. Next phase sees the evolution of illfired grey ware some of which had mat impressions and the following phase has wheel made pottery. It is also notable for its bone tool industry made of bones of sheep, goats and ibex. It included scrapers, chisels, awls, harpoons, antimony rods, needles with eyes, daggers and points. Kashmir Neolithic sites have given evidence of rectangular stone knives with two or more holes on the blunt side also known as harvesters. Associated faunal remains have given evidence of dog, sheep, goat, cattle, ibex, wolf, deer and bear. It comprised of both domesticated and wild animals. Flora remains included wheat, barley and lentil. An interesting feature of Kashmir Neolithic was burial of animals like deer, wolf, humped cattle. Dog burial associated with human burial is also found here. Ancient surgical practices or trepanning of skull was found on one human skull.

The subsistence economy consisted of both incipient agriculture and hunting. An interesting artistic depiction is found on a stone slab. The engraving shows a hunting scene and also two sun and a dog.

Check your Progress:

1) Analyse the importance of Kashmir Neolithic.

2) Write a note on the different zones of Neolithic found in India.

4.4 CENTRAL INDIA (VINDHYAN AND THE GANGETIC VALLEY)

The Neolithic evidence comes from various sites in Uttar Pradesh in the Vindhyan and the Gangetic Valley region. Explorations and excavations by the Allahabad University, Benaras Hindu University also the State Department of Archaeology, have led to the discovery of a large number of sites in this region. Vindhyan region has given evidence of transition from hunting gathering to sedentary agriculture. Huts, microliths, handmade pottery, food processing equipments suggests cultural continuity from the earlier Mesolithic. Among the important excavated sites are Koldihwa, Mahagara, Jhusi, Lahudewa, Sohagaura, and Chirand. Some of the sites like Jhusi, Lahurdewa, Chirand have given evidence of continuous development from Neolithic to Iron Age.

The Neolithic people lived in circular or semicircular huts with postholes. (Wattle and daub) houses associated with hearths and storage pits. Irregular water channel was exposed at the site of Lahurdewa. The lithic component was composed of querns, mullers, hammerstones, ring stones, microliths and polished axes. The handmade cord impressed pottery of the Neolithic is found here in the early phase. Eventually wheel made pottery, are also found.

One of the most important features of the Vindhyan and Gangetic Valley Cultures is the association of rice. Wild varieties of rice are found in abundance in Mesolithic sites. Neolithic sites give evidence of both domesticated and wild rice from the earliest phase. Associated with rice are also the finds of wheat, moong. masur and barley. The crop package also incorporated millets, legumes and pulses. Domesticated fauna included cattle, sheep, goat, buffalo and pigs. The site of Mahagara has also given evidence of cattle pen. Aquatic fauna fish, molluscs and turtle were also recovered. Wild animals included deer, antelope, elephant and rhinoceros. Bones of birds were also recovered. Bone tools formed an important part of Neolithic economy. Chirand is known for profuse amount of bone tools. It consisted of both weapons and ornaments. Scrapers, chisels, borers, awls, hammers, points arrowhead were the tool component whereas the ornaments consisted of pendants, earrings, bangles, combs etc. Steatite beads were found from the Neolithic levels of Lahurdewa.

The site of Sonepur in Bihar is the only Neolithic site to give evidence of burial. Food for the dead would have been given in the form of animal and bird bones found buried in the burial pits.

Check your Progress:

1) Discuss the evolution of Neolithic Cultures with reference to the site of Koldihwah and Chirand.

2) Assess the importance of faunal and floral remains in the economy of the Central Indian Neolithic Cultures

4.5 EASTERN INDIA

Explorations and excavations at the sites of Hikudi, Golbai Sasan, Kuchai, Baidyapur(Odisha), Pandurajar Dhibi, Mahisdal (West Bengal), Daojali Hading, Sarutaru(Assam) have yielded data regarding the Neolithic of Eastern India. Eastern Indian Neolithic specially the sites in West Bengal has sites with surface collection of Neolithic celts. The excavated collection of Neolithic polished axes is generally associated with Chalcolithic phase. The site of Kuchai in Odisha has yielded evidence of transition from Mesolithic to Neolithic. The other sites in the region have also yielded evidence of food production and also the production of Neolithic polished stone tools in large numbers. The site of Lahanda has a large number of debitage, showing evidence of stone tool preparation. Large sized flake blade blanks, dolerite boulders with marks of core preparation on their surfaces, hammers, alongside, semi-finished specimens of adzes, axes and chisels. This was a typical characteristic of a Neolithic manufacturing site which produced semi-finished specimen. The finishing processes like micro chipping, pecking and grinding is done by the people who finally used them. There are other sites giving similar evidence like the site of Hirakud.These were established for production of polished stone axes which were produced on the raw materials like dolerite. These quarrying and production sites were located near the outcrop. The end product was then traded.

Eastern Neolithic is associated with the presence of rice. The sites like Golbai Sassan, Harirajpur, Khamreshwaripalli have all given evidence of rice. The crops package also include pigeon pea, urad, millets, horsegram

Evidence of domestic faunal species include pig, domestic cattle, buffalo, gaot, cattle and sheep. Hunting was also practiced. Wild fauna alongside birds, turtles, fish were also recovered from these sites.

They lived in wattle and daub houses with handmade cord impressed pottery and wheel made pottery, used a variety of bone tools.

The Neolithic of the Northeast is dominated by shouldered celts. Excavation at the site of Selbalgiri in Garo Hills, yielded hoe blades and shouldered celts. The raw material used was sandstone. It seems that modern iron hoe blade is an exact copy of the flat celt or hoe blades. They have also yielded cord impressed pottery, butt end axes and microliths. Presence of querns and mullers provide indirect evidence of plant food. Sandstone, quartzite, were used to make lithic tools. Fossil wood was also used to make Neolithic tools.

Check your Progress:

1) Comment on the variation within East Indian Neolithic.

4.6 SOUTH INDIAN NEOLITHIC

South Indian Neolithic is one of the best studied Neolithic. It includes the states of Karnataka, Tamil Nadu and Andhra Pradesh. Robert Brucefooot

was one of the earliest workers on South Indian Neolithic. Excavations at Brahmagiri by Mortimer Wheeler, Piklihal by Raymond Allchin and work of K.Paddayya (Paddayya, 2002) at Budihal are important contributions to South Indian Neolithic. Excavations at the sites of Piklihal, Maski, Budihal, Hallur, Sangankallu, Nagarjunakonda, has helped in understanding the South Indian Neolithic.

Ashmound sites are characteristic feature of South Indian Neolithic. They are mostly associated with habitation sites yielding rich Neolithic cultural material. Ashmound sites are located in areas more suited to pasture and less suited to agricultural activities. The excavation of the site of Budihal has given us a comprehensive idea about the lifestyle of the Neolithic. The entire site consists of ashmounds and habitation deposits. It has different areas marked for chert workshop, butchering activity (where stone tools in association with faunal remains were found), cattle penning area and living area and burials. Specified area for polished stone axe grinding was also located. The Neolithic people lived in circular huts made of low walls of stone supported by conical thatched roofs. Similar dwellings are also found at other sites like Brahmagiri, Piklihal, Palavoy, Hallur,etc. Hearths and storage jars were found in all the huts at Budihal. The dwelling structures in the South Indian Neolithic were invariably accompanied by mullers, querns, and storage pits, and ground stone axes. Manufacturing of ground axes was another important characteristic feature of Neolithic South India. Manufacturing centres have been fonud profusely across the South Indian Neolithic horizon.

Ashmounds were formed of burnt cow dung. It's been postulated that this activity was initiated to keep the cattle penning area hygienic. It could also have held ritualistic significance. As cattle was very important in the pastoral economy.

Hill sites like Sangankallu were commonly found. They were located close to water springs. At the site of Sangankallu, a Mesolithic phase preceded the emergence of Neolithic stone axes. Neolithic phase structural remains are associated with circular huts and hearths. At Sangankallu Neolithic complex, manufacture of polished stone axes was carried out by quarrying the dolerite dykes. Here, like in Odisha Neolithic the axes were traded to other sites where the grinding activity was carried out. Sites in Tamil Nadu also gave evidence of axe manufacture. Typically, in all these sites the, the factory sites did not yield finished products. Dolerite was commonly used for manufacturing chisels, adzes, axes. Querns and mullers were mainly made of quartzite.

The Neolithic people of Tamil Nadu also lived on hills, slopes of hills, and foothills. Rock shelters are associated with the sites though they were not used for dwelling purposes. Rarely they settled on riverbanks. Terrace cultivation would have been practised. The sites here give evidence of Neolithic followed by Megalithic. Associated with the Neolithic sites are ground stone tools, pounders, mullers and querns. The Neolithic pottery included handmade grey ware, buff and brown ware. Sites like Paiyampalli, Appukallu, Bargur have given evidence similar to the rest of

South Indian Neolithic. Appukallu is an ashmound site which is located at a foothill. Neolithic ground stone tools were recovered from the excavtions here.

The sites of Andhra Pradesh have yielded evidence similar to the rest of South Indian Neolithic. It also is characterized by ashmound sites associated with the granite-gneiss hills. Gamalapadu and Budada were Neolithic habitational cum manufacturing centre of axes. These sites have also given evidence of spouted pots, dish on stand, in the pottery repertoire. Presence of steatite disc beads provides evidence of trade or exchange. Raw material for manufacturing steatite beads is not available locally. Excavations at some of the sites have yielded evidence of pale grey ware in the earlier phase and ill fired brown and buff ware in the later phase. Palavoy finds includes profuse amount of bone tools. Some sites like Nagarjunakonda, Palavoy have given evidence of microliths before the appearance of Neolithic cultural materials. Apart from that, most of the sites have given evidence of Megalithic Iron Age following the Neolithic.

The sites like Hallur, Tekkalkota have given evidence of two types of millets, horsegram, mung bean, wheat, barley, legumes, black gram, green gram. Among the fauna, cattle predominate, though there is presence of sheep and goat. Wild animals like nilgai, deer, gazelle, tortoise were found. Frequent depiction of cattle and bull as rock art further emphasizes the importance of cattle. Pastoralism was the most important part of subsistence economy which also consisted of incipient agriculture, hunting and fishing Copper fishhooks were found at some sites. Matt impressed pots suggests presence of weaving. Chisels, adzes, axes would have been used for woodwork

Beads of semi-precious stones and steatite become quite common. Appearance of copper show contact with the Chalcolithic cultures to the north. Spouted pots show contact with the Chalcolithic Jorwe culture of Maharashtra. The pottery was handmade grey or reddish pottery. Later stages saw the emergence of wheelmade sturdy pottery.

Burial was practiced. Burial in jars was also observed. They also practiced extended burials and secondary burials

Rock art is most profusely found in rock shelters, boulders around hill sites. They are either engraved or painted in white and depict figures of cattle, deer and hunting scenes.

The South Indian Neolithic seems to emerge out of a earlier Mesolithic phase. Sites like Nagarjunakonda, Sangankallu give evidence of a Mesolithic phase. The South Indian Neolithic is succeeded by the Iron Age Megalithic.

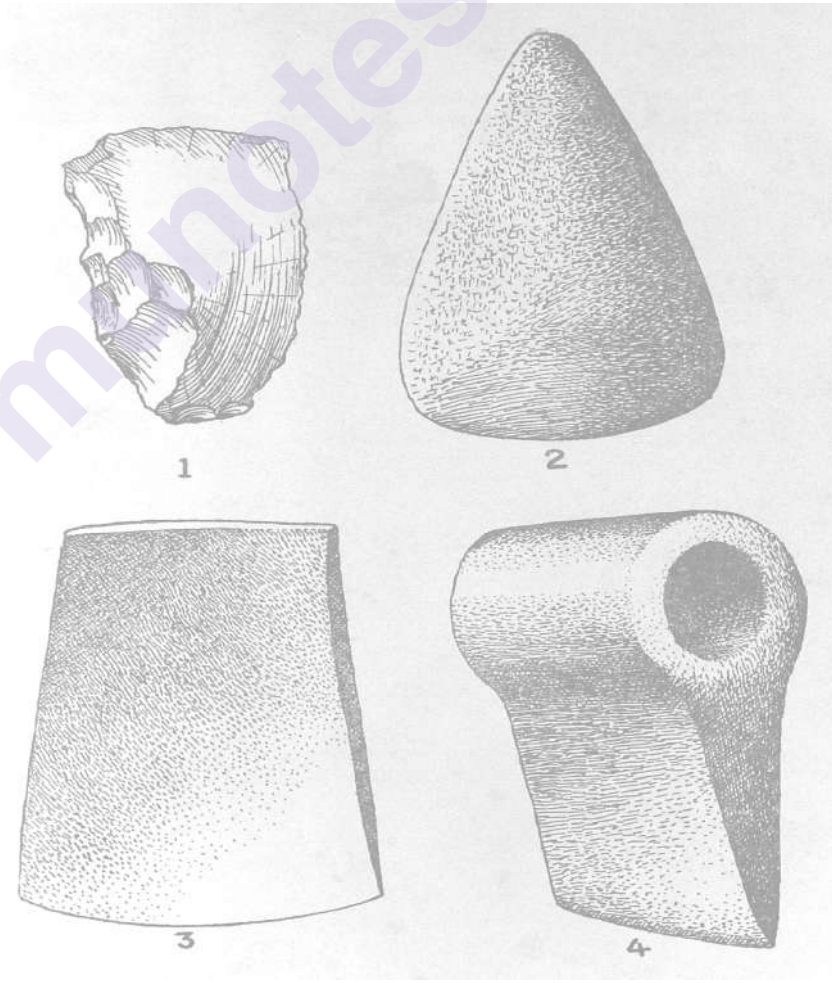
Check your Progress:

1) Assess the importance of cattle in the Neolithic economy of the South.

4.7 SUMMARY

Neolithic is the period identified with a major change in world economy. Pastoralism and agriculture emerge as mainstay of the Neolithic economy. Hunting continues as associated activity along with fishing. As observed earlier these sites were located in very different ecological zones and occupied very different time periods. Inspite of this, they shared the common traits of polished stone axes, use of bone tools, continued use of microliths and in many cases cord impressed pottery. Burials are also found at many sites. Subsistence activity differed according to the locations. The early dates of presence of rice coming from the Vindhyan and the Gangetic regions, is of immense importance. This marks the earliest phase of beginning of cultivation, the antiquity of which can be dated to 7^{th} to 6^{th} millennium BCE.

Exchange economy was active both locally and regionally. Introduction of wheat and barley, presence of steatite beads in South Indian Neolithic throw light on the regional exchange network. The emergence, growth and spread of Neolithic way of life laid the foundation of Indian rural economy. The local or indigenous development is visible in the evolution of these cultures from the earlier Mesolithic phase traced at many sites.



Axes-Stone Age to Iron (After, Sankalia, 1962)

4.8 QUESTIONS

Q1. Discuss the importance characteristic features of Kashmir Neolithc.

Q2. Write a note on the Eastern Indian Neolithc with reference to the site of Golbai Sassan

Q5. Critically examine the Neolithic practices of Central India.

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5

CHALCOLITHIC CULTURES

Unit Structure

5.0 OBJECTIVES:

- To study the evolution of Chalcolithic
- To understand the different Chalcolithic traditions found in India
- To assess the salient points in the appearance of copper technology.
- To make the students aware of the settlement pattern studies in the context of Chalcolithic archaeology
- To observe and understand the development of agriculture and trade activities

5.1 INTRODUCTION

Chalcolithic came from the two terms, *chalco* meaning copper and *lithos* meaning stone. It denotes a culture using copper and stone. This was the first stage in the history of mankind when man started using metal technology. Copper was the first metal introduced. Stone tools continued to be used. The introduction to metal technology was a big leap in the history of mankind. So, this phase denotes a society using copper and stone tools, wheel made painted pottery, practicing agriculture, pastoral activities, hunting and involved in long distance trade. Chalcolithic cultures symbolize the end of the Prehistoric period and beginning of Protohistoric period in the Indian subcontinent.

Protohistoric period includes the Harappan cultures and the Chalcolithic cultures. Protohistory denotes a phase when writing was known but the script is not deciphered unlike the historic phase when the written

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documents become available. The presence of script signifies an advanced economy from the previous stage. A large number of regional and local cultures evolved and for the first time, the rise of urbanization (Harappan) and proto urbanization is observed. Protohistoric period bridges the gap between the Prehistoric and the Historical periods.

The nineteenth century saw a lot of work regarding Stone Age archaeology and Historical Archaeology. But the archaeological evidence connecting the Prehistoric period with earliest archaeological period was missing. Only after the discovery of the Harappan Civilization in the 1920s, that we find the missing link between the Stone Age archaeology and Historical archaeology. H.D. Sankalia speaks about the sixteen janapadas mentioned in the Sanskrit literature, Buddhist literature, which were dated to 6th century BCE. These sixteen janapadas stretched from Malwa (Avanti) in the west to Mithila (Bihar) in the east. He also says that the later Vedic texts mentioned Saurashtra, Vidarbha, Narmada Valley. Basically, from these texts we come to know of kingdoms from Uttar Pradesh, Madhya Pradesh, Assam, Saurashtra (Gujarat), Rajasthan, Vidarbha (Maharashtra). We also didn't know of any archaeological cultures where these sites were located It was only after the discovery of the Harappan Civilization, intensive explorations and excavations were carried out, especially after independence, by various Universities, Archaeological Survey of India and various State departments of Archaeology. This resulted in the discovery of numerous unknown cultures in the Gangetic Valley, Rajasthan, Saurashtra, Central India, peninsular region. These cultures were eventually related to either Harappan or the Neolithic, Chalcolithic phases of Indian history. Subsequently, many cultures located in these areas saw the advent of Iron Age and eventual development of the flourishing janapadas of the Early Historical period.

5.2 CHALCOLITHIC TRADITIONS

Chalcolithic was first identified at the site of Jorwe, in Ahmednagar district of Maharashtra. Further explorations revealed hundreds of Chalcolithic settlements in the Deccan, Central India, Rajasthan, Gangetic doab, Gujarat. These were mostly regional and rural in character. So, the Neolithic Chalcolithic cultures in the Indian subcontinent were found in Baluchistan and adjoining regions, Indus Valley, Padri and Prabhas Patan tradition of Saurashtra, Ganeshwar Jodhpura cultural complex, Anarta tradition of North Gujarat, Ahar culture of Mewar, Neolithic Kashmir, Kayatha and Malwa traditions, OCP Copper Hoard traditions of North India, Savalda and Jorwe traditions. The excavations at Brahmagiri had already identified Neolithic Megalithic cultural sequence in South India. The excavation at the site of Jorwe and Nasik by H. D. Sankalia and S.B. Deo in 1952 gave stratigraphic evidence of these early farming communities.

- Centra Indian Chalcolithic: Ahar, Kayatha, Malwa
- Deccan Chalcolithic-Savalda and Jorwe
- Eastern India – Bengal, Odisha
- North India- OCP-copper hoards, Vindhyan, Middle Ganga Valley
- Ganeshwar Jodhpura Cultural Complex

Check your Progress:

1) Discuss the beginning of Protohistoric archaeology.

5.3 CENTRAL INDIAN CHALCOLITHIC

Central India a distinct geographical unit, forms a link between the Indo-Gangetic plain to the north and the peninsula to the south. It consists of Malwa plateau, and the Chambal Valley. South-eastern Rajasthan is a part of the Chambal Valley. Ahar culture of Rajasthan and Malwa, Kayatha cultures of the Malwa region of Madhya Pradesh are in this region. The excavations at the sites of Balathal, Ahar, Gilund, Kayatha, Navdatoli have given evidence of early farming cultures in this region. The dates from the sites of Balathal go back to 3700 BCE whereas the dates from the Malwa region is later between second to third millennium BCE.

Ahar culture sites flourished on the banks of the river Banas. Later, it also extended into the Chambal Valley in Malwa region. Kayatha and Malwa culture sites evolved a little later than the Ahar culture of Rajasthan. The sites of the Malwa culture and Kayatha culture were located on the banks of the river Narmada, Chambal and their tributaries. Central Indian Chalcolithic cultures were located in a region with semi-arid climate and fertile black cotton soil.

The Ahar Chalcolithic is also known as Ahar Banas Chalcolithic complex. Excavations at the site of Gilund, Balathal have given evidence of local development of this culture. Mesolithic phase was found at the earliest level in Gilund before the beginning of Chalcolithic. The origin of the first farmers of Ahar culture was rooted in the earlier Mesolithic phase. The continuous growth and development of the Chalcolithic is observed at these Ahar culture sites.

The sites of Ahar, Gilund Balathal have given evidence of structures of mud, mudbrick and stones. These sites gave evidence of evolution from flimsy round structure to multi room structure of mud and stone and mudbricks. Bakedbricks were also used. Malwa culture sites have given evidence of huts either rectangular or circular made of mud and wattle and daub. Some sites like Nagda have also given evidence of use of mudbrick. These chalcolithic sites have also given evidence of public architecture. The sites of Ojiyana, Balathal and Gilund have given proof of outer fortification or defence walls. Balathal had a fortification within the

settlement. Gilund has a parallel wall structure identified as warehouse. The Ahar culture sites have yielded details of well-planned layout of the settlement developed by the middle Chalcolithic phase. The Malwa culture sites have also given evidence of mud ramparts. The domestic structures generally have hearths and storage pits or jars for storing grains associated with them. The site of Gilund sees the earliest evidence of the use of burntbrick for construction, dated to the beginning of 4th millennium BCE. The craft manufacture area of Gilund have structures of burnt bricks.

Burntbricks were not common in Chalcolithic settlements. It was rarely used, like the sites of Nagda and Eran yielded evidence of such bricks in the construction of fortification wall.

Archaeo botanical remains have given evidence of wheat, barley, rice, mustard, pea, lentils, millets, black gram, green gram among others. Remains of domesticated animals like cattle, sheep, goats and buffalo were found. They practiced a mixed economy of farming and animal hubandry. Hunting continued as is evident from the remains of wild animals like nilgai, blackbuck, four horned antelope, elephant, among others. Turtle, fish and molluscs remains were present. Fishing was also practiced.

Efflorescence of art and craft activity is witnessed during this phase. Navdatoli has produced beautiful painted pottery, which included channel spouted cup, pedestalled goblets etc. The Ahar culture sites produced many beautiful pottery but its dominated by Black and Red Ware with white paintings. Stone blade tools including blunted backs, lunates, trapezes, and points made of chalcedony have also been found. Terracotta objects include skin rubbers, ear studs, votive tank, crucibles, bull figurines, pottery discs, wheel miniature pot, pendants, lamps, bangles, human firgurines., gamesman etc. Lithic components also included querns and muller and microliths.

Copper craft is developed, as the smelting and melting of metal begin and thereby obtaining the desired shape. Copper tools include copper dagger, axes, chisels, fish hooks, swords, arrowheads, and copper ornaments like rings, bangles, kohlsticks. Some of these sites were producing copper. This is evident from the sites of Balathal and Ahar in the form of crucibles, slags. The site of Kayatha has produced two copper axes, twenty-eight bangles and one chisel. which had been cast in moulds showed the advances in copper technology achieved by these people. Beads of semiprecious stones were found at many of these sites. Carnelian, agate, jasper among others were reported. It is believed that these Chalcolithic people acquired copper from western Rajasthan, gold from Karnataka in South India, semi-precious stones from Gujarat and the Deccan, marine fish and conch shell for manufacturing bangles from the Saurashtra coast. Beads of terracotta were also manufactured. 100 clay seal impressions from 10 different seals were found at the site of Gilund. The presence of these suggest long distance trading network existed in the Chalcolithic communities.

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Religious beliefs of the Chalcolithic people are reconstructed based on the artifacts found at the site and ethnographic parallels. Numerous terracotta bull figurines have been found at Kayatha, Ahar, Marmi, and Gilund indicating the probable existence of a bull cult. Fire worship seems to have been practised as evident from the site of Navdatoli. A rectangular fire altar, 2.30 by 1.92 m and 1.35 m deep, with its sides and bottom plastered, was located here. A shrine depicted in applique pattern on a storage jar from Navdatoli has a female worshiper on the right and a lizard on the left, with the former being associated with Parvati, the consort of Siva. Burial was not practiced. Only Balathal has given evidence of few burials in the fortified ash deposits. These three skeletons seem to have been buried due to exceptional circumstances.

Settlement pattern studies have shown that the Chalcolithic farmers located their settlements on the availability of natural resources and viability of communication. Sites such as Eran and Kayatha were emclosed by river bends. Such sites were chosen because of the natural protection provided as well as the presence of water pools at such locations. The availability of good pasture in proximity to the settlement was also important in the location of sites. Identification of regional centre was done on the basis of the size and location of the settlements. Gilund and Navdatoli were identified as regional centres because they were the largest site and also based on their location. Multiple smaller sites were located around the regional centre. These would be camp site, pastoral sites or small agricultural sites for planting and harvesting seasons or exploitation of raw material resources. The presence of a chief or the existence of chiefdom society is evident. The presence of public architecture shows mobilisation of labour. This requires the presence of chief. Division of labour would also have existed as so many different craft activities were practised. A complex society was emerging during the Chalcolithic phase.

Check your Progress:

1) Analyse the Chalcolithic economy of the Ahar culture

2) Write a note on the different types of rituals or religious practices.

5.4 DECCAN CHALCOLITHIC-SAVALDA, JORWE

The Deccan Chalcolithic sites are located in the semi-arid belt of the contemporary states of Maharashtra and northern Karnataka, east of the Western Ghat escarpment. It encompasses archaeological sites from the second millennium BCE. The region is drained by three major river systems, Tapi, Godavari, and Bhima. Highest concentration of Chalcolithic sites are in the Tapi basin. The number of sites reduces as one moves farther south to the Godavari and Bhima basin. The location of Chalcolithic settlements along these river valleys, ensured plentiful water, arable land, and pasture.

One of the best studied areas of the Chalcolithic is the Deccasn Chalcolithic. Inamgaon, Daimabad, Bahal, Chandoli, Kaothe, Nevasa are

some of the sites of this culture. The beginning of settled life in Maharashtra can be dated to the Savalda culture in the second millennium BCE. Based on intensive research at various sites its now known that the Savalda culture originated indigineously. Savalda culture was identified on the basis of unique pottery discovered at the site of Chinchoda and Savalda. These potteries have unique weapon motifs, apart from plantlike motifs, geometrical motifs, animal motifs painted on them. Usually black on red painted pottery. Jorwe culture first found at the site of Jorwe is dated to 1400 BCE. The Jorwe culture is spread all over Maharashtra except the coastal strip on the west and Vidarbha in the North East. (Dhavalikar, 1970). A. Sundara's (1968; 1969-70; 1970-71) extensive field surveys have revealed that the region of Jorwe culture could be extended upto Karnataka. These sites have been identified by Dhavalikar (1989a) as Late Jorwe settlements But the most intensively researched site of this culture is Inamgaon. First inter disciplinary scientific studies was conducted here. This helped in the reconstruction of various kinds of structures, social organisations, economic activity and religious practices.

The Savalda culture flourished in the Tapi valley,though its also found at the site of Daimabad in the Pravara Valley. Jorwe culture are found throughout Maharashtra except the coastal zone. The fertile black cotton soil of the Tapi Valley would have attracted the first farmers of the Deccan. Settlement pattern studies have led to the identification of regional centres. Prakash in the Tapi Valley, Daimabad in the Godavari Valley and Inamgaon in the Bhima Valley have been identified as the regional centres. Smaller sites have been identified as seasonal camps, factory sites, farmsteads etc.

Excavations have revealed circular pit dwellings. It was observed that three to four pits formed one complex. Shallow storage pits for keeping poultry and deeper pits for keeping grains were also unearthed in the courtyards. Hearths are a common feature At Daimabad, the houses were made of mud walls, with two or three rooms, a circular hearth, and a common main entrance. The house floors were decorated with shells. At Inamgaon, 130 structures of the Jorwe phase were exposed during excavation. Space was left between houses in this phase, a linear type of arrangement that suggests the negative spaces served as lanes. Early Jorwe people built lived in rectangular structures, with low mud walls and wattle and daub construction. Small oval fire pits or armed hearth built of clay were found inside the houses. Storage was important as storages pits were found in the courtyard and round mud platforms for storage units were found in the corner of the house. Evidence of extended family living together is observed, additional rooms were attached later and up to three storage pits and *chulha* (ovens) built in the courtyard. The crafts people's houses were also identified like potter's house, house of coppersmith, lime maker, lapidary or bead worker. Granary and irrigation channel give evidence of public architecture.

The early farming communities in the Deccan also practised farming and stock raising, along with hunting and fishing. Barley, wheat jowar, ragi, bajra, black gram, green gram, lentils peas, horsegram, kulith were grown

here. The rich plant economy suggests a congenial environment of these early farmers. Cattle, buffalo, goat, sheep, pig, and dog form part of the Chalcolithic economy. Wild animals include nilgai, deer, fox, langur, birds, fish, reptiles, and molluscs.

They were using stone and copper tools like all other Chalcolithic cultures. Kaothe has given evidence of bone tools. The presence of groundstone objects such as mullers, querns, and grinding stones indicates that grain and other vegetal foods were processed at the sites. The stone tool assemblages are dominated by blade/flake industries. Heavy duty stone objects include a bead polisher, ringstones, hammers, saddle querns, mullers, stone balls, pestles, sharpeners, polishers, polished semi-precious stones, and stone sculptures. Material remains include copper artifacts and terracotta objects. Terracotta objects included terracotta bull figurines, skin scrubbers, cakes, balls, pendants, perforated discs, and many more such objects. But the Chalcolithic phase was dominated by copper objects. Metal technology was rudimentary. Boat shaped copper furnace was found at Inamgaon.Copper objects included bangles, pendants, rings, fishhooks, spear heads, antimony rods, chisels etc.

Trade was an important activity. Conch shell present here shows contact with Gujarat. They would have obtained gold and ivory from the Karnataka. Copper ore from Rajasthan or Gujarat. In exchange they were also supplying copper to Karnataka and to local hunting gathering communities.

Religious belief included finds of female figurines who would have been venerated as mother goddesses. Small figurines of mother goddess were placed in storage pits and are thought to be associated with fertility. Another interesting find was at Inamgaon of a clay box containing a female figurine and over the box was another female figurine without head and a bull and all of these are unbaked Ethnographic parallels show that a tribe near Mumbai, the Warlis, also worship a headless figurine. She relates to fertility. Deccan Chalcolithic cultures are also characterised by burials in all phases. In the Jorwe phase in the adult skeletons, feet below the ankle was chopped off. Adults were buried in pits. Child burials were in urns. Food was provided. A unique burial in Inamgaon is of an adult in the courtyard of a five roomed house. The feet was not chopped and the entire body was placed in a four legged jar in a seated position. It is thought because of this special treatment, it must be the burial of a person of importance. This has led the archaeologist to identify him as the chieftain.

Check your Progress:

1) Analyse the socio religious structure of the Deccan Chalcolithic.

2) Write a note on the Jorwe culture

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5.5 THE CHALCOLITHIC CULTURES

The Chalcolithic cultures of Middle Ganga Valley and the Vindhyan encompasses eastern Uttar Pradesh. Lower Gangetic region also includes Bihar and Bengal. Eastern Uttar-Pradesh extends from Allahabad and Kaushambi districts in the west to the Bihar-Bengal border in the east and from the Nepal tarai in the north, to the Baghelkhand region of Madhya Pradesh state in the South. The entire region may be divided into three distinct geographical units – The Ganga Plain, the Vindhya-Kaimur ranges and the Saryupar region. This region is one of the early centers of agriculture which paved the way for the development of the Neolithic-Chalcolithic. Eastern Uttar Pradesh, Bengal, Bihar, Odisha come under similar ecological zones. These regions occur in a region where there is plentiful availability of water and dense forests.

Some of the important excavated sites of this region are Koldihwa Lahurdewa, Imlidih khurd, Sohgaura, Hetapatti, Jhusi, Chirand, Taradih, Senuwar, Mangal kot, Mahisdal, PanduRajarDhibi, Gobai Sasan, Khamreshwaripalli,

They lived in houses made of wattle and daub and mud. Partition walls separated the house into multiple rooms. Lahudewa has given evidence of a number of armed clay or hearth and earthen storage bins. The site of Oriup has given evidence of circular, semi-circular ovens. Floors paved with lime plaster, postholes and ovens are also found at the site of PanduRajar Dhibi. Here, the earliest inhabitants made their huts with floors of pellety laterite sometimes burnt. The earliest level at Chirand revealed a circular hearth and post-holes and floors of burnt earth. The exposed lime floors at Sonpur had circular pits representing circular huts, with varying diameters of 1.84 to 2.44 m. and with bones of animals and birds inside. Bharatpur had two habitational floors along with open hearths containing pottery and animal bones. Golbai Sasan has also given evidence of circular huts with partition walls and post holes.

Bone tools and microliths were important part of Chalcolithic economy of this region. Khamreshwaripalli in Odisha has also given evidence of quite a few bone tools. Antler tools were found. Bones of cattle, sheep, goat, tusk of wild boar were used to make burins, chisels, scrapers, adze, needles, arrowheads, blades, harpoons, etc. At Sonpur and Chirand finds include tanged and socketed arrowheads having circular or square section and pins of bone, arrowheads of ivory and styli of both materials. Earrings made of fish vertebrae were recovered at the Chalcolithic settlement of Global Sassan.

Khairadih, Narhan and Sohagaura yielded evidence of beads of agate, chalcedony, carnelian, jasper, steatite which were also found in other sites of the region. Teracotta beads, also incised variety, were found at various sites like Khamreshwaripalli, Lahurdewa etc. Terracotta human figurines and animal figurines were also recovered from these sites. Shell beads were also found. The ceramic industry was associated mainly with Black and Red Ware

Copper objects are scarce but present. They include spiral bangles, fish hooks, antimony rods, fishhooks, beads, chisel, recovered from different sites.

Agriculture was the mainstay of the economy supplemented by hunting and fishing. Rice is the most important crop. Other archaeo botanical remains include cotton, barley, wheat (club wheat, dwarf wheat, bread wheat) pea, green gram, chickpea, khesari mustard oilseeds, millets, kodo millet, flax or linseed, castor, safflowere, jackfruit, watermelon seeds, mango. Cattle, goat, sheep dog, pig were domesticated and the wild faunal remains show the continuation of hunting.

Compared to the preceding Neolithic culture, there was a dramatic increase in the number and size of the Chalcolithic sites. This would have been due to a sharp increase in population. Not much work has been done on the social structure of the Chalcolithic period. The presence of various types of ceramic wares and small objects of stone, bone, ivory, etc. indicates the specialization of crafts and beginning of emergence of complex society.

The Copper Hoards are a variety of copper tools found in caches. Most of these have been chance discoveries, discovered while ploughing a field, making a road. Typical copper hoard objects included harpoons, rings, swords with mid ribs, anthropomorphs, flat celts, shouldered celts, bar celts, antennae and hooked swords and axes. These tools could be typically used for cutting trees, mining, digging, killing wild animals or fish. The copper hoard tools display superb craftsmanship. As the copper hoards are not found in stratified context, it's difficult to exactly date them. But sometimes if they are found in association with objects in stratified context, it's easier to trace their aniquity. Like at Lothal a lugged axe found in Mature Harappan levels, a harpoon at the Late Harappan levels at the site of Mitathal. These point to a period contemporary with the Mature Harappan and Late Harappan pottery. Some more such associations are recorded from Jorwe level at Maharashtra

Excavations at the spot where copper hoards were found was excavated by B.B. Lal at Bisauli and Rajpur Parsu. This revealed Ochre Coloured pottery. Upper Ganga plains were originally inhabited by the Late Harappans and Ochre Coloured Pottery using people immediately before the beginning of the 1st millennium B.C E. OCP succeeds the Late Harrapans Excavations at Saipai (Lal and Wahal,1971) and at many other sites by scholars demonstrate that this OCP was associated with Copper-Hoards.

Check your Progress:

1) Comment on the Chalcolithic cultures of Odisha

2) Explain the cultural development of the Chalcolithic cultures with special reference to Lahurdewa.

5.6 GANESHWAR JODHPURA CULTURAL COMPLEX

Ganeshwar Jodhpura Cultural Complex is in northeastern Rajasthan. It's a collection of Chalcolithic sites having similarities in material culture, production of copper tools, and geographic proximity to copper mines. It is situated within the regions of the Northern Aravalli Hill Range. The Ganeshwar-Jodhpura Cultural Complex (GJCC) is the largest copper producing community in Chalcolithic South Asia. The GJCC demonstrates an indigenous development which was the result of a larger regional economic need for copper products.

The excavations at the sites of Ganeshwar Jodhpura have given information about this culture. They belong to the OCP culture. Ganeshwar located in Sikar district of Rajasthan was excavated by R. C. Agarwala and Vijay Kumar. During the excavation almost 1000 copper objects in association with the OCP was found. Copper objects include celts, chisels, balls, rings, bangles, spearheads, copper arrowheads etc. Here the earliest phase is the Mesolithic which is followed by the OCP.

Jodhpura, is situated on the banks of the river Sabi in the Jaipur district of Rajasthan. It has OCP associated with the Black and Red ware and later Painted Grey Ware. The findings of microliths along with the copper objects suggest that they developed metallurgical technology while still in the foraging stage. The economy is based on mining, extracting and supplying to the neighboring Chalcolithic cultures and the Harappans.

Check your Progress:

1) Underline the importance of Copper Hoards

2) Discuss the growth of Ganeshwar Jodhpura Cultural Complex

5.7 SUMMARY

The Chalcolithic Cultures laid down a firm foundation of sedentary village life in India. Emergence of settled life is observed at about 7th millennium BCE in the Indian subcontinent. By third millennium BCE, these agro-pastoral settlements practicing a number of craft activity become prosperous settlements. Settlement pattern studies has clearly shown the evolution of a chiefdom society. Most of these settlements show a natural progression towards the next phase with the appearance of Iron. Due to change in climatic conditions there's a decline in the lifestyle of the Chalcolithic and many of the settlements in Western India are abandoned. But most of the sites continue their progression into the next stage. The development of Early Historic cities or the Janapadas is the result of the internal growth of these sites

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5.8 QUESTIONS

Q1. Critically examine the role of settlement pattern studies in understanding Chalcolithic archaeology with special reference to Deccan Chalcolithic

Q2. Assess the importance of the Ahar culture site of Gilund.

Q3. Explain the different facets of Copper Hoards

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6

MEGALITHIC AND EARLY HISTORICAL PERIODS

Unit Structure

6.0 OBJECTIVES

After going through this unit, the students will be able:

- To understand the early historic sites in India.
- To Ancient culture through the pottery and its sites.

6.1 MEGALITHIC CULTURE

The word Megalith is derived from two Greek words- mega (big/huge) and lithos (stone). They are found in Europe, Asia, Africa, Central and South America. It is a nomenclature used for certain burial style which involves stone erect structures for dead.

In the Indian context, megaliths generally belong to the Iron Age. More than 2000 sites have been recorded since 19th century. The oldest megaliths in Indian subcontinent are found in the westernmost part of the present-day Afghanistan, dated to about 3000 BC. They are in the form of stone circles. But the megaliths are also found in almost all parts of the subcontinent including Central, Southern and Eastern India where they are a part of continuing traditions by communities like Khasis of Assam and Mundas of Chhotanagpur. However, the heavy concentrations of megaliths have been reported from Central and Peninsular South India. These monuments are assumed to be associated with burial or post burial rituals including memorials for those whose remains may or may not be available (Vahia et al: 2010).

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6.2.1 TYPES

U.S. Moorti has classified the megalithic burials into two categories (Vahia et al: 2010):

1) Sepulchral megaliths

The sepulchral megalith contains the remains of the dead in a variety of forms. They could be primary burials, in which the dead is placed soon after his or her death. It will contain a complete skeleton (in either flat or curled up positions) with some burial goods as homage to the dead so that they could use them in afterlife. In some cases, these primary burials may also be in a sarcophagus made of terracotta. Similarly, secondary burials are also common when the remains of the dead, essentially his or her bones, are put in urns or pits. The location of the dead is most often marked with stone circles but Cairns, slab circles are also found on the surface.

2) Non-sepulchral megaliths

The most common amongst the non-sepulchral megaliths are the menhirs, stone alignments and avenues. These are difficult to make but more elaborate in their construct and more spectacular. They tend to be spread over a much larger area of several hundred square meters. They always have alignments which are either north south or east west with one prominent marker stone or a porthole in one stone pointing to either north or east. The earliest of these tend to have large stones put at specific locations but the later ones tend to be thin well-worked stones made with care and the boulder type ones also tended to be dressed.

The architecture of burial monuments is subjected to regional variations. Even within a site there are overall significant variations. Each burial is unique in their nature, architecture and human remains. The different types of burial monuments are as follows (Mohanty et al: 2017; Reddy 1991):

1) Cist

A chamber type of burial with orthostats in a rectangular, swastika or box-type pattern has mostly has a capstone. It is usually accompanied with a stone circle periphery. Some cist burials have a passage and some have a port- hole on the main orthostat.

2) Urn

These are huge urns that are sometimes legged. Legged Urns are called sarcophagus.

3) Cairn burials

These are pit burials with a cairn packing of stone rubble.

4) Stone Circles:

These are a variety of cairn burials but having a periphery of stones generally boulders.

5) Kudai- Kal (Umbrella Stone)

It is an Urn burial capped by a slab and above there is an umbrella like stone.

6) Topi- Kal (Hat Stone)

It is like the umbrella stone but the cap stone is similar to a hat.

7) Dolmen

It is non- sepulchral chamber burial with one side open. There is a port-hole when the dolmen is closed on all sides.

8) Dolmenoid cists

Burial chambers made of multiple stones for the sides and top with single or double stone circles around them.

9) Menhir

A monolithic slab erected in memory of the deceased. There are some other types known as avenues and stone alignments. Few sites in South India, the burials are marked by carved monoliths known as 'anthropomorphic figures'. The megaliths or the rocks near the megaliths are reported with rock paintings or engravings at some sites and the excavations also have revealed a large number of art objects.

10) Alignments

Menhirs erected in lines of particular order.

11) Avenues

Two or more alignments which lie roughly parallel to each other are called Avenues.

12) Barrows

Earthen mounds over the surface of which occur chips of granite. The pit covered by the barrow contains urns or terracotta legged sarcophagus.

13) Rock-cut caves

The Rock-cut caves are nothing but burial caves cut into the lateritic rock. They form an oblong or circular structure with a vaulted dome.

6.2.2 Settlement Pattern

Settlement pattern studies are useful in understanding human adaptation. Initially it was believed that megalithic people were pastoral. Mahurjhari, as an important megalithic site excavated extensively by Deo, was believed to be only a burial site. However, a habitation site was later located and excavated at Mahurjhari. Habitation deposits were subsequently located in close proximity of burial sites were also found at Panchkedi and Vyahad in Nagpur district and Malli in Gondia district. Explorations by various scholars have shown that almost all burial sites are associated with habitation, except in few cases where substantial changes in the landscape have taken place. Mohanty and Joshi classified megalithic sites into three categories (Mohanty &Thakuria: 2014):

i) Category A- It includes all the sites that directly contribute to the better understanding of the life and pattern of megalithic community of Vidarbha. Sites like Mahurjhari, Naikund, Takalghat-Kapa, Raipur, Borgaon, Bhagimohari, Vyahad, etc. which have either megalithic monuments or megalithic burials along with habitation are in this group.

ii) Category B- It includes those sites where no trace of megalithic burials is found in vicinity, but the presence of Megalithic phase succeeded by the early historic period in stratigraphical order is found. Sites like Kaundinyapura in Amaravati and Arni in Yavatmal district comes under this category.

iii) Category C- It includes sites where evidence of Megalithic and early historic culture is found in the vicinity of megalithic burials.

Moorti commented that location of habitation sites was dependent on environment and resources both for subsistence economy and construction for burials. Therefore, megalithic sites are located in mainly resource rich areas of mineral and ore resources like iron, copper, gold and mica, biotic resources, arable land and water, raw material for burial constructions. He further emphasized that some of the sites were located on the trade routes and in deltaic zones convenient for trade activity.

6.2.3 Distribution

Indian megaliths are found in different chronological context in all over India. The south Indian megaliths are dated the oldest megalithic culture in India erected during the Iron Age i.e. 1000 BC onwards. Many megalithic sites are found in the states like Kerala, Tamil Nadu, Andhra Pradesh, Karnataka and Maharashtra. Different types of megaliths are found in South India varying from menhir, dolmen, chamber tomb, rock – cut burials, alignments and stone circle. In Kerala, megalithic sites are located in Tengakkal, Mangadu, Pumimattu and Peria which are associated with burial sites. Megaliths of Andhra Pradesh are also associated with the burial sites and many sites are discovered from Nagarjunkunda, Kadambapur, Gallapalli and Amravati. The megaliths of Karnataka are the most important one in South India with the important sites like hire Benkal, Brahmagiri, Maski, Hanamsagar and Hallur. Hallur is an important site in Indian megaliths where iron objects are recovered along with the human skeletons.

The megalithic culture of Central India is found in many districts of Jharkhand like Ranchi, Ramgarh, Chatra, Singbhum and Lohardagga. The practices of erecting megaliths in central India is still continuing among the tribes or Adivasi communities like Gond, Munda and Oraons in Jharkhand. Many megalithic sites are also present in Kashmir and Uttarakhand in North India. In Kashmir, along with the Neolithic Phase, Burzaham and Gufkral also have the witnessed megalithic culture around mid-second millennium BCE. From these two sites, different types of menhirs and stones circles are found. In Uttarakhand, megalithic sites are reported from Almora, Kumaon, Ramganga and so on. The types of

megaliths found from Uttarakhand are: menhir, dolmen, cist and cairn circle.

North East India comprises of eight states - Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura. The megalithic culture is found widespread among many indigenous groups of North East India and it is a living tradition in many parts of this region. The origin of megalithic culture in North East is controversial. According to scholars, the North East megaliths are formed between late Neolithic and early Chalcolithic period and it is most probably influenced by the Southeast Asian megaliths.

The Khasi society of Meghalaya mostly erects megaliths as burial stones. Besides this, they have also erected stones as boundary stone and gate stone. The Garos of Meghalaya also practice megalith with modified form. In the memory of the dead person, the Garos erect some decorated 'Y' shaped wooden post instead of stone in their society. Generally, three types of megaliths are found predominantly in Meghalaya. These are - menhir, dolmen and cist.

In Karbi Anglong district of Assam, megalith is a living practice. Both the Plain and Hill Karbis erect megaliths as a commemorative stone after someone's death. The Nagas of Nagaland mostly used megaliths as war memorial stone. After a successful raid, most of the Nagas like, Ao, Angami, Lotha and Konyak Nagas used to erect stone or megaliths as a symbol of their bravery in past. Despite these, cist burial is also found among many Naga societies which were used clan wise to keep the skulls of the death persons. The Nagas also used megaliths as a gate stone, boundary stone and foundation stone. In Arunachal Pradesh, megaliths are found among the Wancho, Nocte, Hrusso and Sherdukpen people. The Noctes and the Wanchos generally used menhir as a war memorial stone. Cist burial is also common among the Noctes and Wanchos in Arunachal Pradesh (Gogoi: 2019).

Some of the important sites are as follows:

a) MAHURJHARI

This site is located in Nagpur district of Maharshtra. The presence of megalithic monuments at Mahurjhari village was brought to light by Hunter in 1933. Later in 1958, Banerjee from Archaeological Survey of India explored the site and recorded 300 megalithic stone circles. The site was further selected for exploration and excavation by Mohanty with the aim of locating the habitation deposit Excavations at the habitation deposits revealed typical micaceous red ware, black and red ware, thick red and black slip ware of Vidarbha megalithic culture. Besides, sherds of black - painted red ware were also found. Several floor levels were exposed along with silos, hearths, roasting places, fireplaces, washing platforms made with pebbles and clay. The floors were made by ramming the black clay upon which stone chips were laid and then it was covered with a thin layer of brownish earth and sticky fine clay paste. U-shaped earthen hearth and storage pits are the other characteristic finds. The

circular post holes indicate some kind of superstructures made of wood or other perishable materials. The burnt clay clumps found with impression of bamboo and mat indicate mud plaster over the bamboo mat. Besides, artifacts like semiprecious stone beads, terracotta beads, clay tablets, pottery discs and grounded-flat-circular stones of different wrights were found along with large amount of animal bones and charred grains.

There are 270 burials identified in 11 localities located in considerable distance from each other at Mahurjhari. They are located on barren, less fertile, un-productive landscape and hilly tracts (Mohanty &Thakuria: 2014).

b) PACHKHERI

Pachkheri is located in Kuhi taluk of Nagpur district and was excavated by the Archaeological Survey of India. The site has menhirs and stone circles. Excavation revealed five cultural levels between the Mesolithic and the medieval. Period II is megalithic, with mainly black and red ware, red ware, black on red painted ware and black slipped ware. Discovery of the patches of mud floor and iron rod, ring fastener and a copper bowl are some of the important finds. Excavation of the menhirs revealed that a pit was dug to erect the monolithic stone or slab. No funerary materials were found in the excavation of menhirs. One stone circle was also excavated, where a central pit was surrounded by a circular chamber made of pebbles. The funerary materials include a copper bowl, iron coiled rings, ring fastener and red ware vases (Mohanty &Thakuria: 2014).

c) ADICHCHANALLUR

Adichchanallur is known for the remains of urn burials. The site was excavated by Alexander Rea in 1902-03. Later Chennai Circle of Archaeological Survey of India's excavation at the site resulted discovery of 160 urn burials. Based on the urn types and nature of skeletal remains excavated, urns were divided into three phases. Phase one is dominated by primary burials. Urns of phase I invariably contain non-articulated human skeletal remains along with grave goods like pottery, iron tools and ornaments. The skeletal remains interned in urns are in crouched position. Example of double burials in the same urn was also noticed. In Phase II primary burials are fewer and urns containing secondary burials more. The phase III is dominated by secondary burials.

In the secondary burials, the body was first allowed to decompose and then bones were collected for secondary burial. In the primary burials, as evident from Adichchanallur, the fore and hind limbs of the body were folded and tied by vegetal or bark rope and then kept inside the urn. The urn no.83B revealed a double burial with bodies kept in such manner.

The grave goods found in the urns are mainly bowls, dishes, ring stands and lids of black and red ware, black polished ware, red ware and black ware. Besides, white pained black and red

Wares were also found. Other finds include axe, arrowheads, dagger and spearhead of iron and copper ornaments. Traces of rice husk and impression of cloth also noticed. A piece of potsherd found inside an urn with human skeletal remains shows the appliqué figures of two crocodiles and a deer on one side of a standing women and a sheaf of paddy and a crane on her other side is a noteworthy discovery (Mohanty &Thakuria: 2014) .

d) UMMICHIIPOYH

This is a rock cut burial site in the Kasargod district of Kerala. A cluster of rock cut caves was noticed on the western slope of a lateritic outcrop. Two caves were excavated by Thrissur circle of Archaeological Survey of India. The caves are circular on plan. A circular hole was made on the top of the cave. The rectangular entrance was closed by placing a slab. A steep slope was provided as passage to the entrance. No antiquity save pots of various size, bowls and lids of black and red ware and red ware were found (Mohanty &Thakuria: 2014).

e) AMRAVATI

This site situated in Guntur District of Andhra Pradesh. It is well known for its Buddhist stupas. Alexander Rea had excavated this site to restore as well as to study the nature of the stupa. The excavation revealed the presence of megalithic culture at this site, attested by the discovery of seventeen huge urn burials. But the excavator had assigned Neolithic affiliation to them. However, evidences show that they belong to megalithic period (Murali: 1993).

f) CHITTOOR

This site is situated about in Chittoor district of Andhra Pradesh. It has been excavated by Captain Newbold. Dolmenoid cist with port-hole surrounded by slab circle is the type noticed here. The orthostats of the chamber were arranged in anti-clock wise pattern and contained legged terracotta sarcophagi in them. The sarcophagi were filled with earth and human bones. Other finds included spear—heads, swords, presumably of iron, and some pottery (Murali: 1993).

g) NAGARJUNAKONDA

The site is situated on the right bank of the river Krishna in the Guntur District of Andhra Pradesh and has been excavated by the Archaeological Survey of India. Fifteen burials have been excavated out of which thirteen were pit burials and the remaining two were oblong cists with port-hole. Secondary and multiple burial practices were the prominent types here. There are only two instances of extended burials. Skeletal remains and associated objects were placed on ash or lime bed. Pottery and iron objects were found in abundance. Animal bones were also found frequently in these burials. Megalith III had yielded only skeletal remains of 1 an animal and no human bones, pottery or iron objects were found. Both east-west as well as north-south orientation was noticed in these burials.

Megalith XIV is interesting in as much as it yielded an extended skeleton, probably of a female, with ornaments on its body. Two gold wire earrings and beads of gold and silver were found along with this skeleton, apart from pottery and iron interments (Murali: 1993).

h) HIRE BENKAL

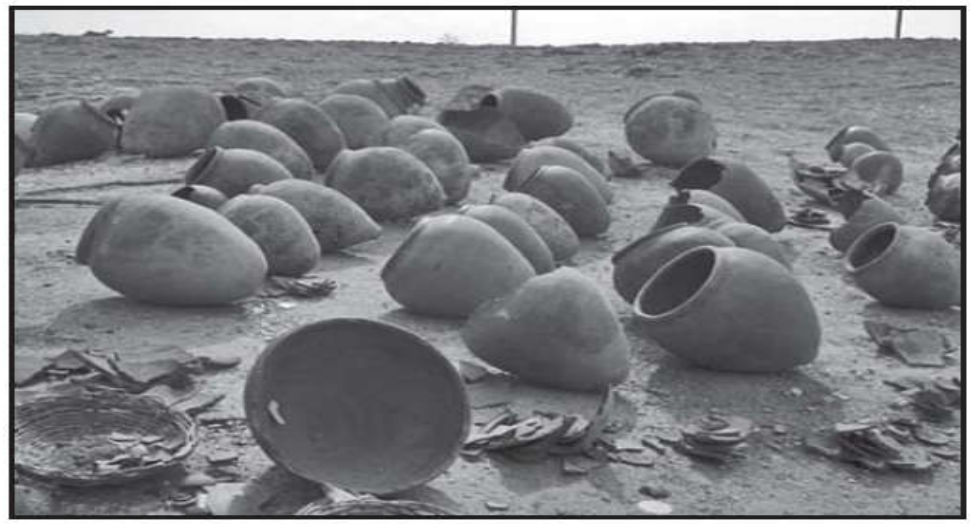
The megalithic burial complex at Hire Benkal is situated in Gangavati Taluka, Koppal District of Karnataka. The megaliths on the hill encompasses an area of nearly 20 ha and spread at three different localities in an east - west orientation, together to a distance of about 1 km. The three clusters could be classified as the western group, central group and the eastern group. The site is world renowned for the existence of thousands of megalithic structures with dolmens in large numbers, standing on mound for more than 2500 yrs. Several subtypes that have been identified at Hire Benkal are as follows: Port-holed Dolmenoid Cist – Circles, Oblong Dolmenoid Cists or Cists with or without port-holes, Irregular polygonal chambers, Rock Shelter Chambers, Anthropomorphic, etc.

A unique feature of Hire Benkal is its prehistoric rock paintings. In Hire Benkal, 11 rock shelters have been discovered so far. However, few paintings from Mesolithic period have also been reported. Majority of the paintings belong to overlapping period of Late Neolithic and Early Iron Age-Megalithic, i.e. c. 700-500 BCE. The depictions in rock art from Hire Benkal provides clue about subsistence strategies (hunting), weapons used (spears, Axes comparable to the one reported from megalithic excavated sites), fauna etc. of the Iron Age - megalithic period.

Leonard Munn first published the report in 1934- 35 about 3 rock paintings near the well-known groups of megalithic dolmens reported earlier by Keis. He also mentioned about the ash mounds near the village. Later, Archaeological Survey of India's Darwad Circle undertook excavations at two habitation sites of Durgadi Dadi and Talavarmule, in the vicinity of Hire Benkal (unesco.org).

A cist burial from Mayiladumparai, Tamil Nadu.

Credit: Mohanty &Thakuria, 2014



Burial urns from Addichchannalur, Tamil Nadu.

Credit: Mohanty &Thakuria, 2014

Cairn with periphery boulders having a rectangular chamber in the centre from Malli, Vidarbha.

Credit: Mohanty &Thakuria, 2014

A Kudaikal from Kerala.

Credit: Mohanty &Thakuria, 2014

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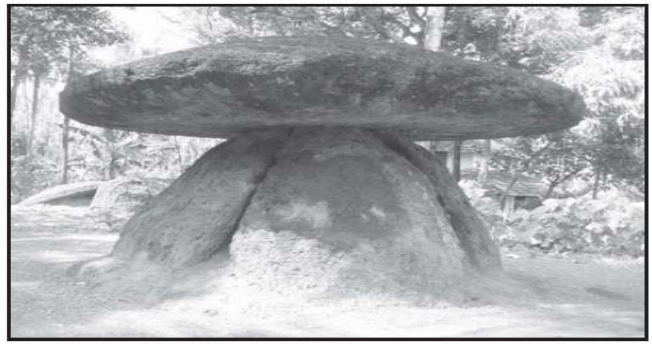


A Topikal from Kerala.

Credit: Mohanty &Thakuria, 2014

Dolmen from Mallasandram, Tamil Nadu.

Credit: Mohanty &Thakuria, 2014

A menhir from Ayyampatt, Tamil Nadu.

Credit: Mohanty &Thakuria, 2014

A view of a portion of the avenue at Hanamsagar from a hill on the west.

Credit: Mohanty &Thakuria, 2014

Rock cut cave burial from Ummichiipoyh, Kerala.

Credit: Mohanty &Thakuria, 2014

Check your progress

Q 1. What is Megalithic Culture? Discuss the Megalithic Culture of India with special reference to South India.

6.2 PAINTED GREY WARE (PGW) CULTURE

6.2.1 INTRODUCTION

The PGW culture belongs to the Iron Age. Its most important feature is the pottery. The ware is grey in colour, made of fine grain, well levigated clay and fired under reducing condition in the kiln. It consists of dish, pan, *lota, etc.* and is often painted in black or deep chocolate brown color on grey surface with designs like dots, dashes, criss- cross lines, concentric circles,

semi- circles, sigmas, swastikas, etc. (Ghosh 1989). This ceramic was first discovered at Ahichhatra (1940- 44) in association with NBPW but its independent existence in stratigraphic context was established only after the Hastinapur excavation in 1950- 52. The exploration by B.B Lal during 1954- 55 shows the presence of this ceramic with the sites associated with Mahabharat. (Dhavlikar 1999).

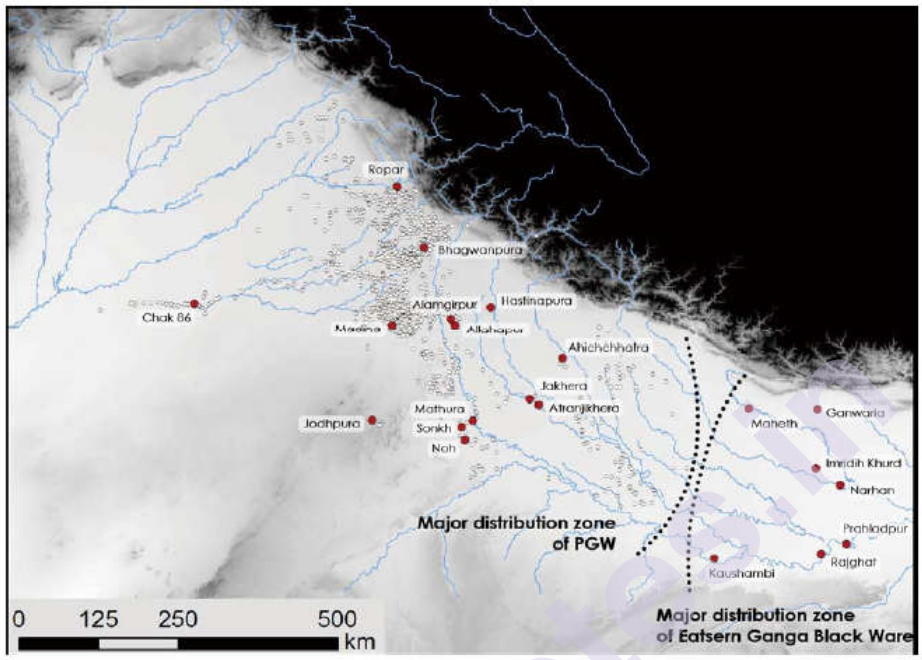


Figure 1: Distribution of Excavated PGW Sites and Other Relevant Sites

Credit: Uesugi 2018

6.1.2 CHRONOLOGY

The chronology of PGW is controversial. An attempt has been made to date the culture through both relative and absolute dating methods. In terms of absolute chronology Painted Grey Ware culture has been comfortably place before 2890±105 BP. from Atranjikhera (Singh et al 2014).

When it comes to relative dating, B.B. Lal, who excavated the site of Hastinapur assigned a time bracket of 1100- 800 BCE on the basis of stratigraphy. However other scholars like Childe and Wheeler did not accept this time bracket. According to Childe, the PGW could have established at the site Hastinapur from 1400-600 BCE and Wheeler believed that the beginning of the ware at the site Hastinapur would be 800 BCE. After the excavations at Hastinapur, a number of sites in western Uttar Pradesh and northern Rajasthan have been excavated that resulted into a considerable amount of information about its chronology. The Bhagawanpura excavation by J.P. Joshi revealed the origin of this pottery in the late second millennium BCE. The end of the Harappan ceramic tradition and the emergence of a new ceramic style represented by PGW signify not only the change in pottery but also the socio□cultural

transformation from the Bronze Age society to the Iron Age society (Uesugi 2018).

R.C. Gaur on the basis of Atranjikhera excavation, assigns the time bracket of 1100- 600 BCE whereas, V. Tripathi, after examining the evidence from different sites has concluded that at Hastinapur the PGW stratum should be assigned to 850-550 BCE and at Atranjikhera it may have started a little earlier by 900 BCE (Dhavlikar 1999). Sites like Ahichchhatra, Atranjikhera, Sravasti, Kaushambi shows overlap of this ware with Northern Black Polished Ware (NBPW). However, the origin of NBPW cannot be placed later than 600 BCE. Therefore, similar date may be proposed for the end of the PGW *i.e.* 600 BCE. Hence the time bracket for Painted Grey Ware from 1200- 600 BCE seems to be most reasonable under the available evidences (Ahmed 2015).

6.1.3 DISTRIBUTION

Post-Independence, many PGW sites have been discovered especially in Punjab, Haryana, North Rajasthan and Western Uttar Pradesh (Upper Gangetic Plain). It has an extensive distribution of more than 1000 sites ranging from Sutluj/ Hakra basin on the west and the Aravalli range in the south; the Chambal in the southeast and the foothills of Himalayas in the north. Most of the sites are located on the riverbanks and very few in the interiors. The main concentration of the sites is found in Indo- Gangetic Divide (Haryana), Sutlej basin and upper Ganga plains. Important PGW sites include Hastinapur, Alamgirpur, Ahichchhatra, Allahpur, Mathura, Kampli, Noh, Jodhpura, Bhagwanpura, Kausambi, Jakhera and Shravasti.

Overall, there are four kinds of stratigraphic contexts where PGW occurs (Singh 2009):

I) Sites like Rupar and Sanghol (Punjab), Daulatpur (Haryana) and Alamgirpur and Hulas in Western UP have yielded the PGW ceramic assemblage after a late Harappan level, with a break in between the occupation.

II) Sites like Dadheri, Katpalon and Nagar (Punjab) and Bhagwanpura (Haryana) have witnessed an overlap between the two cultural assemblages i.e. PGW and the Late Harappan phase.

III) Sites like Hastinapur and Ahichchhtra in UP have yielded the PGW ceramic assemblage after the OCP culture, with a break in between the occupation.

IV) Sites like Atranjikhera in UP, Noh and Jodhpura in Rajasthan have yielded the PGW ceramic assemblage after the BRW phase, with a break in between the occupation.

Scholars have studied the sites and settlement patterns associated with the PGW phase. Makkahn Lal's study (1984) of Kanpur district identified 46 PGW sites. Of these 26 sites were below 1 hectare, 14 between 1 and 1.99 ha, 2 between 2 and 2.9 ha, 3 between 3 and 3.99 ha and 1 between 4 and

4.99 ha. He also noticed that the sites which are far from the rivers were smaller than those along the riverbanks. Average spacing between two settlements was 10-14km.

Another scholar Erdosy's study (1988) traced the history of settlements in Allahabad district of UP between c. 1000 BCE and 300 CE. In Period I (600-100 BCE) there was a two-tier hierarchy of settlements. 15 sites were 0.42- 2.80 ha in size, the average size was 1.72 ha. The largest site was Kausambi with 10 ha. Erdosy estimates that between 60 to 450 people lived in these villages. A similar hierarchy was visible in northern Haryana. Out of 42 PGW sites, one site was 9.6 ha and others were not more than 4.3 ha. The evidence is comparable with that of Mughal's analysis of PGW settlements in the site of Bahawalpur, where 14 sites ranging between 0.5 and 5 ha except for Satwali which is the largest PGW site so far with 13.7 ha.

These data show that it was particularly small village settlements with few large one's as exceptions. Some of the important PGW sites are as follows (Dhavlikar 1999, Singh 2009 & Singh 2014):

a) Abhaipur

The site falls in the Bisalpur tehsil of Pilibhit district of Uttar Pradesh. It was excavated from 2001-02 to 2005-06. Painted Grey Ware culture was the main culture at the site found in Period-III. The people in this period lived in wattle and daub houses and later on made mud-wall houses with mud plastered floors. The presence of a large number of pits in this phase is conspicuous. A bones tool making workshop was found where in both finished and unfinished bone tools and beads along with equipment's were found. The excavators are of the view that mainly hunting, gathering, fishing contributed to the economy, while iron and copper metallurgy, pottery making and trade played subsidiary role. Beads of agate, carnelian, jasper, crystal indicates the existence of long-distance trade. P.G.W. ceramics with paintings are common. On some sherds stamped decoration was also noticed. A low bund or dump like structure along with moat is noteworthy. Post holes and circular wattle and daub structure give us an idea about their houses.

Numerous floors and a few underground storage pits are important structure that was found. Circular and oval furnaces with iron objects, slag, bin shaped ingots and a chunk of magnetite ore shows the local manufacturing facilities. Copper metallurgy and gold smelting were well developed. Bone objects making industry was quite proliferated one along with ivory working. Terracotta human, animal, birds' figurines and other objects are commonly found in the PGW levels.

b) Ahichchhatra

The site of Ahichchhatra is located in the Bareilly district of Uttar Pradesh. It is first reported site which yielded Painted Grey Ware. It was excavated by Archaeological Survey of India from 1940-44 by Ghosh and Panigrahi. The lowest level here has yielded the sherds of Painted Grey

Ware. This period was then dated to pre-300 BCE. The site was again taken up for excavations in 1964-65 under the direction of N.R. Banerjee and four-fold cultural sequences were encountered.

Period-II has a deposit of about one meter and belongs to Painted Grey Ware culture. People in this period lived in huts and mud-brick houses. A broken brunt brick is also reported in this phase. The Painted Grey Ware is accompanied by plain red ware of coarse fabric. Some of the PGW were found over-heated resulting in brownish red colour which the excavator included in a separate category. Different shapes and forms of PGW were found in this category. Polished grinding objects fixed in a mosaic pattern are the interesting finds of this period. Terracotta animal figurines, spindle whorls, beads etc. are other important finds. Copper and iron objects point to the metallurgical technology of the people who were mostly agro-pastoral.

c) Atranjikhera

This site is situated on the right bank of Kali river in Etah district of Uttar Pradesh and. It was excavated by R.C. Gaur. This is the most important PGW site in India. Period-II belongs to PGW whose deposit is up to 2.20 m. Earlier the excavator had divided the deposits into two phases but in the final report two sub phases of PGW and one phase of Late PGW were added. Some sherds of PGW show fabric impression. A good number of iron objects like shaft, axes, clamps, hooks, borers, chisels, knives, needles, bangles and a pir of domestic tongs were found in this period. Use of copper is found in the form of toiletries, ornaments and fish-hook etc. Houses were made of mud and reed, post holes indicate the presence of huts, whose floors were made of yellowish rammed earth. Terracotta beads, toys, discs, along with handmade human figurines were found. Remains of a mud bund were also encountered. Unfortunately, this could not stop flood from washing way the final deposits of this period. Agriculture, cattle rearing, fishing and hunting was the bases of economy here.

d) Dadupur

The site is located at further east of the village across Nagwa nullah. U.P. State Archaeology Department, under the direction of Rakesh Tiwari excavated the site. Period-II belongs to the PGW culture and the average deposit is 35 cm. Common shapes of PGW with painted motifs is the hall mark of this period which has other associated wares like Grey Ware, Black and Red Ware, Black Slipped Ware and Red Ware were found. Three successive floor levels were encountered, which were made of mud rammed, mixed with pot sherds. Brunt clay lumps with reed impression indicate that wattle and daub houses were made. Bone artifacts, terracotta hop scotches, bead along with iron objects were found. A bone tool making workshop was also found at the site from where finished and unfinished produced were found. Period-III is marked by the presence of NBP ware and associated wares, a few sherds of PGW continued in this period.

e) Hastinapur

This famous site is located about 96 km. north-east of Delhi in Mawana Tehsil of Meerut district. This is a signature site of PGW culture which was excavated by B.B. Lal (1955). Here five occupational deposits were excavated with a definite gap between each.

There was a gap between periods I & II. The PGW is the main ware of the period-II which is of fine fabric and most of the pots were wheel made, though handmade specimens were also encountered. Common shapes are bowls and dishes, painted with black, chocolate and reddish-brown pigment. Mud wall or mud brick houses were made. Use of copper and iron was attested by the presence of various objects. Chert and jasper were also used for making beads. Terracotta objects in the form of animal figurines, discs, stamps, pendent, beads; glass objects mainly bead; bone objects like beads, points etc. were main antiquities of this period. A huge flood destroyed the settlement of PGW and in the next period, people using NBPW inhabited this site. There is hiatus between this period and next period which belonged to 3rd century AD.

f) Jakhera

This site is located in Etah district of Uttar Pradesh on the left bank of Kali nadi to the north-west of Kasganj tehsil. This site is spread over an area of about 25 hectare and was excavated by MDN Sahi of Aligarh Muslim University in 1988-89. Four periods were unearthed here.

The period IIIA is named as proto PGW. In this period BRW, BSW and Red slipped ware having painted designs were introduced. The slipped red ware's colour ranges from deep brown thorough red to orange. This pottery was labelled as Proto PGW. The colour of this pottery is due to careless firing as a result of which sherds intend to be of grey colour were reduced red due to reducing heat technique.

Period-IIIB is labeled as mature PGW and has deposits varying from 50 cm to 2 m. This period is characterized by the continuation of BRW, BSW and red ware along with PGW and grey ware. Paintings are found on the sherd and few sherds were found decorated with stamped design.

g) Mathura

The ancient mounds at Mathura were subjected to excavations in number of seasons starting from 1954-55 and again from 1972-76. The excavation at *AmbarishTila* during 1975-76 yielded a few PGW sherds in the small area of the huge mound in the northern side. Phase 1A has a few sherds of PGW but bulk of pottery is BSW, GW, B&RW and Red Ware. Out of painted designs, special mention may be made about a ladder design. Common PGW antiquities were found here.

h) Sankisa

The site is located in the Farrukhabad district of U.P. The excavations were conducted under the direction of B.R. Mani in 1995-96 and a

fourfold cultural sequence was encountered here. The layers of period-I have yielded PGW and associated ceramics. Red ware is both handmade and wheel made having coarse to fine fabric. Clay lumps with reed marks give us an idea about their houses. Common PGW, shapes and painted designs were found along with some course Black & Red ware sherds. A large number of terracotta discs with a variety of decorations and other antiquities were found in this period along with a few semi-precious stone and two bone objects.

i) Sonkh

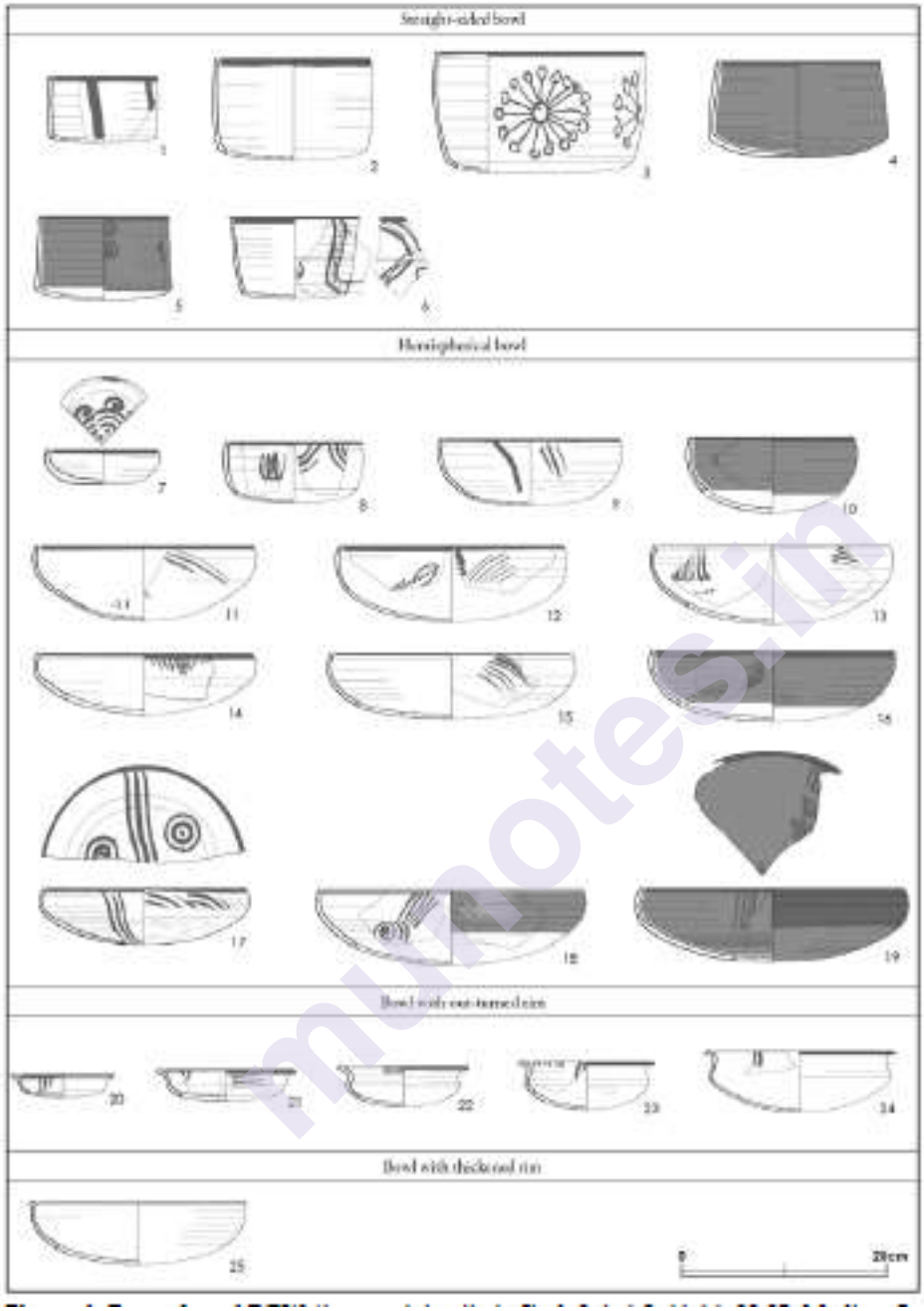
The site is located in the Mathura district of U.P and it was excavated by Hartel (1993). It measures 320x280 m. and had 17.20 m. thick deposit. The lowest deposit here belongs to the PGW using people who lived in thatched huts resting on post holes. Other wares of this period include BRW, Red Ware and Grey Ware. Artifacts like Iron objects, terracotta figurines, discs, balls, bangles etc. were found. Besides, beads of carnelian, agate and copper are the other antiquities were also found in this phase.

6.1.4 TECHNOLOGY

The PGW is very fine, smooth and has a thin fabric. Scholars like Lal and Dhavlikar believed that it is due to the excellent quality of clay which is available in the Ganga Valley. Sana Ullah opines that the color was due to the presence of black ferrous oxide produced by the controlled firing technique. According to Tripathi, a uniform high temperature must have been maintained in the kiln. Although no kiln has been found at PGW sites, it seems that PGW was fired not in an open kiln but in the closed ones, in which a high temperature could be attained (Uesugi 2018). Few wares found at the site of Ahichchhtra were partly reddish, and partly bluish or bluish grey in color. The reason behind this coloration might be due to the peculiar conditions of firing in the kiln attributed to the presence of oxygen. The pots were wheel made and once they were hard, they were turned on the wheel again for send time. Though majority of PGW pots have been wheel made, handmade potteries were also found at some sites. Outside the Gangetic plains, especially from Rajasthan medium grained PGW sherds are reported (Ahmed 2015). To give a smooth and matt finish, some smoothening agent was applied.

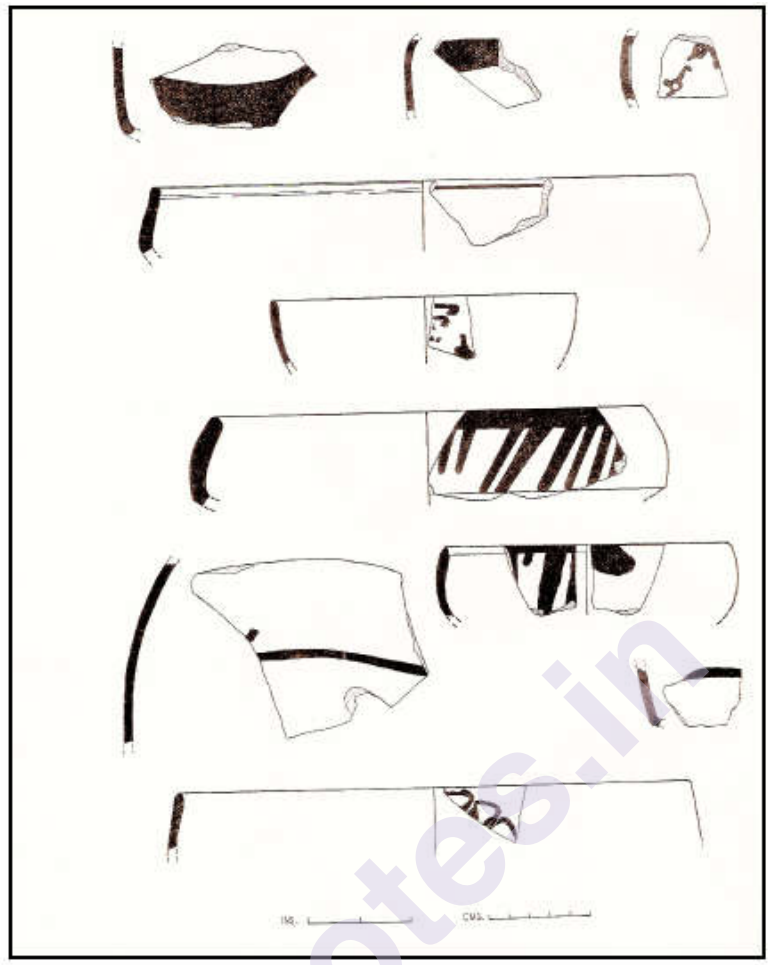
As mentioned earlier Bowl, dishes, dish on stand, cup, basins, *lotas* are commonly found. Bowls and dishes have straight, convex, carinated, corrugated sides with outgoing tappers. Dish on stand have corrugated sides. Basins are extremely thicker with grooved rim. *Lotas* are very rare might be used for drinking and washing, reported from Ropar. The paintings executed on the surface include geometric as well as naturalistic designs. Designs like sun and floral patterns are very uncommon. Interestingly, some sites in Rajasthan have yielded stamped or incised designs on the pottery. Paintings are thick in execution and do not seemed to have been painted with a fine brush. Since very small percentage of total pottery assemblage is found at a given site (3-10%), scholars have

assigned PGW to a deluxe table ware, used by the rich people. (Dhavlikar 1999; Singh 2009).



Examples of PGW

(Credit: Uesugi 2018)



Various shapes of Painted Grey Ware (Kaushambi)

(Credit: Ahmed 2015)

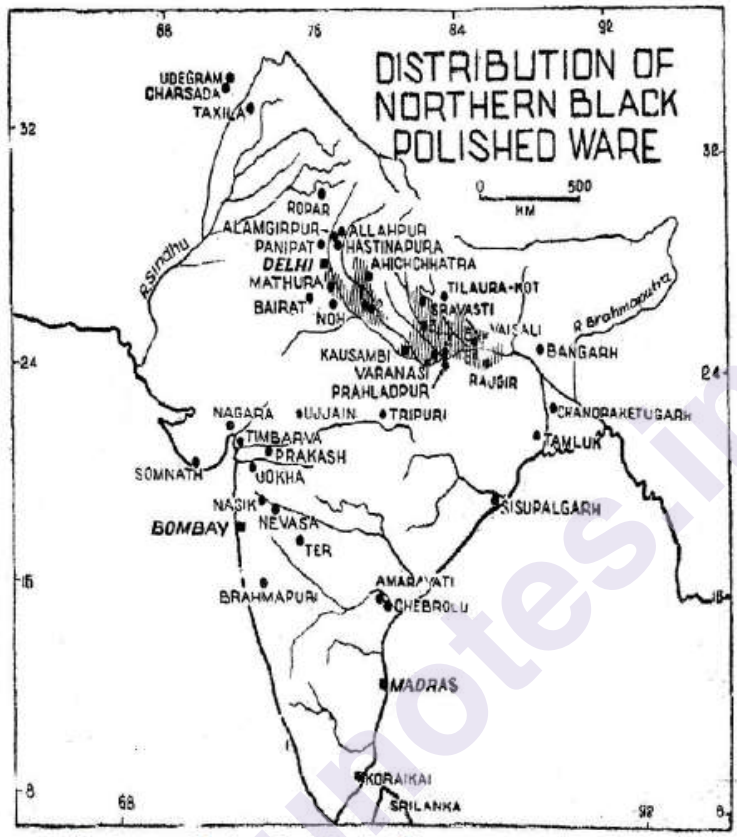
Check your Progress

Q. 1 Give an outline of Painted Grey-Ware Culture of India with special reference to the excavated sites.

6.3 NORTHERN BLACK POLISHED WARE CULTURE

The Painted Grey Ware Culture was succeeded by the NBPW culture. As the name suggests this pottery has lustrous black polish and it is found mostly in northern India. Its fineness is sometimes as thin as 1.5 mm. The ware is also well levigated; wheel made and well fired. Apart from black, it is also found in other shades and colours. The popular shapes in which it is found are bowls with straight, convex, tapering and corrugated sides; dishes with incurved rims and convex sides, straight sides, knobbed lids, carinated handis and miniature vases. The NBPW was first discovered at the sites of Sarnath, Bhita and Bhir in Varanasi, Allahabad and Taxila respectively. Marshall believed it to be a variety of Greek Black Ware which is a deluxe ceramic of 4^{th}- 3^{rd} century BCE. However, he had doubts whether it was locally made or imported from somewhere (Ghosh 1989).

Interestingly, the introduction of NBPW marks the beginning of Second Urbanization in the Ganga plain and coincides with other factors like Buddhist archaeology, introduction of coinage and art of writing in the middle Ganga plain. It not only marks a new era in the field of ceramic industry but also in respect of ancient political, socio-economic and cultural history of India.



Distribution of Northern Black Polished Ware

Credit: Ahmed 2015

6.3.1 Chronology

The chronology of NBPW is also controversial like that of PGW. Marshall found it in pre- Greek levels at Taxila i.e. pre-300 BCE and therefore provided 500- 200 BCE as the time bracket. The work on chronology was done by Wheeler and Krishnadeva. They proposed the time bracket of 5th BCE to early 2nd BCE because at Taxila, the NBPW was mainly pre-Greek. At Hastinapur, there was a break inoccupation between the PGW period & the NBPW period and since Lal placed the former in 1100- 800 BCE, he assigned the NBPW period to 600- 200 BCE. On the basis of evidence from Ayodhya and Sringaverapur, he stretched back its antiquity to the 7th Century BCE.

On the basis of Carbon dating, a bracket of c.550 to 50 BCE has been proposed by Agarwal (Ghosh 1989). The pottery is not homogenous when it comes to the distribution. Two phases have been identified on the basis of stratigraphical evidence and fabric. The earlier phase has been identified at Shravasti and the other is represented by the sites like

Vaishali and Rajgir (Bihar) where the beginning is placed at 7th Century BCE. K.K. Sinha thinks that Hastinapur and and Ropar belongs to the later phase. T.N Roy has divided the NBPW period into two phases of which the earlier ones are represented by the sites in UP or middle Ganga basin. It should be understood that the ceramic is bound to undergo changes in six or seven centuries over a vast area. The pottery is divided into 3 phases (Dhavlikar 1999):

I) 7th- 6th Century BCE- Beginnings in Kausambi- Patna region

II) 5^{th}- 2^{nd} Century BCE- Emergence of Magadhan Empire where the pottery reaches up to the Gandhara region in the west, Tamluk in the east and also towards South. However, when the mass production for the purpose of export starts during the Mauryan period, the quality of the fabric deteriorates.

III) 2^{nd}- 1^{st} Century BCE- With the downfall of Mauryan Empire, the NBPW too waned out which represents its last phase.

6.3.2 Distribution

The NBPW has a wide distribution in India. The ceramic is not only limited to North India but have been found at various sites in southern, western and eastern parts of India as well as beyond the present political boundaries of India like Pakistan, Nepal, Bangladesh, Afghanistan, Sri Lanka etc. There are almost 1,500 sites where this ceramic has been found ranging from Taxila and Charsada in the north- west to Amravati in AP in the south; and from Prabhas Patan in Gujarat to Tamluk in Bengal. The main excavated sets are Rupar (Punjab); Raja Karna ka Qila and Daulatpur (Haryana); Bairat, Noh and Jodhpura (Rajasthan); Hastinapur, Atranjikhera, Shravasti and Kausambi (UP); Vaishali, Patna and Sonepur (Bihar) (Singh 2009). Though middle Ganga plain has been accepted as the place of NBPW yet there have been contradictory claims, regarding the epicenter of the ware. While scholars like B.P. Sinha and Sahay are of the view that the epicenter of the ware would have been around Pataliputra (Patna) and, on the other hand, scholars like G.R. Sharma proposed Kausambi as epicenter. Even though early dates of NBPW come from Bihar but on the basis of distribution Uttar Pradesh surpasses Bihar. The wide distribution of this ceramic is attributed to the spread of Mauryan imperialism, Buddhism or iron technology through trade routes (Ghosh 1989 & Kanungo et al 2021).

The NBPW phase is preceded by the PGW, sometimes with an overlap at sites like Punjab, Harayana, Rajasthan and Western UP whereas when it comes to the eastern UP and Bihar, Black and Red Ware (BRW) precedes this phase (Singh 2009).

Some of the important sites are as follows (Ahmad 2015):

a) Bhita

It is located in the Allahabad district. The NBPW was discovered and reported from the excavation at this site by John Marshall in 1909-10 and 1910-11. The deposits of the site are divided into five periods ranging

from pre-Mauryan to Gupta times. Besides the NBPW, punch-marked coins, un-inscribed cast coins, tribal and Kushan coins and several sealings of Kushan and Gupta Periods were reported also. Two phases of NBPW are found. These are pre-structural ones (Early NBP) and the structural ones (Late NBPW).

b) Kausambi

The site is located near Allahabad. According to the Puranas, when Hastinapura was swept away by floods at the time of Nichakshu, the capital of the Pandavas was shifted to the site of Kausambi. The ruins were identified for the first time by Cunningham. Period II yielded huge number of NBPW shreds and several floor levels. The excavation from 1951-56 led to the discovery of *Ghoshitarama* monastery besides other objects. In the courtyards, a number of small stupas and a small shrine of Hariti were also found. The monastery marked the place where Buddha preached his Sermons which was described in detail by Hiuen-tsang.

The third cultural period (*circa* 605-45 BCE) identified on the basis of pottery is marked by the appearance of NBPW, PGW and Black and Red ware. The inscribed cast coins of Mitra Kings, lanky bull type and silver and punched marked coins along with terracotta figurines were also found in the period.

According to Sharma, Kausambi II belongs to a late phase of PGW phase and the view of the gap between the end of the PGW and the beginning of NBPW is no longer tenable. Here also, below NBPW (period III) there is a deposit of Black and Red ware (period II). And above NBPW is a post-NBPW deposit (Period IV). It is not possible here to demarcate the early and late phases of NBPW in Period III.

c) Patna

The site was first studied by P.C. Mukherjee in 1897-98 who reported several punch-marked coins and a coin of Chandragupta II in his exploratory diggings at Lahanipur besides other antiquities. D.B. Spooner conducted archaeological excavations at Bulandibagh and Kumrahar in 1912-13. At Bulandibagh, he traced the wooden beams and reported about two hundred uninscribed cast coins, two terracotta human figurines and a chariot wheel with iron round the hub. At Kumrahar, he brought to light Mauryan pillared-hall and several other antiquities like a polished stone pillar, punch-marked, Kushan and Gupta coins and terracotta Figurines. Thus, the antiquity of the site from Maurya to Gupta periods was more or less established by his work.

Under the direction of A.S. Altekar and V.K. Mishra, the site was excavated again from 1951 to 1955. The occupation was divided into six periods, the first five, corresponding roughly to the Mauryan, Sunga, Kushan, Gupta, late Gupta times and the sixth once again cropped in 17the century CE after a gap. Period I & II recovered the NBPW sherds, dated prior to *circa* 150 BCE and *circa* 150 BCE to 100 CE respectively. Only

one shred of NBPW was, however, also reported from Period III which was dated from *circa* 100 CE to 300 CE.

The site was excavated again in 1955-56. This time a sequence of five periods, the earlier four were continuous in occupation from *circa* 600 BCE to 600 CE and the fifth beginning from 1600 CE was established. NBPW which was the distinctive pottery in Period I (From *circa* 600 B. CE to 150 BCE) degenerated in fabric and diminished in quantity in Period II (from *circa* 150 BCE to 100 CE) and finally went out of use in Period III (from *circa* 100-300 CE).

On the basis of excavation report in 1970, there are two phases of NBPW at the site. Period I, represents the early or pre-structural phase while Period II is marked by the presence of late NBPW complex. In this phase, NBPW occurs in small quantity, sometimes stamped with symbols like hollow cross and crescent hill, sometimes also riveted with copper and lastly interlocked with coarse grey ware. Structures also start occurring in this phase. Period III is post-NBPW when the NBPW went out of use.

d) Ahichchhatra

Ahichchhatra which is identified by Alexander Cunningham as Ahichchhatra of ancient literature is located in Bareilly district. This site was first excavated by him and then by K.N. Dikshit and others in 1940-44. They identified nine periods of occupation called 'strata' starting from pre Mauryan period (pre-300 BCE) up to 1100 CE. Besides other things the excavation also revealed number of coins which includes caste coins from the earliest strata followed by Panchala coins (1st Century BCE), Kushana coins, coins of Acyu, who is identified with Acyuta, the king who was defeated and the territory annexed by Samudragupta etc.

Ahichchhatra was excavated again by N.R. Banerjee in 1963-64 and 1964-65 which brought to light four cultural periods named as Period I to IV starting from OCP. PGW followed by NBPW up to Kushana- Gupta period. The deposits of Period III were characterized by burnt clay and brick-bats, rammed into compact mass was represented by NBPW, thick Grey Ware, carinated *handis* and pear-shaped vases in Red ware. The use of burnt bricks along with mud-floors having evidence of multiple ovens, indicated structural remains. The other antiquities included animal and human terracotta, beads of carnelian and terracotta, pestles and querns, iron objects, and copper rings, nails and pins. These are all indicate towards the late phase of NBPW.

This period at Ahichchhatra is comparable with Sravasti II, Hastinapur III and Prahladpur IC.

e) Atranjikhera

It is situated on the right bank of the Kali-Nadi in Etah district. This site was excavated by R.C. Gaur in 1960- 61for the first time. After this, it was taken up for wide excavation in sessions 1962-63, 1963-64, 1965-66, 1966-67, 1967-68 and 1968-69.

The excavation revealed seven occupational deposits. Period IV, which represents an overlap of the PGW and NBPW, has been also divided into two phases, pre-structural and structural. The ceramic of this period was similar to that of NBPW levels of Hastinapur (Period III). But in the earlier phase no definite house-plans could be noticed except the remains of burnt mud clods with bamboo and reed impression. In the late phase, however, mud brick as well as burnt brick structures were reported. The pre-structural NBPW Phase in which the entire cultural pattern of the preceding period continued was ended by a flood. After this the site was fully urbanized perhaps also fortified and showed intense structural activities in form of brick floors, houses and ring wells. The Characteristic shapes like carinated *handis*, pear-shaped vases were absent from this pre-structural phase.

f) Hastinapur

This site is known in literature as the capital of the Kauravas from the Mahabharata. It is located in Meerut district of U.P as small streamlet Burhi Ganga a tributary of Ganga flows near the mound. Lal had excavated the site (1954-55) in which five occupational levels were encountered with a break between each have been recognized. Period III represents NBPW, the people were more sophisticated than their predecessors as they used burnt-brick structures, terracotta ring wells and brick drains. Iron was regularly used and money also came into circulation in form of punch-marked and un-inscribed cast coins. Other finds of the period dated from early sixth to early third century B.C. were terracotta figurines of animal like elephants, horse and human figurines with elaborate head dress and ornaments. Beads, glass bangles and rings made of copper, chalcedony and horn were the other collections.

g) Tamluk

The site is situated in Purba Medinipur district in West Bengal. According to scholars, present day Tamluk is the site of the ancient city known as Tamralipta or Tamralipti. It was excavated in 1954-55 by M.N. Deshpande. Period II was represented by the use of Northern Black Polished Ware. In Period III, Rouletted Ware, sprinkler type vessels, ring wells and a brick built stepped tank were noteworthy. It is observed Period II and Period III represent the late phase of NBPW.

h) Ujjain

It is located in Malwa region on the eastern bank of the Kshipra River, a tributary the Chambal. Its importance as a Northern Black Polished Ware bearing site was only felt when Y.D. Sharma gave a short description of the site in 1953. The site was excavated by N.R. Banerjee from 1955-56 to 1957-58 and then by K.M. Srivastava in 1964-65 primarily to collect carbon-14 material for dating. The archaeological deposit is divided into four cultural periods. In Period II (from *circa* 500 to 200 B.C.), besides earlier potteries, Northern Black Polished ware was introduced in huge quantity. Structures of both mud-brick and kiln burnt brick made their

appearance. Brick-built tank, a canal and a mud-built tile-roofed workshop were the other important findings.

i) Sugh

The site is positioned about 5 km east of Jagadhari in Ambala district. Under the supervision of Chhabra and Suraj Bhan of the University of Punjab, this site was excavated in 1963-64 and again in 1965-66.

The excavation revealed two cultural periods. Period I, was divisible into two sub-periods. Sub-period IA (circa 600-500 B.C) was characterized by the occurrence of Painted Grey Ware and Northern Black Polished ware. In Sub-period IB (*circa* 500-100 B.C.), all the ceramic of preceding phase continued except PGW. Human and animal terracotta figurines, bone points, punch- marked and Indo–Greek coins in silver, copper inscribed and un-inscribed cast coins, soapstone casket beads of semi-precious stones and iron and copper objects have been reported also from this period. Brick-built houses, terracotta drain pipes and ring wells were the ruins of structural activity.

j) Nashik

This site is situated on the southern bank of river Godavari in Maharashtra. The site was traced by Pt. Bhagwanlal Indraji and Henry Cousens of the Archaeological Survey of India in 1907. In 1948, the site was explored by H.D. Sankalia and M.N. Deshpande where some sherds of the NBPW were recovered.

The excavation was taken up by H.D. Sankalia in 1950 and total human occupation of about 7.5 m was revealed. It was divided into four periods from Chalcolithic or Early Bronze Age to Maratha times. After Period I the site remained deserted. It was re-occupied in a about 400 B.C. with the advent of Northern Black Polished ware for the first time. The early historical period, called Period II, was divided into two phases, A and B, dated to 400-200 B.C and 200 B.C. – 50 A.D. respectively. The common pottery was Northern Black Polished ware, Black-and-Red ware and coarse Red ware. Iron implements, beads of semi-precious stones, bangles of shell and uninscribed cast copper coins in the late levels of this period were the other finds. The mud-walled houses, large storage-jars and soakage pits lined with rings (ring wells) and bricks constituted the dwellings of the people. It is observed that Period II is related to the Late Phase of NBPW.

k) Jodhpura

It is located near Jaipur. The excavation work (IAR 1972-73: 29-30) was directed by Vijay Kumar (1976) under the Supervision of R.C. Agrawal in the session 1972-73. The ancient mound of Jodhpura was situated on the right bank of the river Sabi, forms a part of Ancient Mastsya-desa. The total deposit was divided into five periods. Period IV is marked by the occurrence of the Northern Black Polished ware and slipped red ware. Important finds of this period include iron arrow-head and nails, shell bangles, terracotta humped bull and a stone bead. It must be said that the

early phase of Northern Black Polished ware related with period III i.e. with the late phase of the P.G.W. and the late phase of Northern Black Polished ware by period IV.

l) Noh

The site is located near Bharatpur district. It was reported by B.B. Lal as a site containing both Painted Grey Ware and Northern Black Polished ware. The Department of Archaeology and Museums, Government of Rajasthan, under R.C. Agrawal and Vijay Kumar, excavated the site in 1963-64. The excavations yielded deposits of five cultural periods. Period III contained satisfactory quantity of Painted Grey Ware and Northern Black Polished ware from the related layers. Other major finds included terracotta discs (incised and scalloped), bone points, several objects of iron, charred rice. In Period IV, Terracotta human and animal figurines, un-inscribed cast coins, floors, hearths and a seal reported. The Middle phase is enclosed by period III having both Painted Grey Ware and Northern Black Polished ware. The late phase is covered by period IV in which NBPW and other assemblage of the Late phase of NBPW are reported.

m) Sisupalgarh

This site is located near Puri district of Odisha. An excavation was conducted by the Archaeological Survey of India under B.B. Lal in 1947. In order to find out the facts of the fort and its gateway and other important findings, the excavations at the site was again resumed in 1970-71 by the Government of Odisha. The total occupation deposit was divided into three periods. Period II B yielded three sherds of NBP. A silver punch-marked coin, a copper coin of Huvishka, clay bullae imitating Roman coins were the additional finds.

In Period III (*circa* A.D. 200-350), a gold coin, copied from the coinage of the Kushan King Vasudeva, some Puri-Kushan coins and houses of bricks or of cut laterite slabs with streets were the additional findings. The excavation also revealed the existence of a rampart of heaped earth built round about 200 B.C, during the first constructural phase. In the second phase, a thick layer of laterite was laid on the earlier earth work. In the third phase, two brick walls with mud filling between were added along with a revetment with stepped exterior. It was observed that the defense wall with two structural phases has been reported in the excavation of 1970-71. It is said on the basis of above facts that this site is significant parallelism from the sites of the late phase of NBPW culture.

n) Amravati

This site is located in Guntoor district of Andhra Pradesh. Under the direction of Krishna Murthy and L.K. Sharma of Archaeological Survey of India, this site was excavated in the sessions of 1958-59 and 1973-74. It revealed five cultural periods. Period I (*circa* 4th – 3rd Century B.C.) has divided into two sub-phases. Sub-period IA is characterized by the occurrence of Black-and-Red ware and Nothern Black Polished ware,

sometimes in association with Iron. Among the noteworthy antiquities of the site were remains of hut and two inscribed potsherds in early Brahmi Characters. Sub period I-B is also connected with a large quantity of Nothern Black Polished ware. Period II (2nd - 1st Century B.C.) is marked by the continuation of the Northern Black Polished ware and punch marked coins. No other site in peninsular India has yielded so much of Northern Black Polished ware (NBPW). Period I and II belonged to late phase of Northern Black Polished ware.

6.3.3. Technology

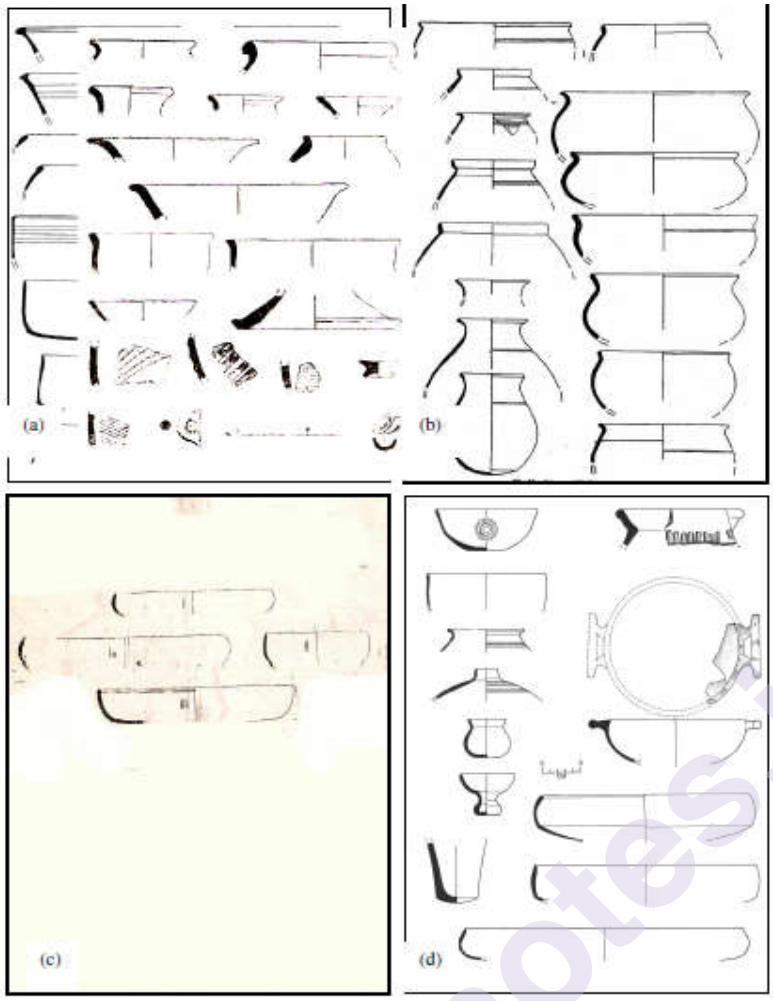
Scholars believe that the Northern Black Polished Ware was fast wheel made and fired in the sagger-kiln at high to very high temperatures and cooled in reducing atmosphere. The technology behind the highly polished and mirror like surface of NBPW has not been fully understood yet. One theory is that some ferruginous compound was applied on the surface of the pots before firing and its black color was due to firing the pots in reduction condition. According to B.B. Lal, the lusture was achieved by applying some agent such as oil or plant juice after the pots was fired while still hot. Besides, other theory suggests that magnetic iron oxide gave the pottery its black glassy look, while the shine was due to application of liquid clay, containing hematite, along with natural alkaline substance before firing the pot under reducing conditions. This ceramic is usually unpainted but there are some instances of designs consisting of bands, wavy lines, concentric and intersecting circles, semi- circles, etc. which are painted in yellow and light vermillion (Dhavlikar 1999, Singh 2009 & Ahmed 2015)

NBPW was highly valued; perhaps it was limited for elite usage which is indicated through the limited assemblage. Some interested finds are some specimens where fragments have been repaired with copper rivets, fillets, or pins. Ropar in Punjab, Bairat in Uttar Pradesh, and Sonepur, Juafardif, and Kumrahar in Bihar are some of the sites where such repaired NBPW are found. This suggests that NBPW vessels with minor breakage were not usually thrown away after they had been damaged but were used after repairing (Kanungo et al 2021).

6.4 CONCLUSION

The painted grey Ware culture clearly, identifiable with the later Vedic Aryans. The painted Grey ware people was much oriented about the iron technology. Through the excavation of the various sites it is observed that they are the first to have brought about a revolution in the settlement pattern in the Ganges-Jamuna basin-the Madhyadesa of old. Further, it is the painted grey ware period that brought northern India to the threshold of what is known as the second urbanization.

Therefore, through the excavations of early historic sites the clear picture of the knowledge of technology was existed among the people who were settled in the various places of early Indian culture.



(a) Shapes of Northern Black Polished Ware and associated PGW (Kaushambi) (b) Various shapes of Northern Black Polished Ware (Atranjikhera) (c) Various shapes of Northern Black Polished Ware (Rajghat) (d) Various shapes of Northern Black Polished Ware (Agiabir)

Credit: Ahmed 2015

Check Your Progress

Q. 1. Why is NBPW also linked with Second Urbanization?

Q. 2. Write the important sites in the north India where NBPW are found?

6.5 QUESTIONS

1. To highlight on the various sites of painted Grey ware sites in early India?
2. Evaluate the important features of the Megalithic sites in Early India?
3. Write a detailed note on the North Black polished Ware sites.

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7

EPIGRAPHY

Unit Structure:

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7.0 OBJECTIVES

After going through this unit the students will be able to:

1. Understand the history of Indian Epigraphy.

2. Know the contribution of Epigraphy to Indian History.

3. Highlight on the study of socio-cultural and economic life of the people.

7.1 INTRODUCTION

An inscription means an old engraved record. It is also known as epigraph and therefore, the study of inscriptions is known as epigraphy. In other words "epigraphy is the study of inscriptions and inscriptions literally means any writing engraved on some object."

Inscriptions are of immense value for the reconstruction of ancient Indian history for they provide authentic evidence based on actual finds of contemporary periods. They provide the information regarding contemporary political, social, economic, religious and cultural conditions

and therefore, they are of utmost importance for the study of ancient Indian history and culture.

The objectives which were used for engraving inscriptions in India were of various types such as lithic, metallic, earthen or wooden objects, pottery, bricks, shells, Ivory plaques and other objects. The term inscription also includes in it – the writing in relief such as the legends on coins and seals which are usually produced out of moulds or dyes. Even the records painted on the walls or written in ink or on wooden tablets are regarded as inscriptions, although here the letter are not actually engraved, but painted.

8.2 HISTORY OF INDIAN EPIGRAPHY

The earliest records in writing are attributed to the Indus – valley people. They certainly knew the art of writing as is seen from their seals and pottery. However, this script is still undeciphered. Many scholars and historians are making serious efforts to decipher the Indus script. If deciphered successfully, the beginning of Indian epigraphy will be pushed back by about three thousand years.

There are ample references to the art of writing and writing material in the ancient Indian literature. However, the earliest written records, engraved on stones are Ashokan inscriptions. These were engraved in about 3rd century B.C. They contain the words like Lipi, Libi, Dipi all mentioning script. At least two types of scripts i.e. Brahmi and Kharosthi were prevalent in the time of Ashoka as is evident by his inscriptions in both the scripts.

However some scholars do not agree to this view of Ashokan inscriptions being the earliest epigraphic records. According to them Sohagaura and Ghosundi inscriptions are prior to those of Ashokan inscriptions. According to them, the letters of these inscriptions certainly belong to pre Ashokan era.

As a matter of fact, it is only during the reign of Ashoka, that we get a clear evidence of engraved records incised on imperishable rock or stone surface in either Brahmi or Kharosthi scripts and this system of engraving the inscriptions on rocks or stone material was probably unknown prior to the times of Ashoka.

7.3 CONTRIBUTION O F EPIGRAPHY TO INDIAN HISTORY

The historical research of ancient Indian history is primarily based only on the literary sources. But unfortunately the Brahmi script in which most of the ancient epigraphs were written, remained undeciphered till the nineteenth century. However, it was successfully deciphered by James Princep in 1836. This year witnessed the beginning of the Study of Indian epigraphy and numismatics in India. It was during this year that the study of Indian Epigraphy was put on a firm footing.

The successful reading of the Brahmi script accelerated the reconstruction of Indian history while bringing many historical facts into light. It goes without saying that for the reconstruction of the history of ancient India, epigraphic information of immense value. It is the most important source to understand Indian history and our great culture. By the study of inscriptions, we can amass a wealth of information about historical facts. Let us discuss the various inscriptions and their significance under the following headings.

7.2.1 Importance for the study of Political history:

Inscriptions are the living testimonies of historical facts in absence of literary or any other evidence. For example, the Hathigumpha inscription of king Kharavela. None of the literary sources mention the name and achievements of king Kharavela. This inscription is the only source regarding the information of the king Kharavela.

The history of many Indian dynasties can be traced by the epigraphic evidences as the inscriptions mention their genealogy. For example, inscriptions of the Satavahans, the Traikutakas, the Abhisaras, The Shilaharas, the Kalachuries and the Kalatiyas are of immense value as they provide their genealogical information. The tiles of rulers, their achievements accomplishments, personality skills etc. are often described in the inscription especially of the eulogistic type.

The inscriptions provide detailed information about the political conditions of those times. Inscriptions give the information about the issuing ruler, his military achievements, inter-state relations political ideas and institutions and the administrative set up for example,

1) Eulogy of Samudragupta which was composed by his poet Lauriet Harishena on Allabad pillar inscription describes the early life of Samudragupta and his selection as a successor to the early life of Samudragupta and his selection as a successor the throne by his father Chandragupta-I. This inscriptions also gives a wonderful account of his various military campaigns which provide us information about his contemporary rulers and their acceptance of his sovereignty.

2) The inscriptions of Ashoka record the names of many contemporary states such as Kalinga, Andhra, Pulindas, Keralaputras and Satyaputras. One of the inscriptions of Gautami balasri, who mother of Gautamiputra Satakami, also mentions many contemporary states in Deccan such as Asika, Ashmaka, Kukura, Aparanta, Vidarbha, Anupa and Akaravatias the contemporary state during the satavahana period.

3) The Poona copper plate inscriptions of Prabhavati Gupta reveal the relationship between the Vakatakas and the Guptas. Another inscription of Kanheri records the donation of the queen of Vaisthiputra Pulumavi. In this inscription, she is mentioned as the daughter of Mahakshtrapa Rudradaman of the Karddamaka (the Western Kshatrapas) dynasty, this makes clear the relationship between these two dynasties.

Inscriptions help us to determine the extent of the territory of a king. For example, Ashokan inscription found at Muski in South Karnataka prove the extension of his empire in Southern part up to Karnataka.

The Nasik inscription of Gautami Balasri, mother of Gautamiputra Satakarni describes him as the destroyer of the Shakas and one how destroyed the Yavanas and Pahlavas, who uprooted the Ksharata race and restored the glory of Satavahana race. In this inscription, he is also described as Lord of many countries including Surashtra (Saurashtra), Kukura (in Gujarat – Saurashtra region), Anupa (the Mandhar or Maheshwara region on the Narmada), Aparanta (North Konkan, Akara (East Malwa) and Avanti (West Malwa), Ashika (District round Rishika Nagara on the river Krishna), Asmaka territory about Bodhan, ancient Paundannya in the Hyderabad state), Mulaka (with Pratishthana i.e. modern Paithan on the Godavari as Gautamiputra Satakarni seems to have extended over the whole land from the Krishna in south of Malwa and Saurashtra in north and from Berar in east to the Aparanta – the coastal region in west. The extent of his kingdom is further indicated by the mention of Mountains such as the Vindhya, the Rikshavant, the Pariyatra, The Sahya (Sahyadri), the Krishagiri (Kanheri), the Macha, the Sristana, the Malaya, the Mahendra, the Svetagiri and the Chakora.

The inscriptions also throw considerable light on the political ideas and the administrative set-up of the kings. For example, the inscriptions of Ashoka contain his instructions to his officers and the subject about his ideal of religion, morality and relations between the king and his subject. His edicts highlight his morality and thus help us with a detailed study of his personality. His edicts also record many grades of his administrative officers such as the Yuktas, the Rajukas, the Pradeshikas, the Antamahamatras and the Dharmamahamatras.

Another inscription of Vasisthiputra Pulumavi, son and successor of Gautamiputra was a Digvijay which is proved by the description that his horses had drunk the water of the tree oceans and his commands were obeyed by all Raja-Mandalas.

7.2.2 Importance for the Study of Social Conditions:

The study of inscriptions is of immense value in revealing the Social conditions of the times. They provide us information about the social life of the people, especially pointing out the caste system, joint family system, the different clans (Gotra) innumerable existing communities etc. in one of the inscriptions, Gautamiputra/Satakarni has condemned the inter caste marriages which shows his faith in the traditional caste system. This caste system is clearly seen by many other inscriptions, as they contain the names of the people along with their castes.

That the joint family system was the Chief feature of Indian society during the ancient period is clearly noticed in the inscriptions found at several places. The best evidence of this fact is found in the inscriptions at Kanheri showing an ideal picture of the joint family. The

words such as daughter, sister, wife, son, grandson and grand daughter which are mentioned in these inscriptions give an idea of the joint family system and the terms like Gahapati Gharini and Kutumbini indicate their importance in the joint family organization.

Inscriptions also refer to certain castes such as Brahmins, Kshatriya and Vaisya. For example, the Satavahanas called themselves Brahmans. In one of the inscriptions, Gautamiputra Satkarni is described as Ekbhamana i.e. unique Brahman. Another inscription at Kanheri records the donation of Gajasen and Gajamit, who were engaged in the mercantile profession though they were i.e. Khatiyas i.e., the Kshatriyas. The Gotras such as Gautama, Vasistha also are mentioned in the inscriptions of the Satavahanas. Inscription mentions many mercantile communities, foreign communities and different families too. This information is referred in the inscriptions in relation to donations and thus indicates a well-knit society.

As regards the status of women, inscriptions give clear information. Although the joint family system was mainly in the patriarchal form, the status of women was not one of being a subordinate. Several inscriptions found at different places referring to gifts made by the persons in common with their parents, wives, brothers, sisters, daughters, grandsons and grand daughters prove this especially the words referred in the inscriptions such as Gharini & Kutumbini indicate their importance in the family organization.

For example, Ind. No. 43 in cave no. 75 at Kanheri records than "Lavanika, the wife (Gharini) of upasaka sethi Achala, resident of Kalyan made a meritorious donation of a cave, cistern and a tank for bath, for the welfare of all the family members". Women in many kinship relations are recorded in the inscriptions. Position of mother in her family appears to be very high from the Satavahana inscriptions.

There is reason to believe that the women enjoyed a better position in the society during those days compared to the later days. There were many women who spent their wealth in charity.

Inscriptions of the age record generous endowments made by ladies. For example, out of twenty nine inscriptions from Nasik nearly sixteen inscriptions record gifts by ladies or with the gifts by ladies or with the giving of which ladies are associated.

The process of assimilation of foreigners through matrimony was a common feature of the Satavahana period. For example, the Karddamaka Princess married with the Satavahana prince as is evident from one of the inscriptions at Kanheri. Polygamy at least in the upper classes was fairly common. For example, in an inscription at Kanheri there is a reference to Step Mother which clearly throws light on the system of polygamy. This inscription corroborates the information about polygamy as is clearly seen in the contemporary literary work i.e. Gatha Saptashati or King Hala.

Anuloma system of marriage was prevalent during this period. The Brahmins and other were allowed to marry girls of their own and those of lower castes as is evident from the Poona copper plates or Vakataka queen Prabhavati Gupta which was has contributed fresh history of the Vakatakas. Prabhavati was the daughter of Chandragupta – II of Gupta dynasty who was a Vaishya and was married to king Rudrasena – II who was a Brahmana.

As regards the careers of women, inscriptions give some information, that some women were engaged in the regular service. For example, an inscription of Gautamiputra Satakarni at Nasik mentions door keeper Lota who took down the order of Gautamiputra Satakarni. Anjaneri copper plate inscription also prove the fact that women were working during those times. In this inscription, there is a mention to the women working as porters.

7.2.3 Importance for the Study of Economic Conditions:

A large number of inscriptions throwing light on the economic life of the people have been discovered in almost all parts of India. Different mercantile professions are recorded in the inscriptions such as Sethi, Nigama and Vanija Trad and industrial guilds were a common feature of economic life since very early time references to such organizations functioning during the ancient period are found in a number of inscriptions.

There are references to the terms i.e. Akshya- Nivi which means, the permanent deposits of Karshapana or Drammas handed over to Sangha for the welfare of fraternity in inscriptions. These terms i.e. karshana and Dramma clearly indicate how the currency in form of money was in use during the ancient period.

Mention is often made on some of the inscriptions about the cities and market towns of economic importance. From inscriptions, information can be drawn that during ancient times, urban centers were of two types i.e. Nagar and Nigama. The nagaras were the cities which could either be capitals or the kingdom or administrative centers of large unit and the other were the market towns (Nigama). Mercantile interests dominated the life of these market towns.

For example, several inscriptions at Kanheri, Kuda, Karle, Junnar and Nasik record the names of the donors from different market towns and other places. The inscriptions at Junnar and Kanheri throw a welcome light on the ancient cities i.e. Sopara and Kalyan which were not only the flourishing port – cities but were the market towns of international repute. Again the inscriptions indicate that these were the chief ports of the western coast of India from which many Indian commodities were exported to the west – i.e. Greece & Rome. This corroborates the historical fact that these cities flourished in about the beginning of a Christian era and there was a brisk trade between India and the Western countries. Again this fact is corroborated by many inscriptions which record the endowments made by foreigners.

7.2.4 Importance for the Study of Religious Life:

For the understanding of the religious life of ancient Indian culture, inscriptions have proved to be a source of immense value. They are called the dedicative inscriptions. Their main subject is either with the construction of temples or with the installation of images. They have preserved some of the noteworthy aspects of our religion viz., words in Praise of the daily, names of different sects of a religion, names of the religious teachers who were well versed in different branches of religious scriptures.

Another significant source of information is derived from donative inscriptions in which are recorded endowments made by different classes of people in the society namely, devotees, trades, housewives, Nigamas including the royal families.

The endowments were usually given to different religious establishments for the installation of images or construction of temples in order to earn Punya (religious merit) for all the members of the family and the welfare of the society at large. Inscriptions at Kanheri-a Buddhist establishment e.g. specifically mentions that the merits acquired from donations were shared by the donors, parents and other relatives.

In some inscriptions the ideas of hell and heaven are also mentioned. For example one of the Shilahara inscriptions dated 853-54 A.D. says "O Buddha who is in heaven". The words clearly suggests that the idea of heaven and hell was accepted by the Buddhist community. The concept of hell is furnished in terms such As "Avichi" "Paritapa", "Kumbhipaka" as the places where the person would be reborn if he would misappropriate the gift.

The inscriptions shed considerable light of the Buddhist monastic organization and intellectual activities of the fraternity as is evident by the terms such as Bhikhu and Bhikkhuni, Pavaita and Pavaitika, Yati and tapasini. The inscriptions describe in detail how the Buddhist Sangha enjoyed local autonomy as they record many endowments to the sangha for the distribution of food, clothing, almbowls and sandals. The inscriptions have recorded various categories of monks of the Sangha such as Upasak, Pavajita, Samanera, Bhikkhu, Bhadanata, there Bhadanta, Acharya Bhadanta and Bhadanta Arya Arhata.

Inscriptions dealing with traditional Brahminism record different Vedic deities which were worshipped by the people such as Indra, Dharma, Sankarshana (Balarama). The Moon and the Sun, the four guardians of the quarters viz. Yama, Varuna, Kubera and kumaravara (Kartikeya).

The performance of Vedic sacrifices and the worship of Puranic Gods prevailed during ancient period. Many sacrifices performed by rulers are reflected in the inscriptions of the time. The legend on Ashvamedha types coins of the Gupta rulers prove this fact. Even in the inscriptions of the Satavahana, the mention is made for Ashvamedha, Rajasuya, Anvarambhaniya, Saptadstiratra, Bhagaladasaratra,

Gargatriratra, Gavamayana Satatiratra, Agnirasatriatrea etc. These sacrifices were performed by king Satakarni – I, along with his queen Naganika. From this inscription, we realize that women also actively participated in religious rituals.

The inscriptions also give information that may Vedic scholars were invited for the performance of these sacrifices and were offered large Dakshina and offering Dakshina to a learned Brahmana was a popular custom.

In the Naneghat inscription of queen Naganika, she is described as to "be an eminent lady of Naga race, who observes fast of a mouth (at a stretch) who lives in her home like a recluse, who leads a chaste life, who is adept in the performance of vows, initiatory ceremonies and sacrifices, performed sacrifices with increase regularly which makes the idea clear about the individual religious like.

Many inscriptions throw light on Jain religion also. Sometimes, these inscriptions begin with the words "namo Arhata"

for example, Hathigumpha inscription of king Kharavela. Jain inscriptions are found in South India also at Shravanbelgol, Siyamangalam, Jain pillar inscription at Varuna near Mysore shows the spread of Jain religion in these regions. These inscriptions throw light on the Jain religious ideas and the monastic order. For example, the Varuna inscription refers to the famous Ganga family and introduces Gangabbe as Jain kanti who hailed from this Ganga family of 10^{th} century A.D. Gangabbe was a Jain kanti who represents a special class of runs in the monastic order.

7.2.5 Importance of inscriptions in the Cultural Life:

A great significance is attached to art and architecture in the cultural history of India. The inscriptions again have been very informative in narrating details about the architectural terminologies like Lena (cave), Kodhi (resided room), Kuti (mediation room), Ovaraka (cells), Patha (steps), Podhi (cistern), Sangharama (monastery), Talaka (tank) and Vihara. It gives us an idea of the development of rock – cut architecture in ancient times.

Many private inscriptions are discovered which were engraved by private individuals. As mentioned earlier, they were mainly in the form of endowments made by these individuals. They are found mostly on pillars, walls of the rock-cut caves of western Deccan and on the stupa railings at Bharhut. Sometimes, they were engraved on the objects such as water cistern and Benches. Usually these inscriptions give a short account of the name of the donor, place, to which he belongs and sometimes date on which it was donated. Sometimes, the names of father, husband, Guru are mentioned.

Apart from this, Yupa Shasanas (inscriptions on sacrificial post), Pratima-shasana (image inscription), Viragal (hero stone) and

Mahasati (sati stones) are also found. Epitaphs curved on tombs are also found on a large scale. All these inscriptions belong to the category of private inscriptions and they help us mainly for the study of cultural history.

Inscriptions found in many south-east Asian Countries such as Java. Indonesia certainly give evidences of India's cultural expansion in these countries.

Inscriptions throw a welcome light on history of languages and paleography also. That the later Satavahanas preferred Sanskrit to Prakrit, a language originally used by their predecessors is known from the inscriptions found here.

Inscriptions not only retain the nature of language but keep record of its own development, communicate different ideas of history and provide phenomena of diffusion of culture. For example, the Marathi inscriptions in the early period are influenced by Sanskrit. These inscriptions record constructions of temples, Mathas, their repairs, installation of images etc.

Some inscriptions are recorded in more than one language, for example, the famous "Shravana – Belgola" inscription of Chavudaraja dated Shaka era 1038 is recorded in three language i.e. Hale Kannada, Tamil and Marathi. This show the development of the regional languages from Sanskrit and prakrit. Inscriptions engraved from time to time show us how the style of writing was changed from time to time.

Along with other branches of knowledge, medical science has also been traditionally studied in India. Those who are intimately connected with the profession of medical treatment are called Vaidayas. Some epigraphic bearings on them are available from the study of certain inscriptions. The vaidyas are mentioned in connection with the grant of "Agrahara" through copper plate grants. We have the epigraphic reference to a temple hospital from the Syan Prasasti of the Pala king Nayapala (1027-43 A.D.). This inscription has been found at Syanvillage near Bolpur in the district of Birbhum, West Bengal.

"Arogya – satamarogya – heton" in the vicinity of a Vishnu temple, the hospital was built up with a view to removing diseases from the diseased. The next words in the inscription i.e. "Tatha Vaidya – Vasah rasyantike" makes it clear that the provision were made for the settlement of vaidya near the temple – hospital and the existence of a number of a vaidays in association with the religious institutions. An inscription at Kanheri also records a person Nanna by name, whose profession was Vaidya.

A short discussion on inscriptions or epigraphic records thus makes it clear that for these authentic, historical evidences the study of Ancient Indian History would remain incomplete for want of sufficient information

7.3 TYPES AND FEATURES OF INSCRIPTIONS

Broadly speaking, epigraphic records can be classified into two main groups.

i) The inscriptions issued by a ruling authority or issued on its behalf. For example, inscription of Ashoka, King Kharavela, Gauamiputra Satakarni and Pulakeshin – II.

ii) Inscriptions issued by Private individuals or private organizations. In this category, largest number of inscriptions record the donations (endowments) made in favour of religious establishments or installation of images for worship.

The first category can again be divided into four types. a) Royal edict : e.g. edicts of Ashoka, King Kharavela.

b) Epigraphs regarding endowment grants in favour of learned Brahmans, religious institutions or deserving individuals. For example, inscriptions at Kanheri, Kuda etc.

c) Epigraphs commemorating particular achievements of a king in a eulogistic form known as Prasasti. For example, eulogy of Samudragupta on Allahabad pillar inscription, Eulogy of king Satakarni in Nasik cave inscription, eulogy of king Kharavela in Hathigumpha inscriptions, Mandasore inscriptions of King Yashovarman etc.

d) Miscellaneous inscriptions : The second category of inscriptions issued either by private individuals or Private institutions. Inscriptions of this category are largest in number which record donations made in favour of religious establishments or installation of images for worship. The inscriptions were incised on the object which were donated or installed and were usually small.

In general, when we analyze the inscriptions on the basis of its contents, we come across many of its types and features as shown below:

Commercial Inscriptions: The specimens of this type are found on the seal of Indus Valley. It is generally assumed that "these seals must have been used for the stamping of bales of merchandise". Probably these inscriptions bear either the issuer's name or the seal of particular workshop.

Another example of this category is the Mandasore stone inscription of the time of Kumaragupta and Bandhuvarman. Another example is a clay seal inscriptions found at Bhokardan (ancient Bhovardhan) in Jalana district of Maharashtra during the time of excavation, which was a personal seal of female trader named Indra who was an inhabitant o Thanenagara i.e. modern Thane near Bombay. On the basis of the Prakrit language and early Brahmi scripts in which the inscription was written, it is dated in about 2nd century A.D. Though this inscription consists only a few words i.e. Thanenagara gota Indra it provides

valuable information to our historical knowledge. To quote Dr. H.S. Thosar in following words:

1) It indicates that the city of Thane existed in the 2nd century A. D.

2) It reveals the commercial contacts between Thane and Bhokardan (ancient Bhogavardhan) in those days.

3) It consists the antiquity of Bhogavardhan as a flourishing trade center during the early centuries of the Christian era.

4) It corroborates the brisk-trade relations between India and the Roman Empire.

5) It brings to light the active participation of women in commercial activities in ancient India.

Magical Inscriptions: Magical inscriptions are found on the seals of Indus valley. They were used as amulets and contained magical formulae on them. Since they are undeciphered, it is difficult to know their contents. It has been observed that the magical formulae continued to be written on metals as well as birch bark (Bhojapatra) and other materials.

Religious and Didactic Inscriptions: Deal with the religious and moral matters. For example, the inscriptions of Ashoka are the best specimen of this type. His edicts relate relate to ethical aspects of Buddhism rather than its fundamental tenets. It contained his Dhamma or law of piety or the moral codes like.

a) Samyam or mastery over senses. b) Bhavasudhhi or purity of thought.
c) Kritajnata or gratitude.

d) Dridh – Bhakti or steadfastness of devotion. e) Daya or kindness.

f) Dana or charity. g) Sauha or purity.

h) Satya or truthfulness. i) Sushrusha or service

j) Sampriti patti or support k) Apichiti or reverence.

In the second minor rock edict, Ashoka says, "Father and Mother must be obeyed. Similarly, respect for living creatures must be enforced, truth must be spoken. These are the virtues of law of piety which must be practiced. Similarly the teachers must be revered by the pupil and proper courtesy must be shown to relatives."

Dedicative and Donative Inscriptions: These inscriptions record the donations or endowments made for the religious establishments. Innumerable dedicative inscriptions, big and small are engraved on the walls of a temple or religious establishments and the Pilgrim centers such as the inscriptions found in Buddhist monasteries, at Kanheri, Kuda, Karle, Bhaje, Mahad and temples at Bbubaneshwara, Kanchipuram and Aihole give an account of the endowments.

The majority of donations recorded in these epigraphs were made by pilgrims. Among these pilgrims were the kings, chiefs or the royal officers' traders and common people. Many times we see that women also have made generous endowments to the religious institutions. Buddhist monks i.e. Bhikkhus and Bhikkhunis and the common layman also have endowed for the Buddhist establishment such as Kanheri, Junnar, Nasik, Kuda etc.

As regards the types of endowments usually the endowments in the monasteries were the utensils, images of worship, cells, benches, water cisterns, caves, chaitya, residential rooms etc. Sometimes money in the form of Karshapana or Dramma was given to learned Brahmanas. Cows and land grants were also given as endowments to the learned Brahamanas and Shramanas.

Administrative Inscriptions: These inscriptions provide us the information about the administrative system. For example, two Kalinga edicts and rock edict number VI of Ashoka give a clear picture of his high ideal of kingship. Some of the edicts of Ashoka give very good information about the provincial administrations that in the time of Ashoka there were at least four provinces and their capitals were Taxila, Ujjain, Toshali and Suvarnagiri. Besides, there is a reference to certain officers of the state in the inscriptions of Ashoka such as Yuktas, Rajukas, Pradeshika, Antamahamatras and Dharma – Mahamaltras. These inscriptions provide valuable information regarding the Mauryan administration. Another example of this category is the Sohagaura copper plate inscription of 3rd century B.C. which is an example of pure administrative inscription. Junagarh rock inscriptions of King Rudradaman – I and a large number of copper plate inscription have been found in India which contain many useful administrative details.

Eulogistic Inscriptions: Eulogistic compositions are called as Prasasti. These prasastis were sometimes, composed and engraved on stone tablets or pillars. Usually these inscriptions contain the name and genealogy of the issuing ruler, the early life of a king, his personal accomplishments, his political, military and administrative achievements. Some of the examples of this type of inscriptions are – eulogy of Gautamiputra Satakarni in the Nasik cave inscription, Junagarh Rock inscription and Bhitari stone pillar inscription of Skangdgupta. Allahabad Pillar inscriptions of Samudragupta, eulogy of king Yashovarman at Mandasore, eulogy of king Kharavela in Hathigumpha inscription etc.

Many of the epigraphic records especially the eulogies, were composed by the poets of great ability and their compositions are f a high literary order. For example, eulogy of Samudragupta was composed by Harishena who was a poet – lauriet, eulogy of Yashovarman by Vasula in Mandasore inscription and eulogy of Pulakeshsin – II on Aihole stone inscription.

The epigraphs regarding Royal Grants of Land: The epigraphs regarding Royal Grants of land were generally engraved on copper plates.

Gradually the tendency to introduce copper plates on which inscriptions were engraved was also developed. These copper plate inscriptions are called Tamrapatra, Tamrasasana, Shasana pattra or Danapattra according to its contents. It is interesting to note that land grants were invariably inscribed on copper plates and were handed over to the donor so that they may serve as title deeds. The Sohgaura copper plate of the 3rd century B.C. is the earliest copper plate inscriptions. These copper plates give an elaborate eulogy of the donor and his ancestors.

Many land grants are recorded on the surface of a rock – i.e. stone inscriptions or on the walls of the caves also. As a matter of fact, major part of inscriptions is endowment grants. Rulers of almost all ruling dynasties of ancient India has issued such grants mainly engraved on copper plates and the main object of these grants is the registration of an endowment.

Inscription on the coins of various rulers of ancient India also are very useful as they provide the information regarding contemporary social, economic, religious and cultural conditions.

Inscriptions may vary greatly in the size. Sometimes an epigraph contains only a mark or single word or expression indicating the name of an individual. For example, inscriptions of the Satavahanas in the Naneghat cave.

Sometimes one sentence inscription is found mostly in the case of donative inscriptions from the Buddhist caves of western Deccan or Stupa railings at Sanchi and Bharhut.

Sometimes there are very big inscriptions which contain the who9le text of Kavya, Mahakavya or a Sanskrit Drama. However the historical importance does not depend on the size of an inscriptions. Sometimes very small inscriptions also are very useful for providing valuable historical information as we have already seen in the case of persona seal of a female trader Indra which was discovered in the excavation at Bhokardan in the Jalana district of Maharashtra.

Some other remarkable features of inscription in the words of Dr. H. S. Thosar are as follows, "At the beginning of an inscripti8n as well as at the end there is an auspicious symbol or work or passage in adoration of a deity, the words are Om, Siddham and Swasti or their symbols are engraved at first. Symbols of Swastika, Trident or Shrivatsa are also found on some inscription. In the concluding section imprecatory verses and symbols of circles are carved on it. If it is a stone inscription, its top which is generally triangular, figures of Sun, Moon, Cow with call and Shivalinga are carved on it. If it is a copper plate inscription, the places are tied together with a ring on which the royal seal of the issuing dynasty is carved. On some seals the name of the issuing king or his epithet is engraved.

In later inscriptions, particularly in Kannad and the early Marathi inscriptions, a figure of an ass having intercourse with a woman is carved. It is known as ass-curse of Gadhegolo. In some inscriptions the ass-curse is written in letters also. Few inscriptions have the figure of a plough being drawn by an ass. These curses were obviously directed to those persons who would violate the grant or provision made through the concerned inscriptions.

Many a time inscriptions record the welfare activities of a king. For example, Ashokan inscriptions describe his public welfare activities such as the provision of medical facilities, Plantation of the trees on both sides of the road etc. Hathigumpha inscription of king Kharavela also describes that he had repaired a canal originally constructed by a ruler of Nanda dynasty before three hundred years.

Different chronological eras mentioned in Indian inscriptions is another feature of the inscriptions. Ashokan edicts were dated from the succeeding years from his coronation such as year 3-5, 7, 9… etc. He did not follow any specific earlier era. As a matter of fact, rulers of different dynasties such as Shunga, Satvahana etc. also followed the same pattern of mentioning years starting from the coronation ceremony of a particular king.

Buddhists followed an era which started from Mahapari nirvana of the Budha which took place in 484 B.C. This era was known as the Mahapari nirvana era.

The Jains also has their own dating system which is recorded in the inscriptions as the Aguptayika era.

The Kaliyuga era which is dated in 3102 B.C. is the oldest Indian era. Since it is mentioned in the later inscriptions, its historicity and authenticity is matter of controversy. Some other eras mentioned in the inscriptions are as follows –

Vikram Samvat which is believed to have started in 58 B.C. It was also known by different names such as krita era or krita – malwa – vikrama era.

The Shaka era which commenced in 78 A.D. But who – whether the Shakas or the Kushanas started it is a matter of controversy. Later on, Satavahanas also followed an era and therefore it was also came to be known as Shaka- Shalivahana Samvat.

Another era recorded in the inscriptions is Chedi – Kalachuri era which according to V. V. Mirashi was started in 248-249 A.D. by Abhira King Ishwarasena from is coronation ceremony.

Gupta – Valabhi era was another important ancient Indian era which was started by the Gupta Emperor Chandragupta – I in about 320 A.D. This era was continued by the Maitrakas of Valabhi in Saurashtra and therefore it came to be known as Gupta – Valabhi era.

Sometimes two different eras are mentioned in the inscription at a time. For example, Aihole inscription of the Brahmi Chalukya king Pulakeshin mentions kali era (3102 B.C.) along with the Shaka era.

7.4 BEGINNING OF EPIGRAPHICAL STUDIES IN INDIA

Brahmi script is the oldest Indian script and dates back to one thousand years, i.e. 3d century B.C. to 7th century A.D. It remained the main script of writing in India. During this period the script underwent paleographic changes after every two hundred years. Due to these changes the script of different periods came to be known by different names such as Ashokan Brahmi, Satavahana Brahmi, Gupta Brahmi etc.

In the course of time, many new scripts came into existence. By about 10th century A.D. the new scripts such as Devanagri, Sharada, Gujarati, Bengali etc. oriented from the old Brahmi and the original Brahmi was completely forgotten.

As a matter of fact, attempts were made for this first time to decipher the old Brahmi script by sultan Firoz Shah Tughluq in the 14th century A.D. He saw the Ashokan edicts at Topra and Meerut and desired to learn about the contents of those scripts. He brought them to Delhi and invited several scholars to read the matter which was engraved on them. But no scholar could decipher the script.

In the years that followed, an attempt was made also by the Mughal emperor Akbar to decipher it, but the effort was futile.

In the Modern times, the systematic study began only during the British period. In year 1839, Elphinstone wrote his famous book, "History of India." In this book, he pointed out that in Indian history, "No date of a public event can be fixed before the invasion of Alexander". In 1866 Cowell also agreed to the observations made by Elphinstone.

The real beginning of epigraphical studies can be traced back only to the end of 18th century. The foundation of the epigraphic study was laid by the European Scholars.

On 15th January 1784, The Asiatic Society of Bengal was founded by Sir William Jones, a judge of the supreme court at Calcutta. The main purpose of the society was to study the ancient inscriptions, coins, sculptures and other records by which India's past history can be revealed. This society began a systematic Study of Indian epigraphy.

However, Indian epigraphical research commenced only in 1836. In that year James Princep, an officer of the mint at Calcutta, could decipher the Brahmi script successfully deciphered many letter from Kharosthi script. He deciphered it with the help of the bilingualcum biscriptal legends (i.e. Greek legends in Greek Script and Prakrit legend in

Kharosthi script on the coins of Indo-Greek rulers who held the sway for some time in North West India after the Mauryas).

James Princep also succeeded in identifying many Kharosthi letters. His greatest achievement was the he successfully deciphered the Brahmi legend on some coins which were discovered in the Gujarat – Saurashtra region and also the famous inscriptions of Ashoka. Princep pointed out the need for arranging epigraphical records systematically mainly for the reconstruction of the ancient Indian history. He placed the study of Indian history. He placed the study of Indian epigraphy on a sound and critical foundation for the first time.

Later on, the efforts were made to study Indian epigraphy by many scholars – Europeans as well as Indians such as Kittoe, Fergusson, Sir Walter Elliot, Rev. Steenson and Bhau Daji Lad. They followed the footsteps of Princep and discovered and examined a number of early and medieval inscriptions.

The efforts made by Stalwarts showed immediate effects. Many inscriptions were published in the journals. Some of them were as follows:

1. Asiatic Researches.
2. Journal of the Asiatic Society (both published by Asiatic Society)
3. The Indian Antiquary (started by James Burgess in 1872)
4. The Madras Journal of Literature and Science.
5. The Journal of Royal Asiatic Society (London).
6. The Journal of Bombay branch of the Royal Asiatic Society.
8. The Transactions of the Literary Society of Bombay.

By this time, more and more antiquities and inscriptions were discovered and hence British Government of India created the Post of "archaeological Surveyor" in year 1861. It encouraged official and unofficial search for inscriptions, their study and publication. Alexander Cunningham was the first Director General of the "Archaeological Survey of India" (1871-85). He had already prepared his report on "Archaeological Survey" Volume No. I and II from 1861 – 65.

A number of epigraphic records were discovered respectively till the seventies and eighties of the 19th century and more and more studies of ancient Indian epigraphy were undertaken by many scholars and institutions. They were as follows

1) Alexander Cunningham collected Ashokan Inscriptions in Volume (1871-85)

2) J.F. Fleet edited the "Inscriptions of the Gupta Age" between 1883-1886. He was an epigraphist to the Government of India (1883-86).

3) E. Hultzsch, an epigraphist of Government of Madras (1886-1903) published the first volume of "South Indian Inscriptions" in 1890 and published 2nd edition of corpus Indica.

4) James Burgess was Alexander Cunningham's successor as Director General of the Archaeological Survey of India. He started an official journal entitled "Epigraphia Indica" in 1888 and within two years published two volumes. This journal exclusively published detailed information of inscriptions.

5) The Government of Madras published "the notices of inscriptions" examined by its officers in an Annual Report from 1887 till 1921. Later on the name of publication was changed to "Annual Report of South Indian Epigraphy". In this journal, nearly twenty five thousand inscriptions on temple walls and other monuments and about 500 copper plate grants were reviewed.

6) Again a number of inscriptions were discovered and studied and hence several lists of inscriptions were published in 1898-969 as an Appendix to "Epigraphia India".

7) Two more important Epigraphical series viz. "The corpus Inscriptionum Indicarum" and "South Indian Inscriptions Series" are also publishing their annual report on Indian Epigraphy.

In the beginning of the 20th century, V. A. Smith published his celebrated work entitled "Early History of India". In his book he made an attempt to sort out and arrange the accumulated stores of knowledge from the Epigraphic and Numismatic evidences for writing the political and cultural history of Ancient India. An attempt of this type was made for the first time by him. This book was revised and enlarged in subsequent editions in 1908, 1814 and 1924.

The discovery and study of new inscriptions was ably utilized for the reconstruction of Ancient Indian History by many historians and scholars. The progress was made year after year in the field of Indian Epigraphy. It became more perfect which facilitated the clarity in the comprehensive study of Ancient Indian History. H.C. Roychaudhari wrote a book "Political History of Ancient India" first published in 1923 and repeatedly revised in 1927, 1931, 1938, 1950 and 1953.

In post independence period, the departments of Archaeology of some the State Governments notably Tamilnadu and Andhra Pradesh also have taken keen interest in publishing their periodicals in which many new inscriptions are published.

In 1974, "The Epigraphical Society of India" was founded. This society holds its annual sessions. A tremendous interest is shown by Research

Scholars, who read the papers on the Epigraphic materials. The society since its foundation has been publishing its annual journal solely devoted to epigraphical studies.

The work of reconstruction of the early period of history was inaugurated by European scholars in 18th century. This was followed by the valuable contributions made by the Indian Scholars.

The credit for the decipherment of early Indian inscriptions written in Brahmi and Kharosthi goes to scholars like Princep, Lassen, Norris and Cunningham. The other European scholars who have contributed in the study of Epigraphic records of India successfully are – G. Buhler, E. Senart, F. Kielhorn, E. Hultzsch, L. Rice, W. Elliot, J. F. Fleet and L. P. Barnett.

Among the Indian Scholars, the most outstanding contributions were made by D. R. Bhandarkar, N.G. Mazumdar, Venkayya and Krishnamurty. Other scholars were Pandit Bhagvanlal Indraji, R. L. Mitra, R. G. Bhandarkar, R. D. Banerjee, P. N. Bhattacharya, H. P. Sastri, N. P. Chakravarti and others.

The eminent Epigraphists of the day are Dr. K. V. Ramesh, Prof. K. V. Raman, Dr. S. R. Rao, Dr. Ajaymitra Sastry, Dr. S. H. Thosar, Dr. Shobhana Gokhale and others and making their valuable contributions in the field of epigraphy.

7.4 SUMMERY

Epigraphy is the is the study of inscriptions. In the study of epigraphy the epigraphers reconstruct, translate and date inscriptions. followed by the epigrapher the historians come into pitucre to interpret and determine the vevnts that led to the inscriptions. The writings of inscriptions was found in the ancient history, during Gupta period. particularly, during the rin of Samudragupta.

During the colonial period Sir Alexander Cunningham has strted to focus on the study of epigraphy. Therefore, he is known as the father of epigraphy. The inscriptions are the primary sources for the study of history.

7.5 QUESTIONS

1. What is importance of Epigraphy in the study of History?

2. How Epigraphy contributed in the various subjects of Social sciences?

3. Highlight on the begining of Epigraphic study in India?

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8

EVOLUTION OF BRAHMI AND KHAROSHTHI SCRIPTS

Unit Structure

8.1 OBJECTIVES

After going through this unit the students will be able to:

1. Understand the ancient scripts.

2. Know the origin of Brahmi and Kharosti scripts.

8.2 INTRODUCTION

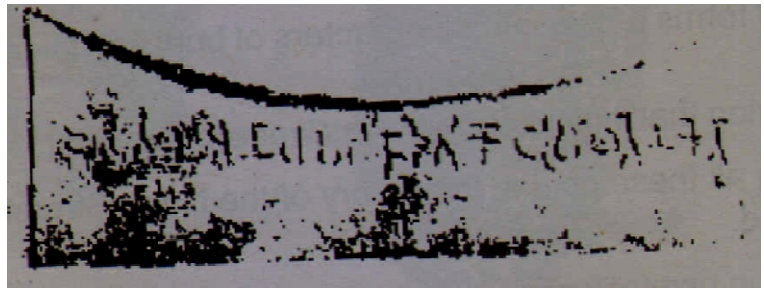
In this unit the detailed information and its analysis has been given on the origin and developments of Brahmi and Kharosti scripts in India. In this unit it is discussed about the minar difference between both the scripts. Specially, during the rin of Ashoka in the mouryan age, many inscriptions are found in the various museums. The Brahmi script is the earliest writing system developed in India after the Indus script. Brahmi is the most influential writing systems; all modern Indian scripts and several hundred scripts found in Southeast and East Asia and derived from Brahmi script. Therefore, the detail study can be initiated through this unit to know in more details about the ancient scripts.

8.3 ANCIENT INDIAN SCRIPTS

8.3.1 Brahmi:

Brahmi is the oldest Indian script. There are many references to the world script in ancient Indian literature. References of the art of writing and writing material in the Vedic literature reveals the fact the Vedic people has developed the art of writing. Panini wrote his book on Grammar known as Astadhyayi in circa 8th century B. C. in this book he mentions a script by name i.e. Yavani. This shown that the existence of the script

was known to him. Arthasastra of Kautilya also refers of script (Lipi) as one of the subject to be taught to a prince. However, we do not get any more information from it. The Jain sutras i.e. Pannavanasutra and Sanavayangasutra also mention the list of the eighteen scripts such as Brahmi, Yavarti (Greek) Kharosthi, Gandharva, Maheswari etc. However the Bhagvat sutra refers to only one script i.e. Brahmi.



Bhahmi Inscription from Bharhut

The Buddhist work Lalitavistara also gives information about the scripts which were known to people during that time. It contains a very big list of 64 lipis such as Brahmi, Kharosthi, Anga, Vanga, Magadha etc.

However, it is only during the reign of Ashoka, that we get a clear evidence of engraved records, incised on imperishable rock or stone surface in either Brahmi or Kharosthi script. This system of engraving the inscription on rocks or stone material was probably unknown prior to the time of Ashoka.

As a matter of fact, the origin and invention of Brahmi script is a matter of controversy. Ancient Indians believed that Brahma was the God of lipi. He invented this lipi and therefore, it came of be known as Brahmi. In the course of time, many regional scripts came into existence from the Brahmi and the original Brahmi script was forgotten. Many efforts were made by different scholars to decipher it but were futile. It was successfully deciphered by James Princep in the third decade of the nineteenth century. Since then, its origin, the source from which it was derived, is the matter of controversy among the scholars. Their opinion differs sharply.

The protagonists are divided into two groups. One propagating a foreign source of inspiration for its origin and development and the other group is trying to prove Brahmi as an Indigenous innovation. There are many theories about foreign origin of Brahmi script such as Greek origin, Chinese origin and in the same way Assyrian, Phoenician, South Semitic and North sematic origin of Brahmi script.

Apart from these theories of foreign origin, there are some other theories of Indigenous origin such as those who attribute a Vedic or Aryan invention and another of its Dravidian origin.

Some scholars on the basis of figural similarities between the Indus script and the Brahmi and the Brahmi letters believe that the Brahmi was

derived from the Indus script. These are some other theories also regarding the origin of Brahmi script.

However, the North Semetic origin of Brahmi script has widely been accepted. This theory was originally put forth by James Princep and subsequently supported by others. Weber elaborated this theory in

1851. The greatest advocate of this theory was Buhler and recently Dani. This theory is based on three main evidences.

i) The absence of tangible evidence for the presence of writing prior to the 5th century B.C.

ii) Similarity of forms between the characters of both the lipies (i.e. North sematic and Brahmi).

iii) The contention that initially Brahmi was written from right to left.

Considering all these points, the theory of the North Semetic origin of Brahmi has widely been accepted.

Brahmi was in use for writing in India for nearly one thousand years from about 3rd century B.C. to 7th century A.D. During this period, the Brahmi script underwent some paleographic changes after every two hundred years and hence the script of different periods came to be known by different terms such as Ashokan Brahmi (e.g. Ashokan edicts), Satavahana Brahmi (e.g. Inscriptions of the Satavahanas), Gupta Brahmi (e.g. Inscriptions of the Gupta rulers) etc. These different forms of Brahmi are one of the important features of the Brahmi script.

Another feature of Brahmi script is that there were local variations in some of the Brahmi characters prevalent in different parts of our country. On the basis of these local variations, the precise nature of the script was described in different terms such as Northern Brahmi, Southern Brahmi, Eastern Brahmi and Western Brahmi.

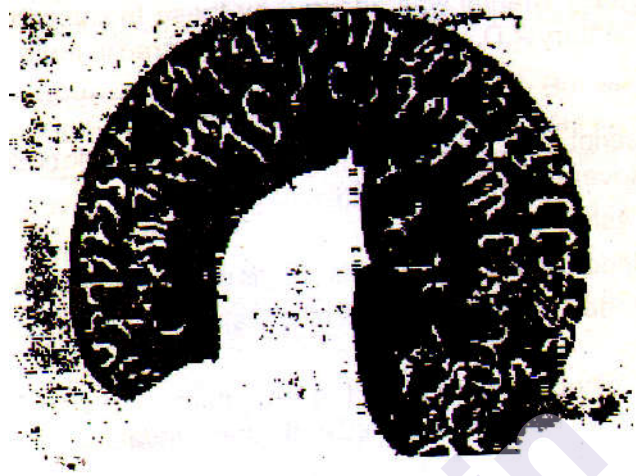
Besides these variations, stylistic and calligraphic differences are also seen in the inscriptions of different periods and different regions. However, as a whole, the Brahmi script continued to be the common script throughout India for nearly one thousand years.

8.3.2 Kharosthi:

In the North Western part of India, a parallel script was introduced by the foreign rulers such as the Shakas, Indo – Greeks and the Kushanas.

Of all the scripts of ancient India, Kharosthi is a unique script by its feature of its writing which is written from right to left instead of from left to right. This script was first noticed on the coins of the Bactrian Greek rulers and hence it was called as Bactrian characters. It was called as Bactrian characters. It was also referred to as Indo-Bactrian script. The use of this script was confined to Ariana on the west the river Indus. The language which was used in this script was

some form of Pali or Prakrit. Therefore, the script came to be known as Bactro – pali, Ariano palli. Buhler named it as Kharosthi, who found evidence for this name in Lalitavistara and in the Chinese encyclopedia (Fa-Wan-Shu-Lin which was compiled in 668 A.D.).



A Kharoshti Inscription of the Kushana Age referring to Ashoka

This script was used only in the north-west part of India. The eastern most limit where the Kharosthi script was in use is in the Punjab at Manikala. Two inscriptions from Kangra district and another inscriptions from Karnal district in Punjab shown that Kharosthi was used in addition to Brahmi in these areas also. Foreign Conquerors – i.e. Indo-Greeks from the North-West part of India used this script in the well-known inscriptions at Mathura on the river Jamuna, where Brahmi was commonly used in the inscriptions and the coins. Some coins bearing Kharosthi inscriptions have been found in Seistan and Kandahar, Kawat in Afghanistan and Trial Valley of Baluchistan.

In the north, the Kharosthi records are found in Tirath in Swat and Khalalse in Kadakh. Some Kharosthi inscriptions are found at Mohenjo Daro in Larkhana district, Mansehara in Hazora district and Shahbazgari in Peshwar district of Pakistan. The coins of some of the western Kshatrapas bearing the Kharosthi legend are also found from Hindukush to Gandhar-Taxila region.

The Kharosthi records have been found on stone inscriptions, metal plates and vases, on coins, cameos etc. A small piece of birch bark (Bhurja patra) from a Stupa in Afghanistan and a birch bark manuscript of the Dhammapada a Khotan which were written in the Kharosthi script also have been found Kharoshi documents on wood, leather or paper were also discovered by stein in Chinese Turkestan. In general, in all these writings, Kharosthi maintains its unified character.

Kharosthi was originated from the Aromai script, which was the main branch of the north Semetic Alphabet (script). It was written from right to left.

The earliest inscriptions in Kharosthi are Ashokan inscriptions found at Shahbazgari and Mansehara (3rd century B.C). Since then, for about 600 to 700 years. i.e. 4th century A. D. this script was in use in these regions. The latest Kharosthi inscriptions are those of the later Kushana rulers (3rd to 4th century A.D.). A few private records might have been written slightly, later, but already Brahmi was adopted by these Indianized foreign rulers in this region and in the 5th century A.D., when the Hunas appeared in India, no trace of Kharosthi script is seen.

Like Brahmi script, Kharosthi script also underwent stylistic changes. These changes can be described in several groups such as:

1. Kharosthi of Ashokan rock edicts.

2. Kharosthi of Indo – Greek coin legends (Coins of Indo-Greek rulers).

3. Kharosthi of Indo-Greek inscriptions (e.g. Bajaur Casket inscription of the region of Menander).

4. Kahrosthi of Scytho-parthian period. A large number of inscriptions are included in this category of which some are dated and other undated. (These eras is a matter of controversy among the scholars).

5. Kharosthi of Kushana period are again divided into four groups viz

a) Inscriptions which mention the name of Kushana.

b) Stone inscriptions dated in new series and referable to the time of Kanishka group of rulers.

c) Third group is that which introduces the true kanishka style of the time of the Kanishka group of rulers.

d) The inscriptions which re-dated in the series 303 to 399

The important feature of Kharosthi script is that it maintains uniformity of the Kharosthi through all these periods, as opposed to the changing forms of the Brahmi script.

8.4 SUMMARY

Most of the Ashokan inscriptions are found in the various research. Through which the caves, inscriptions, copper plates, rock pillers and small seals found during the rin of mauryan period. With the rise of Buddhism as the dominent faith in India, we find the brahmi cripts are available on various monumental constructions known as ' donative records' where we find the names of different doners. To study understand the ancient Indian history inscriptions are the most authentic primary sources and because of Brahmi scripts and its recognition and reading the original history writing started.

8.5 QUESTIONS

1. Write an essay on the development of Indian scripts with special reference to Brahmi.

2. Write short notes on :

a) Contribution of James Princep to the Indian Epigraphy. b) Brahmi : the oldest script of India

c) The Kharosthi script.

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9

EDICTS OF ASOKA

Unit Structure

10.0 OBJECTIVES:

The study is carried out with the following objectives-

- To study emperor Asoka through inscriptions and literary sources.
- To understand the relevance of the Pali literary sources for the authentication of history of Asoka.
- To analyse and see how the literary sources match the archaeological sources giving us the role of Asoka in the spread of Buddhism.

10.1 INTRODUCTION:

King Aśoka, the third monarch of the Mauryan dynasty in the third century B.C., was the first ruler of a unified India and oneof the greatest political figures of all time. After he embraced the teachings of the Buddha, he transformed his polity fromone of military conquest to one of Dharmavijaya— victory byrighteousness and truth. By providing royal patronage for the propagation of Buddhism both within and beyond his empire, he helped promote the metamorphosis of Buddhism into a world religion that spread peacefully across the face of Asia.

Though there is a discrepancy in the literary sources from northern India and southern India regarding the contribution of Asoka, the authenticity of the southern literature is accepted by many scholars due to its corroboration with the inscriptions. Thus, we taking the Sri Lankan sources of Dipavamsa, Mahavamsa, Samantapasadika as the literary source and the inscriptions as the archaeological source, discuss the role of

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Emperor Asoka in the spread of Buddhism inside and outside his vast kingdom, through

- Third Buddhist council and purification of the Sangha
- Writing of Kathavatthu by Thera Moggaliputtatissa
- Sending missionaries to all different parts of the country their authenticity
- Schism edicts at Sarnath, Sanchi and Kosambi
- Mahinda thera, and Sanghamitta theri
- Dhammayatra and erection of pillars and stupas
- Excavations of caves for the ajivikas
- Construction of 84000 stupas and viharas all over his kingdom.

It is important that the Sri Lankan testimony on Aśoka is reviewed with much greater care. The Sa□gha of the island has, right through its existence to this date, taken a continuing interest in both recording and studying its ecclesiastic history. In the process they have focused considerable attention on political, social and economic aspects. In this respect Sri Lanka's twenty-five centuries of written history remains a unique example in the whole of the Indian subcontinent.

The historical sense of the Sa□gha has been exceptionally well developed and the information recorded only by them has dramatically proved to be invaluable especially for the following.

Purposes:

(1) The identification of "Piyadasi" of the Rock Edicts and Pillar Inscriptions with Aśoka, whose full name was preserved in Sri Lankan records only. Without this confirmation the historical interpretation of Aśokan inscriptions would have been long delayed by nearly a century, if not rendered impossible.

(2) The assessment of the role and achievements of MoggaliputtaTissa who had merited such special veneration in Asokan times as to have had his relics enshrined with the utmost honour in Stūpa No. 2 of Sānchi in a relic casket bearing the inscription *"Sapurisasa Mogalīputasa."* (Incidentally, similar finds havenot yet established the historicity of any names like Upaguptaor Yasa occurring in the Northern Buddhist records.)

(3) The establishment without doubt of the significance ofthe epithet *"Hemavatācariya"* occurring on the relic-caskets of Sānchi and Sonari Stūpas containing some remains of Majjhima, Kassapagotta and Dundubhissara, who, in a comprehensivelist of missionaries sent out after the Third Councilaccording to Sri Lankan Pali sources, were assigned the conversionof the Himalaya region. (This and the above informationnot only confirm the historicity of the Third Council andthe missions but also provides the only literary support to themissionary role claimed by Aśoka in R.E. XIII.)

(4) The identification and interpretation of the sculptured scene depicting the transplanting of a Bo-sapling, found on the eastern gateway of the

Great Sānchi Stūpa as further confirmed by the symbolism of peacocks and lions in the decorative motifs which seem to reflect Maurya-Sinhala solidarity. (The very existence of the Bodhi Tree at Anuradhapura furtherconfirms the tradition.) With such an array of confirmation from archaeological andepigraphical evidence, the Sri Lankan Pali sources deserve to begiven a much higher degree of credibility especially when their information differs from that of Northern Buddhist records.

The place which the Sri Lankan Pali sources — faithfully copied and preserved in many versions in all other Theravāda Buddhist countries, namely, Burma, Thailand, Cambodia and Laos — have given Aśoka in history is as a pious and generous patron of Buddhism. The main aspects highlighted are as follows:

(1) Aśoka was attracted to Buddhism because of the serene demeanour of a Buddhist monk as contrasted with the usual conduct of the brahmin priests whom the court had traditionally supported. He began to seek the association of monks which proved intellectually and spiritually more satisfying.

(2) His munificence to the Buddhist Order was immense. He was a great builder and the number of shrines constructed allover his empire on his command is held out as 84,000, possibly a traditional symbolism for "innumerable." (N.B. Sanskrit Buddhist sources mention the same figure whereas Chinese sources have it as 80,000.)

(3) He was convinced that his patronage of Buddhism was not complete until and unless a child of his entered the Sagha. Accordingly, his son Mahinda and daughter Saghamittā were ordained. They became the missionaries to establish Buddhism in Sri Lanka and, as such, the heroes of the Sri Lankan tradition.

(4) Aśoka's generosity had a negative effect on the Sa□gha in that many joined it to enjoy its privileges. The need arose for purge and reform. Aśoka himself gave his patronage to the cleansing process. At first, he even attempted to enforce his imperial authority. But in due course he had to seek the assistance of the senior monk, Moggaliputta Tissa.

(5) The reformed Sagha undertook a programme of missions to propagate Buddhism in and around the empire ofAśoka and, by implication, these missions were supported bythe Emperor. At least as far as Sri Lanka was concerned, Aśoka continued to support the mission by sending sacred objects of veneration (i.e. relics, Bo-sapling, etc.), additional missionaries, and skilled craftsmen to erect shrines.

In short, Aśoka was the instrument for the establishment of Buddhism in Sri Lanka. There was no special sanctity attached to him and he was not an object of veneration. He was for all purposes only a historical person — the greatest patron of Sri Lankan Buddhism and that was all. The entire Theravāda Buddhist world saw him in that role.

This review of a number of prevalent opinions on the place of Aśoka in history has enabled us to answer the two main questions to which we focused attention. These answers in brief would be as follows:

(1) On the criterion of being corroborated by independent literary, archaeological or epigraphical evidence, the Sri Lankan Pali records and the Theravāda tradition founded on them can be relied upon as providing a credible account of the role and achievements of Aśoka as far as his services to the Buddhist cause are concerned.

The Sanskrit, Chinese and Tibetan sources of the Northern Buddhist tradition do reflect the memory of Aśoka's munificence, pilgrimages and religious buildings. But their historical reliability has been considerably reduced, firstly, because Aśoka figured in Avadānas where his spiritual adviser Upagupta was more prominent, and, secondly, because the chronology had been confused due to Upagupta's contemporaneity with Kā-āśoka.

Many of the problems in determining accurately Aśoka's place in history are to be traced to the proper evaluation of the historicity of these sources.

(2) The impact of Aśoka's policy of Dharmavijaya on contemporary India cannot be in any way evaluated as the sources atour disposal say nothing on it. If Aśoka had not elaborated his concept of Dhamma and the efforts he made to propagate it by means of his own edicts and inscriptions, both his Dhamma and the policy of Dharmavijaya would have gone into oblivion.

The mainstream Indian literature and tradition had either ignored or forgotten him. An obvious assumption would be that neither his Dhamman or his policy of Dharmavijaya made any lasting impression in the Indian mind. On the contrary, he was not only remembered gratefully but even glorified sanctimoniously for his unique contribution to Buddhism by both the Theravāda Buddhists of Sri Lanka and Southeast Asia and the Mahāyāna Buddhists of Northern and Eastern Asia.This paradox becomes more confusing on account of the determined effort of several Indian scholars to prove that the Dhamma of Aśoka should not be equated with Buddhism.

In short, the study of the inscriptions and the southern Pali sources would give the historical role played by emperor Asoka in the spread of Buddhism. Let us also study Asokan inscriptions for better understanding through translations.

9.2 THE EDICTS OF KING ASOKA:

With the rediscovery and translation of Indian literature by European scholars in the 19th century, it was not just the religion and philosophy of Buddhism that came to light, but also its many legendary histories and biographies. Amongst this class of literature, one name that came to be noticed was that of Asoka, a good king who was supposed to have ruled India in the distant past. Stories about this king, similar in outline but

differing greatly in details, were found in the Divyavadana, the Asokavadana, the Mahavamsa and several other works. They told of an exceptionally cruel and ruthless prince who had many of his brothers killed in order to seize the throne, who was dramatically converted to Buddhism and who ruled wisely and justly for the rest of his life. None of these stories were taken seriously — after all many pre-modern cultures had legends about "too good to be true" kings who had ruled righteously in the past and who, people hoped, would rule again soon. Most of these legends had their origins more in popular longing to be rid of the despotic and uncaring kings than in any historical fact. And the numerous stories about Asoka were assumed to be the same.

But in 1837, James Prinsep succeeded in deciphering an ancient inscription on a large stone pillar in Delhi. Several other pillars and rocks with similar inscriptions had been known for some time and had attracted the curiosity of scholars. Prinsep's inscription proved to be a series of edicts issued by a king calling himself "Beloved-of-the-Gods, King Piyadasi." In the following decades, more and more edicts by this same king were discovered and with increasingly accurate decipherment of their language, a more complete picture of this man and his deeds began to emerge. Gradually, it dawned on scholars that the King Piyadasi of the edicts might be the King Asoka so often praised in Buddhist legends. However, it was not until 1915, when another edict actually mentioning the name Asoka was discovered, that the identification was confirmed. Having been forgotten for nearly 700 years, one of the greatest men in history became known to the world once again.

Asoka's edicts are mainly concerned with the reforms he instituted and the moral principles he recommended in his attempt to create a just and humane society. As such, they give us little information about his life, the details of which have to be culled from other sources. Although the exact dates of Asoka's life are a matter of dispute among scholars, he was born in about 304 B.C. and became the third king of the Mauryan dynasty after the death of his father, Bindusara. His given name was Asoka but he assumed the title DevanampiyaPiyadasi which means "Beloved-of-the-Gods, He Who Looks On With Affection." There seems to have been a two-year war of succession during which at least one of Asoka's brothers was killed. In 262 B.C., eight years after his coronation, Asoka's armies attacked and conquered Kalinga, a country that roughly corresponds to the modern state of Orissa. The loss of life caused by battle, reprisals, deportations and the turmoil that always exists in the aftermath of war so horrified Asoka that it brought about a complete change in his personality. It seems that Asoka had been calling himself a Buddhist for at least two years prior to the Kalinga war, but his commitment to Buddhism was only lukewarm and perhaps had a political motive behind it. But after the war Asoka dedicated the rest of his life trying to apply Buddhist principles to the administration of his vast empire. He had a crucial part to play in helping Buddhism to spread both throughout India and abroad, and probably built the first major Buddhist monuments. Asoka died in 232 B.C. in the thirty-eighth year of his reign.

Asoka's edicts are to be found scattered in more than thirty places throughout India, Nepal, Pakistan and Afghanistan. Most of them are written in Brahmi script from which all Indian scripts and many of those used in Southeast Asia later developed. The language used in the edicts found in the eastern part of the sub-continent is a type of Magadhi, probably the official language of Asoka's court. The language used in the edicts found in the western part of India is closer to Sanskrit although one bilingual edict in Afghanistan is written in Aramaic and Greek. Asoka's edicts, which comprise the earliest decipherable corpus of written documents from India, have survived throughout the centuries because they are written on rocks and stone pillars. These pillars in particular are testimony to the technological and artistic genius of ancient Indian civilization. Originally, there must have been many of them, although only ten with inscriptions still survive. Averaging between forty and fifty feet in height, and weighing up to fifty tons each, all the pillars were quarried at Chunar, just south of Varanasi and dragged, sometimes hundreds of miles, to where they were erected. Each pillar was originally capped by a capital, sometimes a roaring lion, a noble bull or a spirited horse, and the few capitals that survive are widely recognized as masterpieces of Indian art. Both the pillars and the capitals exhibit a remarkable mirror-like polish that has survived despite centuries of exposure to the elements. The location of the rock edicts is governed by the availability of suitable rocks, but the edicts on pillars are all to be found in very specific places. Some, like the Lumbini pillar, mark the Buddha's birthplace, while its inscriptions commemorate Asoka's pilgrimage to that place. Others are to be found in or near important population centers so that their edicts could be read by as many people as possible.

There is little doubt that Asoka's edicts were written in his own words rather than in the stylistic language in which royal edicts or proclamations in the ancient world were usually written in. Their distinctly personal tone gives us a unique glimpse into the personality of this complex and remarkable man. Asoka's style tends to be somewhat repetitious and plodding as if explaining something to one who has difficulty in understanding. Asoka frequently refers to the good works he has done, although not in a boastful way, but more, it seems, to convince the reader of his sincerity. In fact, an anxiousness to be thought of as a sincere person and a good administrator is present in nearly every edict. Asoka tells his subjects that he looked upon them as his children, that their welfare is his main concern; he apologizes for the Kalinga war and reassures the people beyond the borders of his empire that he has no expansionist intentions towards them. Mixed with this sincerity, there is a definite puritanical streak in Asoka's character suggested by his disapproval of festivals and of religious rituals many of which while being of little value were nonetheless harmless.

It is also very clear that Buddhism was the most influential force in Asoka's life and that he hoped his subjects likewise would adopt his religion. He went on pilgrimages to Lumbini and Bodh Gaya, sent teaching monks to various regions in India and beyond its borders, and he was familiar enough with the sacred texts to recommend some of them to

the monastic community. It is also very clear that Asoka saw the reforms he instituted as being a part of his duties as a Buddhist. But, while he was an enthusiastic Buddhist, he was not partisan towards his own religion or intolerant of other religions. He seems to have genuinely hoped to be able to encourage everyone to practice his or her own religion with the same conviction that he practiced his.

Scholars have suggested that because the edicts say nothing about the philosophical aspects of Buddhism, Asoka had a simplistic and naive understanding of the Dhamma. This view does not take into account the fact that the purpose of the edicts was not to expound the truths of Buddhism, but to inform the people of Asoka's reforms and to encourage them to be more generous, kind and moral. This being the case, there was no reason for Asoka to discuss Buddhist philosophy. Asoka emerges from his edicts as an able administrator, an intelligent human being and as a devoted Buddhist, and we could expect him to take as keen an interest in Buddhist philosophy as he did in Buddhist practice.

The contents of Asoka's edicts make it clear that all the legends about his wise and humane rule are more than justified and qualify him to be ranked as one of the greatest rulers. In his edicts, he spoke of what might be called state morality, and private or individual morality. The first was what he based his administration upon and what he hoped would lead to a more just, more spiritually inclined society, while the second was what he recommended and encouraged individuals to practice. Both these types of morality were imbued with the Buddhist values of compassion, moderation, tolerance and respect for all life. The Asokan state gave up the predatory foreign policy that had characterized the Mauryan empire up till then and replaced it with a policy of peaceful co-existence. The judicial system was reformed in order to make it more fair, less harsh and less open to abuse, while those sentenced to death were given a stay of execution to prepare appeals and regular amnesties were given to prisoners. State resources were used for useful public works like the importation and cultivation of medical herbs, the building of rest houses, the digging of wells at regular intervals along main roads and the planting of fruit and shade trees. To ensue that these reforms and projects were carried out, Asoka made himself more accessible to his subjects by going on frequent inspection tours and he expected his district officers to follow his example. To the same end, he gave orders that important state business or petitions were never to be kept from him no matter what he was doing at the time. The state had a responsibility not just to protect and promote the welfare of its people but also its wildlife. Hunting certain species of wild animals was banned, forest and wildlife reserves were established and cruelty to domestic and wild animals was prohibited. The protection of all religions, their promotion and the fostering of harmony between them, was also seen as one of the duties of the state. It even seems that something like a Department of Religious Affairs was established with officers called Dhamma Mahamatras whose job it was to look after the affairs of various religious bodies and to encourage the practice of religion.

The individual morality that Asoka hoped to foster included respect *(susrusa)* towards parents, elders, teachers, friends, servants, ascetics and brahmans — behavior that accords with the advice given to Sigala by the Buddha (DighaNikaya, Discourse No. 31). He encouraged generosity *(dana)* to the poor *(kapanavalaka),* to ascetics and brahmans, and to friends and relatives. Not surprisingly, Asoka encouraged harmlessness towards all life *(avihisabhutanam).* In conformity with the Buddha's advice in the AnguttaraNikaya, II:282, he also considered moderation in spending and moderation in saving to be good *(apavyayataapabhadata).* Treating people properly*(samyapratipati),* he suggested, was much more important than performing ceremonies that were supposed to bring good luck. Because it helped promote tolerance and mutual respect, Asoka desired that people should be well-learned *(bahu sruta)* in the good doctrines *(kalanagama)* of other people's religions. The qualities of heart that are recommended by Asoka in the edicts indicate his deep spirituality. They include kindness *(daya),* self-examination *(palikhaya),* truthfulness *(sace),* gratitude *(katamnata),* purity of heart *(bhava sudhi),* enthusiasm *(usahena),* strong loyalty *(dadhabhatita),* self-control *(sayame)* and love of the Dhamma *(Dhamma kamata).*

We have no way of knowing how effective Asoka's reforms were or how long they lasted but we do know that monarchs throughout the ancient Buddhist world were encouraged to look to his style of government as an ideal to be followed. King Asoka has to be credited with the first attempt to develop a Buddhist polity. Today, with widespread disillusionment in prevailing ideologies and the search for a political philosophy that goes beyond greed (capitalism), hatred (communism) and delusion (dictatorships led by "infallible" leaders), Asoka's edicts may make a meaningful contribution to the development of a more spiritually based political system.

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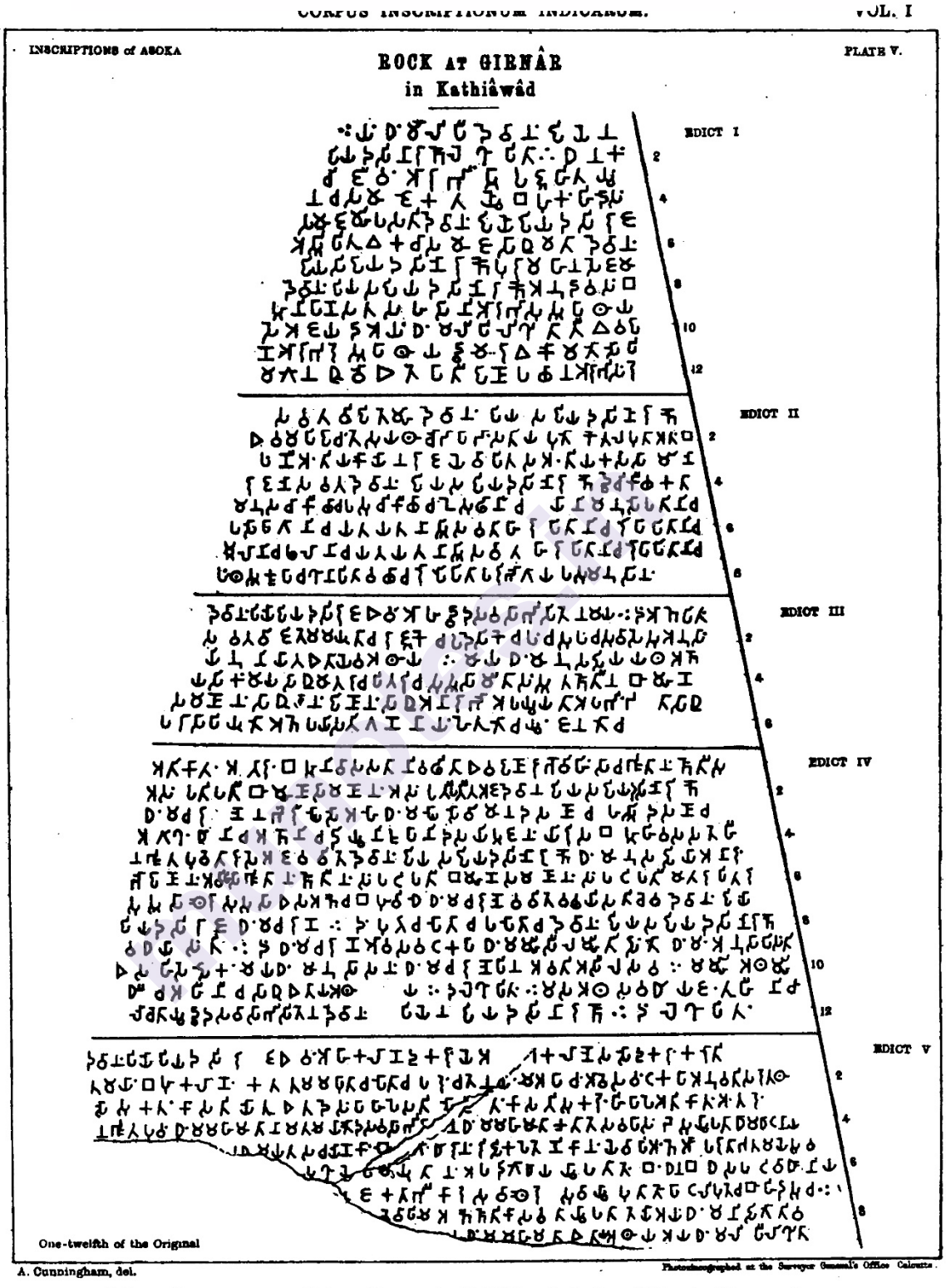


https://commons.wikimedia.org/wiki/File:Ashoka_Edivct_Girnaar1.png

9.3 THE FOURTEEN ROCK EDICTS:

1. Beloved-of-the-Gods, King Piyadasi, has caused this Dhamma edict to be written.[1] Here (in my domain) no living beings are to be slaughtered or offered in sacrifice. Nor should festivals be held, for Beloved-of-the-Gods, King Piyadasi, sees much to object to in such festivals, although there are some festivals that Beloved-of-the-Gods, King Piyadasi, does approve of.

Formerly, in the kitchen of Beloved-of-the-Gods, King Piyadasi, hundreds of thousands of animals were killed every day to make curry. But now with the writing of this Dhamma edict only three creatures, two peacocks and a deer are killed, and the deer not always. And in time, not even these three creatures will be killed.

2. Every where[2] within Beloved-of-the-Gods, King Piyadasi's domain, and among the people beyond the borders, the Cholas, the Pandyas, the Satiyaputras, the Keralaputras, as far as Tamraparni and where the Greek king Antiochos rules, and among the kings who are neighbors of Antiochos,[3] everywhere has Beloved-of-the-Gods, King Piyadasi, made provision for two types of medical treatment: medical treatment for humans and medical treatment for animals. Wherever medical herbs suitable for humans or animals are not available, I have had them imported and grown. Wherever medical roots or fruits are not available I have had them imported and grown. Along roads I have had wells dug and trees planted for the benefit of humans and animals.[4]

3. Beloved-of-the-Gods, King Piyadasi, speaks thus:[5] Twelve years after my coronation this has been ordered — Everywhere in my domain the Yuktas, the Rajjukas and the Pradesikas shall go on inspection tours every five years for the purpose of Dhamma instruction and also to conduct other business.[6]

Respect for mother and father is good, generosity to friends, acquaintances, relatives, Brahmans and ascetics is good, not killing living beings is good, moderation in spending and moderation in saving is good. The Council shall notify the Yuktas about the observance of these instructions in these very words.

4. In the past, for many hundreds of years, killing or harming living beings and improper behavior towards relatives, and improper behavior towards Brahmans and ascetics has increased.[7] But now due to Beloved-of-the-Gods, King Piyadasi's Dhamma practice, the sound of the drum has been replaced by the sound of the Dhamma.[8] The sighting of heavenly cars, auspicious elephants, bodies of fire and other divine sightings has not happened for many hundreds of years. But now because Beloved-of-the-Gods, King Piyadasi promotes restraint in the killing and harming of living beings, proper behavior towards relatives, Brahmans and ascetics, and respect for mother, father and elders, such sightings have increased.[9]

These and many other kinds of Dhamma practice have been encouraged by Beloved-of-the-Gods, King Piyadasi, and he will continue to promote

Dhamma practice. And the sons, grandsons and great-grandsons of Beloved-of-the-Gods, King Piyadasi, too will continue to promote Dhamma practice until the end of time; living by Dhamma and virtue, they will instruct in Dhamma. Truly, this is the highest work, to instruct in Dhamma. But practicing the Dhamma cannot be done by one who is devoid of virtue and therefore its promotion and growth is commendable.

This edict has been written so that it may please my successors to devote themselves to promoting these things and not allow them to decline. Beloved-of-the-Gods, King Piyadasi, has had this written twelve years after his coronation.

5. Beloved-of-the-Gods, King Piyadasi, speaks thus:[10] To do good is difficult. One who does good first does something hard to do. I have done many good deeds, and, if my sons, grandsons and their descendants up to the end of the world act in like manner, they too will do much good. But whoever amongst them neglects this, they will do evil. Truly, it is easy to do evil.[11]

In the past there were no Dhamma Mahamatras but such officers were appointed by me thirteen years after my coronation. Now they work among all religions for the establishment of Dhamma, for the promotion of Dhamma, and for the welfare and happiness of all who are devoted to Dhamma. They work among the Greeks, the Kambojas, the Gandharas, the Rastrikas, the Pitinikas and other peoples on the western borders.[12] They work among soldiers, chiefs, Brahmans, householders, the poor, the aged and those devoted to Dhamma — for their welfare and happiness — so that they may be free from harassment. They (Dhamma Mahamatras) work for the proper treatment of prisoners, towards their unfettering, and if the Mahamatras think, "This one has a family to support," "That one has been bewitched," "This one is old," then they work for the release of such prisoners. They work here, in outlying towns, in the women's quarters belonging to my brothers and sisters, and among my other relatives. They are occupied everywhere. These Dhamma Mahamatras are occupied in my domain among people devoted to Dhamma to determine who is devoted to Dhamma, who is established in Dhamma, and who is generous.

This Dhamma edict has been written on stone so that it might endure long and that my descendants might act in conformity with it.

6. Beloved-of-the-Gods, King Piyadasi, speaks thus:[13] In the past, state business was not transacted nor were reports delivered to the king at all hours. But now I have given this order, that at any time, whether I am eating, in the women's quarters, the bed chamber, the chariot, the palanquin, in the park or wherever, reporters are to be posted with instructions to report to me the affairs of the people so that I might attend to these affairs wherever I am. And whatever I orally order in connection with donations or proclamations, or when urgent business presses itself on the Mahamatras, if disagreement or debate arises in the Council, then it must be reported to me immediately. This is what I have ordered. I am

never content with exerting myself or with despatching business. Truly, I consider the welfare of all to be my duty, and the root of this is exertion and the prompt despatch of business. There is no better work than promoting the welfare of all the people and whatever efforts I am making is to repay the debt I owe to all beings to assure their happiness in this life, and attain heaven in the next.

Therefore this Dhamma edict has been written to last long and that my sons, grandsons and great-grandsons might act in conformity with it for the welfare of the world. However, this is difficult to do without great exertion.

7. Beloved-of-the-Gods, King Piyadasi, desires that all religions should reside everywhere, for all of them desire self-control and purity of heart.[14] But people have various desires and various passions, and they may practice all of what they should or only a part of it. But one who receives great gifts yet is lacking in self-control, purity of heart, gratitude and firm devotion, such a person is mean.

8. In the past kings used to go out on pleasure tours during which there was hunting and other entertainment.[15] But ten years after Beloved-of-the-Gods had been coronated, he went on a tour to Sambodhi and thus instituted Dhamma tours.[16] During these tours, the following things took place: visits and gifts to Brahmans and ascetics, visits and gifts of gold to the aged, visits to people in the countryside, instructing them in Dhamma, and discussing Dhamma with them as is suitable. It is this that delights Beloved-of-the-Gods, King Piyadasi, and is, as it were, another type of revenue.

9. Beloved-of-the-Gods, King Piyadasi, speaks thus:[17] In times of sickness, for the marriage of sons and daughters, at the birth of children, before embarking on a journey, on these and other occasions, people perform various ceremonies. Women in particular perform many vulgar and worthless ceremonies. These types of ceremonies can be performed by all means, but they bear little fruit. What does bear great fruit, however, is the ceremony of the Dhamma. This involves proper behavior towards servants and employees, respect for teachers, restraint towards living beings, and generosity towards ascetics and Brahmans. These and other things constitute the ceremony of the Dhamma. Therefore a father, a son, a brother, a master, a friend, a companion, and even a neighbor should say: "This is good, this is the ceremony that should be performed until its purpose is fulfilled, this I shall do."[18] Other ceremonies are of doubtful fruit, for they may achieve their purpose, or they may not, and even if they do, it is only in this world. But the ceremony of the Dhamma is timeless. Even if it does not achieve its purpose in this world, it produces great merit in the next, whereas if it does achieve its purpose in this world, one gets great merit both here and there through the ceremony of the Dhamma.

10. Beloved-of-the-Gods, King Piyadasi, does not consider glory and fame to be of great account unless they are achieved through having my subjects respect Dhamma and practice Dhamma, both now and in the

future.[19] For this alone does Beloved-of-the-Gods, King Piyadasi, desire glory and fame. And whatever efforts Beloved-of-the-Gods, King Piyadasi, is making, all of that is only for the welfare of the people in the next world, and that they will have little evil. And being without merit is evil. This is difficult for either a humble person or a great person to do except with great effort, and by giving up other interests. In fact, it may be even more difficult for a great person to do.

11. Beloved-of-the-Gods, King Piyadasi, speaks thus:[20] There is no gift like the gift of the Dhamma,[21] (no acquaintance like) acquaintance with Dhamma, (no distribution like) distribution of Dhamma, and (no kinship like) kinship through Dhamma. And it consists of this: proper behavior towards servants and employees, respect for mother and father, generosity to friends, companions, relations, Brahmans and ascetics, and not killing living beings. Therefore a father, a son, a brother, a master, a friend, a companion or a neighbor should say: "This is good, this should be done." One benefits in this world and gains great merit in the next by giving the gift of the Dhamma.

12. Beloved-of-the-Gods, King Piyadasi, honors both ascetics and the householders of all religions, and he honors them with gifts and honors of various kinds.[22] But Beloved-of-the-Gods, King Piyadasi, does not value gifts and honors as much as he values this — that there should be growth in the essentials of all religions.[23] Growth in essentials can be done in different ways, but all of them have as their root restraint in speech, that is, not praising one's own religion, or condemning the religion of others without good cause. And if there is cause for criticism, it should be done in a mild way. But it is better to honor other religions for this reason. By so doing, one's own religion benefits, and so do other religions, while doing otherwise harms one's own religion and the religions of others. Whoever praises his own religion, due to excessive devotion, and condemns others with the thought "Let me glorify my own religion," only harms his own religion. Therefore contact (between religions) is good.[24] One should listen to and respect the doctrines professed by others. Beloved-of-the-Gods, King Piyadasi, desires that all should be well-learned in the good doctrines of other religions.

Those who are content with their own religion should be told this: Beloved-of-the-Gods, King Piyadasi, does not value gifts and honors as much as he values that there should be growth in the essentials of all religions. And to this end many are working — Dhamma Mahamatras, Mahamatras in charge of the women's quarters, officers in charge of outlying areas, and other such officers. And the fruit of this is that one's own religion grows and the Dhamma is illuminated also.

13. Beloved-of-the-Gods, King Piyadasi, conquered the Kalingas eight years after his coronation.[25] One hundred and fifty thousand were deported, one hundred thousand were killed and many more died (from other causes). After the Kalingas had been conquered, Beloved-of-the-Gods came to feel a strong inclination towards the Dhamma, a love for the

Dhamma and for instruction in Dhamma. Now Beloved-of-the-Gods feels deep remorse for having conquered the Kalingas.

Indeed, Beloved-of-the-Gods is deeply pained by the killing, dying and deportation that take place when an unconquered country is conquered. But Beloved-of-the-Gods is pained even more by this — those Brahmans, ascetics, and householder of different religions who live in those countries, and who are respectful to superiors, to mother and father, to elders, and who behave properly and have strong loyalty towards friends, acquaintances, companions, relatives, servants and employees — that they are injured, killed or separated from their loved ones. Even those who are not affected (by all this) suffer when they see friends, acquaintances, companions and relatives affected. These misfortunes befall all (as a result of war), and this pains Beloved-of-the-Gods.

There is no country, except among the Greeks, where these two groups, Brahmans and ascetics, are not found, and there is no country where people are not devoted to one or another religion.[26] Therefore the killing, death or deportation of a hundredth, or even a thousandth part of those who died during the conquest of Kalinga now pains Beloved-of-the-Gods. Now Beloved-of-the-Gods thinks that even those who do wrong should be forgiven where forgiveness is possible.

Even the forest people, who live in Beloved-of-the-Gods' domain, are entreated and reasoned with to act properly. They are told that despite his remorse Beloved-of-the-Gods has the power to punish them if necessary, so that they should be ashamed of their wrong and not be killed. Truly, Beloved-of-the-Gods desires non-injury, restraint and impartiality to all beings, even where wrong has been done.

Now it is conquest by Dhamma that Beloved-of-the-Gods considers to be the best conquest.[27] And it (conquest by Dhamma) has been won here, on the borders, even six hundred yojanas away, where the Greek king Antiochos rules, beyond there where the four kings named Ptolemy, Antigonos, Magas and Alexander rule, likewise in the south among the Cholas, the Pandyas, and as far as Tamraparni.[28] Here in the king's domain among the Greeks, the Kambojas, the Nabhakas, the Nabhapamkits, the Bhojas, the Pitinikas, the Andhras and the Palidas, everywhere people are following Beloved-of-the-Gods' instructions in Dhamma. Even where Beloved-of-the-Gods' envoys have not been, these people too, having heard of the practice of Dhamma and the ordinances and instructions in Dhamma given by Beloved-of-the-Gods, are following it and will continue to do so. This conquest has been won everywhere, and it gives great joy — the joy which only conquest by Dhamma can give. But even this joy is of little consequence. Beloved-of-the-Gods considers the great fruit to be experienced in the next world to be more important.

I have had this Dhamma edict written so that my sons and great-grandsons may not consider making new conquests, or that if military conquests are made, that they be done with forbearance and light punishment, or better still, that they consider making conquest by Dhamma only, for that bears

fruit in this world and the next. May all their intense devotion be given to this which has a result in this world and the next.

14. Beloved-of-the-Gods, King Piyadasi, has had these Dhamma edicts written in brief, in medium length, and in extended form.[29] Not all of them occur everywhere, for my domain is vast, but much has been written, and I will have still more written. And also there are some subjects here that have been spoken of again and again because of their sweetness, and so that the people may act in accordance with them. If some things written are incomplete, this is because of the locality, or in consideration of the object, or due to the fault of the scribe.

9.4 THE KALINGA ROCK EDICTS:

1. Beloved-of-the-Gods says that the Mahamatras of Tosali who are judicial officers in the city are to be told this:[30] I wish to see that everything I consider to be proper is carried out in the right way. And I consider instructing you to be the best way of accomplishing this. I have placed you over many thousands of people that you may win the people's affection.

All men are my children. What I desire for my own children, and I desire their welfare and happiness both in this world and the next, that I desire for all men. You do not understand to what extent I desire this, and if some of you do understand, you do not understand the full extent of my desire.

You must attend to this matter. While being completely law-abiding, some people are imprisoned, treated harshly and even killed without cause so that many people suffer. Therefore your aim should be to act with impartiality. It is because of these things — envy, anger, cruelty, hate, indifference, laziness or tiredness — that such a thing does not happen. Therefore your aim should be: "May these things not be in me." And the root of this is non-anger and patience. Those who are bored with the administration of justice will not be promoted; (those who are not) will move upwards and be promoted. Whoever among you understands this should say to his colleagues: "See that you do your duty properly. Such and such are Beloved-of-the-Gods' instructions." Great fruit will result from doing your duty, while failing in it will result in gaining neither heaven nor the king's pleasure. Failure in duty on your part will not please me. But done properly, it will win you heaven and you will be discharging your debts to me.

This edict is to be listened to on Tisa day, between Tisa days, and on other suitable occasions, it should be listened to even by a single person. Acting thus, you will be doing your duty.

This edict has been written for the following purpose: that the judicial officers of the city may strive to do their duty and that the people under them might not suffer unjust imprisonment or harsh treatment. To achieve this, I will send out Mahamatras every five years who are not harsh or cruel, but who are merciful and who can ascertain if the judicial officers

have understood my purpose and are acting according to my instructions. Similarly, from Ujjayini, the prince will send similar persons with the same purpose without allowing three years to elapse. Likewise from Takhasila also. When these Mahamatras go on tours of inspection each year, then without neglecting their normal duties, they will ascertain if judicial officers are acting according to the king's instructions.

2. Beloved-of-the-Gods speaks thus:[31] This royal order is to be addressed to the Mahamatras at Samapa. I wish to see that everything I consider to be proper is carried out in the right way. And I consider instructing you to be the best way of accomplishing this. All men are my children. What I desire for my own children, and I desire their welfare and happiness both in this world and the next, that I desire for all men.[32]

The people of the unconquered territories beyond the borders might think: "What is the king's intentions towards us?" My only intention is that they live without fear of me, that they may trust me and that I may give them happiness, not sorrow. Furthermore, they should understand that the king will forgive those who can be forgiven, and that he wishes to encourage them to practice Dhamma so that they may attain happiness in this world and the next. I am telling you this so that I may discharge the debts I owe, and that in instructing you, that you may know that my vow and my promise will not be broken. Therefore acting in this way, you should perform your duties and assure them (the people beyond the borders) that: "The king is like a father. He feels towards us as he feels towards himself. We are to him like his own children."

By instructing you and informing you of my vow and my promise I shall be applying myself in complete fullness to achieving this object. You are able indeed to inspire them with confidence and to secure their welfare and happiness in this world and the next, and by acting thus, you will attain heaven as well as discharge the debts you owe to me. And so that the Mahamatras can devote themselves at all times to inspiring the border areas with confidence and encouraging them to practice Dhamma, this edict has been written here.

This edict is to be listened to every four months on Tisa day, between Tisa days, and on other suitable occasions, it should be listened to even by a single person. Acting thus, you will be doing your duty.

Minor Rock Edicts

1. Beloved-of-the-Gods speaks thus:[33] It is now more than two and a half years since I became a lay-disciple, but until now I have not been very zealous.[34] But now that I have visited the Sangha for more than a year, I have become very zealous. Now the people in India who have not associated with the gods do so. This is the result of zeal and it is not just the great who can do this. Even the humble, if they are zealous, can attain heaven. And this proclamation has been made with this aim. Let both humble and great be zealous, let even those on the borders know and let zeal last long. Then this zeal will increase, it will greatly increase, it will

increase up to one-and-a-half times. This message has been proclaimed two hundred and fifty-six times by the king while on tour.

2. Beloved-of-the-Gods speaks thus:[35] Father and mother should be respected and so should elders, kindness to living beings should be made strong and the truth should be spoken. In these ways, the Dhamma should be promoted. Likewise, a teacher should be honored by his pupil and proper manners should be shown towards relations. This is an ancient rule that conduces to long life. Thus should one act. Written by the scribe Chapala.

3. Piyadasi, King of Magadha, saluting the Sangha and wishing them good health and happiness, speaks thus:[36] You know, reverend sirs, how great my faith in the Buddha, the Dhamma and Sangha is. Whatever, reverend sirs, has been spoken by Lord Buddha, all that is well-spoken.[37] I consider it proper, reverend sirs, to advise on how the good Dhamma should last long.

These Dhamma texts — Extracts from the Discipline, the Noble Way of Life, the Fears to Come, the Poem on the Silent Sage, the Discourse on the Pure Life, Upatisa's Questions, and the Advice to Rahula which was spoken by the Buddha concerning false speech — these Dhamma texts, reverend sirs, I desire that all the monks and nuns may constantly listen to and remember.[38] Likewise the laymen and laywomen. I have had this written that you may know my intentions.

9.5 THE SEVEN PILLAR EDICTS:

1. Beloved-of-the-Gods speaks thus:[39] This Dhamma edict was written twenty-six years after my coronation. Happiness in this world and the next is difficult to obtain without much love for the Dhamma, much self-examination, much respect, much fear (of evil), and much enthusiasm. But through my instruction this regard for Dhamma and love of Dhamma has grown day by day, and will continue to grow. And my officers of high, low and middle rank are practicing and conforming to Dhamma, and are capable of inspiring others to do the same. Mahamatras in border areas are doing the same. And these are my instructions: to protect with Dhamma, to make happiness through Dhamma and to guard with Dhamma.

2. Beloved-of-the-Gods, King Piyadasi, speaks thus: Dhamma is good, but what constitutes Dhamma? (It includes) little evil, much good, kindness, generosity, truthfulness and purity. I have given the gift of sight in various ways.[40] To two-footed and four-footed beings, to birds and aquatic animals, I have given various things including the gift of life. And many other good deeds have been done by me.

This Dhamma edict has been written that people might follow it and it might endure for a long time. And the one who follows it properly will do something good.

3. Beloved-of-the-Gods, King Piyadasi, speaks thus: People see only their good deeds saying, "I have done this good deed." But they do not see their

evil deeds saying, "I have done this evil deed" or "This is called evil." But this (tendency) is difficult to see.[41] One should think like this: "It is these things that lead to evil, to violence, to cruelty, anger, pride and jealousy. Let me not ruin myself with these things." And further, one should think: "This leads to happiness in this world and the next."

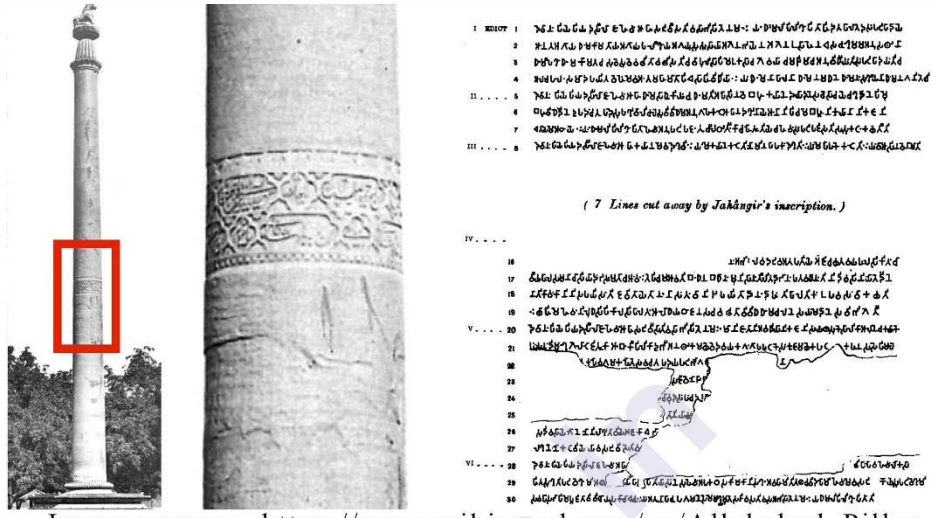
4. Beloved-of-the-Gods speaks thus: This Dhamma edict was written twenty-six years after my coronation. My Rajjukas are working among the people, among many hundreds of thousands of people. The hearing of petitions and the administration of justice has been left to them so that they can do their duties confidently and fearlessly and so that they can work for the welfare, happiness and benefit of the people in the country. But they should remember what causes happiness and sorrow, and being themselves devoted to Dhamma, they should encourage the people in the country (to do the same), that they may attain happiness in this world and the next. These Rajjukas are eager to serve me. They also obey other officers who know my desires, who instruct the Rajjukas so that they can please me. Just as a person feels confident having entrusted his child to an expert nurse thinking: "The nurse will keep my child well," even so, the Rajjukas have been appointed by me for the welfare and happiness of the people in the country.

The hearing of petitions and the administration of justice have been left to the Rajjukas so that they can do their duties unperturbed, fearlessly and confidently. It is my desire that there should be uniformity in law and uniformity in sentencing. I even go this far, to grant a three-day stay for those in prison who have been tried and sentenced to death. During this time their relatives can make appeals to have the prisoners' lives spared. If there is none to appeal on their behalf, the prisoners can give gifts in order to make merit for the next world, or observe fasts. Indeed, it is my wish that in this way, even if a prisoner's time is limited, he can prepare for the next world, and that people's Dhamma practice, self-control and generosity may grow.

5. Beloved-of-the-Gods, King Piyadasi, speaks thus: Twenty-six years after my coronation various animals were declared to be protected — parrots, mainas, *aruna,* ruddy geese, wild ducks, *nandimukhas, gelatas,* bats, queen ants, terrapins, boneless fish, *vedareyaka, gangapuputaka, sankiya* fish, tortoises, porcupines, squirrels, deer, bulls, *okapinda,* wild asses, wild pigeons, domestic pigeons and all four-footed creatures that are neither useful nor edible.[42] Those nanny goats, ewes and sows which are with young or giving milk to their young are protected, and so are young ones less than six months old. Cocks are not to be caponized, husks hiding living beings are not to be burnt and forests are not to be burnt either without reason or to kill creatures. One animal is not to be fed to another. On the three Caturmasis, the three days of Tisa and during the fourteenth and fifteenth of the Uposatha, fish are protected and not to be sold. During these days animals are not to be killed in the elephant reserves or the fish reserves either. On the eighth of every fortnight, on the fourteenth and fifteenth, on Tisa, Punarvasu, the three Caturmasis and other auspicious days, bulls are not to be castrated, billy goats, rams, boars

and other animals that are usually castrated are not to be. On Tisa, Punarvasu, Caturmasis and the fortnight of Caturmasis, horses and bullocks are not be branded.

In the twenty-six years since my coronation prisoners have been given amnesty on twenty-five occasions.



(7 Lines cut away by Jahângir's inscription.)

Image source:- https://www.wikiwand.com/en/Allahabad_Pillar

6. Beloved-of-the-Gods speaks thus: Twelve years after my coronation I started to have Dhamma edicts written for the welfare and happiness of the people, and so that not transgressing them they might grow in the Dhamma. Thinking: "How can the welfare and happiness of the people be secured?" I give attention to my relatives, to those dwelling near and those dwelling far, so I can lead them to happiness and then I act accordingly. I do the same for all groups. I have honored all religions with various honors. But I consider it best to meet with people personally.

This Dhamma edict was written twenty-six years after my coronation.

7. Beloved-of-the-Gods speaks thus: In the past kings desired that the people might grow through the promotion of the Dhamma. But despite this, people did not grow through the promotion of the Dhamma. Beloved-of-the-Gods, King Piyadasi, said concerning this: "It occurs to me that in the past kings desired that the people might grow through the promotion of the Dhamma. But despite this, people did not grow through the promotion of the Dhamma. Now how can the people be encouraged to follow it? How can the people be encouraged to grow through the promotion of the Dhamma? How can I elevate them by promoting the Dhamma?" Beloved-of-the-Gods, King Piyadasi, further said concerning this: "It occurs to me that I shall have proclamations on Dhamma announced and instruction on Dhamma given. When people hear these, they will follow them, elevate themselves and grow considerably through the promotion of the Dhamma." It is for this purpose that proclamations on Dhamma have been announced and various instructions on Dhamma have been given and that officers who work among many promote and explain them in detail. The Rajjukas who work among hundreds of thousands of people have likewise been ordered: "In this way and that encourage those who are devoted to

Dhamma." Beloved-of-the-Gods speaks thus: "Having this object in view, I have set up Dhamma pillars, appointed Dhamma Mahamatras, and announced Dhamma proclamations."

Beloved-of-the-Gods, King Piyadasi, says: Along roads I have had banyan trees planted so that they can give shade to animals and men, and I have had mango groves planted. At intervals of eight *krosas,* I have had wells dug, rest-houses built, and in various places, I have had watering-places made for the use of animals and men. But these are but minor achievements. Such things to make the people happy have been done by former kings. I have done these things for this purpose, that the people might practice the Dhamma.

Beloved-of-the-Gods, King Piyadasi, speaks thus: My Dhamma Mahamatras too are occupied with various good works among the ascetics and householders of all religions. I have ordered that they should be occupied with the affairs of the Sangha. I have also ordered that they should be occupied with the affairs of the Brahmans and the Ajivikas. I have ordered that they be occupied with the Niganthas.[43] In fact, I have ordered that different Mahamatras be occupied with the particular affairs of all different religions. And my Dhamma Mahamatras likewise are occupied with these and other religions.

Beloved-of-the-Gods, King Piyadasi, speaks thus: These and other principal officers are occupied with the distribution of gifts, mine as well as those of the queens. In my women's quarters, they organize various charitable activities here and in the provinces. I have also ordered my sons and the sons of other queens to distribute gifts so that noble deeds of Dhamma and the practice of Dhamma may be promoted. And noble deeds of Dhamma and the practice of Dhamma consist of having kindness, generosity, truthfulness, purity, gentleness and goodness increase among the people.

Beloved-of-the-Gods, King Piyadasi, speaks thus: Whatever good deeds have been done by me, those the people accept and those they follow. Therefore they have progressed and will continue to progress by being respectful to mother and father, respectful to elders, by courtesy to the aged and proper behavior towards Brahmans and ascetics, towards the poor and distressed, and even towards servants and employees.

Beloved-of-the-Gods, King Piyadasi, speaks thus: This progress among the people through Dhamma has been done by two means, by Dhamma regulations and by persuasion. Of these, Dhamma regulation is of little effect, while persuasion has much more effect. The Dhamma regulations I have given are that various animals must be protected. And I have given many other Dhamma regulations also. But it is by persuasion that progress among the people through Dhamma has had a greater effect in respect of harmlessness to living beings and non-killing of living beings.

Concerning this, Beloved-of-the-Gods says: Wherever there are stone pillars or stone slabs, there this Dhamma edict is to be engraved so that it may long endure. It has been engraved so that it may endure as long as my

sons and great-grandsons live and as long as the sun and the moon shine, and so that people may practice it as instructed. For by practicing it happiness will be attained in this world and the next.

This Dhamma edict has been written by me twenty-seven years after my coronation.

9.6 THE MINOR PILLAR EDICTS:

1. Lumbini Pillar

Twenty years after his coronation, Beloved-of-the-Gods, King Piyadasi, visited this place and worshipped because here the Buddha, the sage of the Sakyans, was born.[44] He had a stone figure and a pillar set up and because the Lord was born here, the village of Lumbini was exempted from tax and required to pay only one eighth of the produce.

2. Kosambi Pillar

Beloved-of-the-Gods commands:[45] The Mahamatras at Kosambi (are to be told: Whoever splits the Sangha) which is now united, is not to be admitted into the Sangha. Whoever, whether monk or nun, splits the Sangha is to be made to wear white clothes and to reside somewhere other than in a monastery.[46]

#Author- Ven. S. Dhammika -The Edicts of King Asoka

9.7 SUMMARY:

The First Evidence of the Religion Spreading outside India Coinsides with Ashoka's rule as he sent emissaries to Sri Lanka and an area called Suvarnabhumi, which could be in modern Myanmar. Ashoka's son, monk Mahinda, converted king Devanampiya Tissa and other nobility in modern day Sri lanka to Buddhism. King Tissa built the Mahavihara monastery, which became the main centre of Buddhism in the island nation. After Sri Lanka, it took more a thousand years for Buddhism to become a leading religion in Myanmar. Slowely and gradually buddhism spread rapidly in south east asia. Therefore, the spread of buddhism in Asia, East and West.

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9.8 QUESTIONS

When did Buddhism start spreading outside India?

Why Buddhism became dominent religion in Srilanka and Myanmar?

Why emporer Asoka is known as the poineer of spreading buddhism in outside India?

9.9 ADDITIONAL READING

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10

NUMISMATICS

Unit Structure:

10.0 OBJECTIVES:

After going through this unit the students will be able to:

1. Understand the history Numismatic studies.

2. Study the different phases of Numismatic studies.

10.1 INTRODUCTION

Numismatics literally means "collection of coins". In course of time, it came to be known as the "study of old coins". Now, it is the study of coins as historical objects and a source of history.

Since his branch of the historical research has been developed, it contributes wealth of information to our understanding to the past. Coins as a source of history, throw light on various aspects of history. Sometimes, many historical events are hidden in the dark and therefore, those historical facts are unknown to us. At this juncture the coins are very important as they add to our historical knowledge.

Sometimes, coins confirm the historical facts, known from other sources. Many historical facts which are evident from the literary sources are corroborated by the numismatic evidence. Thus, the coins are one of

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the most valuable sources for the reconstruction of ancient Indian history and they are most essential from the historical point of view.

10.2 HISTORY OF NUMISMATICAL STUDY IN INDIA

Ever since man's existence on earth, he tried to make his material and spiritual life purposeful. He tried to progress and with this objective he moulded his activities. He manufactured goods from the raw material, which ultimately led to the rise of human civilization in different parts of the world.

In the beginning, man was confined to himself or his family and his needs also were limited. However, with developing process of socialization and growing contacts with other communities, they started exchanging their own products with others.

At this stage, the mutual exchange of commodities was introduced in which goods were exchanged for goods, later on, the mutual exchange took the shape of Barter system.

Soon the disadvantages of this barter system were realized and new method of exchange was evolved. A common commodity was fixed to serve as an intermediary in all transactions.

With the advancement of time, certain commodities were given preference over other and a higher value was attached to them. So commodity became a medium of exchange and got a standard by which the value of other things was estimated. This was the first stage towards the evolution of coinage.

Medium of Exchange:

In this beginning, Agricultural products were used as the medium of exchange. Pastoral Vedic people used their cows as the medium of their transactions. It remained the medium of exchange till the Brahmanic period. The cows proved to be more stable in value then agricultural products because they had a capacity for multiplication, for work and for the supply of milk.

In course of time, even this medium of exchange proved to be inconvenient and therefore, precious stones and metals were accepted as medium of exchange.

The Vedic people used gold for their ornaments. Later on they were used for their currency and money also. There are references to old bullion as Hiranya panda in the Rig-Veda. In the epics – Ramayana and Mahabharata, there are references to Hiranya and suvarna as a medium of exchange. Nishka (gold currency), Mana and Pada were others forms or currency mentioned in the Vedic literature. Besides Niskha, Satamana and Pada, a number of other coin terms like vimsatika, trimsatika, Sana and karshapana are also mentioned in the Ashtadhyayi of

Panini – which is dated to centuries circa 8th B.C. These terms indicate that usage of coin had become common among the people in India.

10.3 BEGINNING OF NUMISMATICAL STUDIES IN INDIA

The effort to know and study about coins is known as Numismatography.

During the era of Renaissance, there was a new wave of interest in the classical world. The men of Renaissance delighted in the fine arts. They collected the masterpieces of art. The first great collection of coins also was made during the Renaissance period. In the beginning, these coins were collected only as little masterpieces of art, but later on, particularly in the 18th century, the importance of numismatics for the study of history was recognized.

The collectors of the coins were mainly men who were concerned with field work such as army officers, engineers etc. They collected coins for the purpose of their own pleasure. Some of them tried to study them and supply new information to history.

However the organized study of coins as a science of numismatics began only in beginning of 19th century in United Kingdom, when 'Numismatics Society' was organized on June 22, 1836. In 1907, this society became, 'Royal Numismatics Society'.

In India, the real coin collecting started only in the beginning of the 19th century. When the British civil and military officers of India took been interest in it. As a matter of fact, numismatics was recognized as a primary source of history and was utilized for historiography in India, as early as the 12th century A.D. by Kalhana – the chronicler of Kashmir and the author of Raj – Tarangini. However, the modern numismatography in India was led by the Asiatic Society of Bengal in 1784, and the real study of numismatic began only in the first half of the nineteenth century. The Indian numismatography can be divided into many phases.

10.3.1 i) The First Phase (1784 – 1849):

a) During this phase some European scholars such as Mionnet and Viscounti published different Indo – Greek Coins which were discovered in earlier centuries.

b) Royal Asiatic Society also published a memoir in which Greek, Parthian and Indian medals illustrated by engravings were published.

c) Efforts were made to search coins from Mathura and other Indian cities of celebrity, and nearly 20,000 coins were discovered. It included coins each of Appolodotus and Menander which discovered for the first time.

d) Attempts were made to study these coins from historical point of view by Wilhem Von Schlegel.

e) General Ventura led remarkable discoveries of Bactrian and Indo Scythian coins in Punjab in 1830. in Afghanistan, Charles Messon discovered many coins which proved to be of great value in the advancement of numismatic studies. He published 3 memoirs from 1834 to 1836 on the coins discovered by him. With the help of these coins only James Princep could decipher the ancient Indian Alphabets (script).

f) During this phase, a large number of coins were discovered. General Ventura, Lt. Burnes, Dr. Martin Honiberger and especially Mr. Messon and others collected the coins. Their collection materially contributed to our knowledge of numismatics.

g) The listing of the coins was done by the Asiatic Society. Wilson and Princep played an important role in listing of the coins. The catalogues of the Roman and Greek coins were published during this time.

h) During this time, the early history of India with the help of numismatics was writte. Lassen is the first historian of ancient Indian history who successfully used numismatics. Lassen, Wilson, Raoul Rochette, Mionnet and others made valuable contributions in this phase of Indian numismatography.

10.3.2 ii) The Second Phase (1850 – 1900):

The phase of numismatography is known as the era of classification, cataloguing and survey. During this phase, numismatic studies was taken up by many scholars and on that basis their application to historiography flourished in the 20th century.

New the planned discoveries and explorations took the place of chance discoveries. A scientific basis was established and planned thinking led to classification, analysis and survey. Alexander Cunningham played a vital role in this regard. He wrote many books on coins such as –

1) 'Coins of Alexander's successors in East' published in 1873.

2) 'Coins of Indo Scythians' in 1892.

3) 'Coins in Ancient India' in 1894.

4) 'Coins of Medieval India' in 1894.

5) 'Coins of Later Indo Scythians'' in 1895.

These books provided a comprehensive, up to date and scholarly account of entire coins series of Ancient India. His observations serve as source material for early Indian numismatics.

During 1880-190 some other basic catalogues of important collection of coins were published. During this phase only the foundation of the studies of coins of Deccan and South India was laid by Pandit Bhagvanlal

Indraji, E. J. Rapson, W. Elliot and others. 'The Coins of Southern India' by Elliot in 1886 and 'Indian Coins' by E. J. Rapson in 1897 were published. 'Indian Coins' is the first valuable book which gives a short summary of the whole range of ancient Indian coinage with well selected examples.

10.3.3 iii) The Third Phase (1990 – 1940) :

During the third phase, Vincent Smith, George Macdonald, John Allan and R. B. Whitehead contributed to Indian Numismatics. Two other events which accelerated the numismatic studies in India were as follows:

a) From year 1904 'Journal of Asiatic Society of Bengal' (JASB) started publishing numismatic supplements which enabled the students and collectors of the coins to take big leap towards publication of their discoveries and results of their research.

b) In Year 1910, 'Numismatics Society of India' was founded at Allahabad. It provided a forum to students and collectors of coins to discuss their problems. It also helped in coordination and publication the results of their studies.

Since 1921, numismatic was introduced as a subject of study in Indian Universities – first in Calcutta and then, Banaras, Bombay etc. This period witnessed increased but organized activities towards collecting and classifying numismatics data. Another feature of this period is constructive utilization of numismatic material for historical writing of ancient India. The notable features of the attempts made of systematic studies during this period are as follows:

a) To study and interpret the symbols found on Punch Marked Coins (PMC).

b) To study the coinage of Bactrian Greeks (in the excavation of Taxila by John Marshall a very large number of coins of Indo – Greek rulers were discovered).

c) To study coins of the Gupta Sovereigns. d) To study coins of the Hunas.

e) Coins of Gurjara Pratihara / Gujarat Chalukyas popularly known as Solankis were noticed for the first time by Burn.

10.3.4 The Fourth Phase (1940 – 1950) :

During the period, the numismatic material was discovered and published. Most of it was published in the 'Journal of numismatic Society of India'. Some of the important publications were.

a) Memoir on 'The technique of casting coins in ancient India' by Birbal Sahani.

b) 'A hoard of silver punch marked coins from Purnea' c) 'Numismatic parallels in Kalidasa' by Shivram Murti. d) 'Coins of Marwar' by Pandit B. N. Reu.

e) 'Bhartiya Sikke' by Mr. Upadhyaya.

Scholars like C. R. Singhal, Prof. A S. Altekar, Mr. Walsh, Mr. Chakravarti, Dr. Parmeshwarilal Gupta and Diksalkar have also contributed to Indian Numismatics through their writings.

Several new hoards of Punch Marked coins were either discovered or published during this period. Dr. P. L. Gupta's research on Punch Marked Coins given a comparative study of the subject and is valuable for the study of Punch Marked coins. D. D. Kosambi made a considerable progress in the classification of these coins and the analysis of hoards. During this period, considerable new light has also been thrown upon the history and numismatic of Central India by the discovery of the coins of the Post Mauryan Period.

10.3.5 The Fifth Phase (1950 onwards) :

After 1950, the work was continued by Dr. As. Aletkar, Mr. Sohani, Dr. Jaiswal, V. V. Mirashi, Dr. P. L. Gupta and others. Tremendous work has been continued by many other scholars as well as 'Numismatic Society of India', and the 'Institute of the Research in Numismatic studies' near Nasik in Maharashtra.

Contribution of Numismatics to Indian History:

Numismatics is one of the greatest and most valuable source of ancient Indian history. Coins help us to build up the history of our country.

By the study of different types, symbols monograms, inscriptions, portraiture, fabric metallurgy etc. of a coin, we can amass a wealth of information about historical facts. This data or information is extremely valuable for the study of ancient Indian political history.

Coins reveals the names of unknown kings. For example, most of the Indo-Greek kings are known from their coins. Their coins are the only information we have regarding their existence. Only two of these Indo-Greek kings are mentioned in the inscriptions and seven in literary sources. All other remaining Indo- Greek rulers are known only from their coins. Another example is that, according to some puranas there were 30 kings of the Satavahana dynasty. However we have got four other rulers whose coins have been found but are not mentioned in the above mentioned puranic lists or any other literary works. They are Saka Satakarni, Rudra Satakarni, Kumbha Satakarni and Karna Satakarni.

There are kings of many other North Indian dynasties of the pre-Mauryan period, often called as local or tribal, whose existence is revealed by the Numismatic evidence only. Many rulers of the Kushana dynasty are also known from their coins only.

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Coins sometimes give us information about the titles of kings. For example, titles of the Sakas and the Gupta emperors are known from their coins.

The coins help up to fix-up the chronology. Many of the coins mention the year in which they were issued for example, coins of Samudragupta have helped us to fix-up the exact dates of Samudragupta. The genealogy and chronology of the karddamaka Sakas who ruled about three hundred years, which is reconstructed mainly with the help of their coins. There coins given the year in which they were issued along with the name and title of issuer and also the name and title of issuer's father and thus these coins reveal to us the relations between two kings such as father-son or uncle-nephew or brother relationship.

The great importance or Numismatic evidence for reconstruction of political history is beyond question. For example it confirms important political events. The fact that a Demetrius – a Parthian king ruled in north western India is proved by his bilingual coins both – silver and copper. Numismatic evidence also reveals important facts about Sytho-parthian and Kushana age, numismatic testimony is of immense value. Also for the study of Gupta political history, coins play an important role. For a historian, Gupta coins are one of the basic source material for the reconstitution of the Gupta history. For example, the fact that Kumaragupta – I performed an Ashvamedha sacrifice is known only from his coins.

The location of the coins help us to determine the extent of the territory of a king. For example, the coins of the Satavahanas give us an idea of the extent of their empire.

The ancient Indian coins are of a great value for the study of constitutional and administrative history also. Some coins bearing the legend 'Yaudheya Ganasya Jayah' and 'Malava Ganasya Jayah' of the Yaudheya and Malava republic confirm the existence of republican form of government.

Coins throw a welcome light on the history of scripts and languages also. For example, relative popularity of Brahmi Kharoshthi and Greek scripts in the age of the Kushana is indicated by their coins.

From the economic point of view, also coins are mist valuable. They throw light on several aspects of economic history. For example, the use of coins in an ancient of the dynasty usually indicates the growing poverty of its treasury. For example, the depreciation of currency during the time of Skandagupta is the best example of this nature.

'Find sots' of the coins reveal the area of the concentration of economic activities and brings to light on commercial activities, ancient Indian trade route, trade centres and the market towns. For example, the discovery of a large number of Roman gold coins in India confirms the fact that there was a brisk trade between India and the Roman Empire. Another fact that silver punch marked coins were produced in large

number in India. However silver in India is found extremely meager in quantity. This show that the silver was imported from the western countries, since, it was imported from the west, this also throws the light on Indian trade with the western countries and also the economic prosperity of India.

The ship type coins of the Satavahanas and the Pallavas suggest that it was an important tool of their economy. It also refers to the maritime activities of the rulers. Artistic execution may indicate the peaceful economic activities of the rulers. Artistic execution may indicate the peaceful economic condition of the society. Sometimes complete non availability of coins is generally taken as an indication of economic decline or backwardness.

From social and cultural point of view also coins prove to be of great value. The Gupta coins for example, give clear picture of the Royal amusements, hobbies, furniture, house materials, weapons of war and hunting etc.

The aspects of cultural life such as dress, ornaments, furniture, weapons, lifestyle etc. also can be studied with the help of coins.

Numismatic evidence furnishes valuable material for religious history. Especially the punch marked coins are a store house for religious symbols in India. The depiction of deity and symbols of coins help us in determining the associations of different cults with different regions. Sometimes temples are depicted on the coins.

In the socio religious history of India the important fact is the adoption of Indian religious by an absorptions into Hindu society by the foreign tribes which poured into India from time to time. Numismatic evidence furnished important data in this regard. They prove that many foreigners embraced Hinduism and Buddhism and some of them adopted Indian names. For example, Vasudeva – a Kushana ruler. From the coins of Mihirkula, who was a Huna invader, worshipped Nandi, the vehicle of Shiva. From the coins of Gupta it appears that Vishnu and Lakshmi were the most famous deities of the Gupta ruler. On many of coins, Goddess Lakshmi is shown seated on the throne or a lotus. Durga was also very popular during that time. The coins are also important for, they tetify the fact that some of the Gupta emperor performed Vedic sacrifices such as Ashamedha. Coins are of a great help in the study of art and iconography. From example, coins of Kanishka and Huvishka depict a large number of deities, some with peculiar iconographic features. However, the coins of Guptas mainly depict the Bramanical deities.

Coins can be studied as pieces of art, Gold coins of Gupta rulers with their numerous types and varieties are the finest example of Numismatic in India. They also indicate the advanced technical skill in the field of Metallurgy of the period.

It thus goes without saying, that coins are the most important and authentic sources because they provide a detailed information about the

'socio, economic, cultural, religious and other aspects of the life of the people of Ancient India.'

Check your progress:

1. Which European scholars published Indo – Greek Coins?

2. When did Numismatics Society' was established?

10.4 SUMMARY

Coins are an important primary source for the study of Ancient and medieval period. Coins provide information about the particular king, dynesty, trade and commerce, social organization, leadership, beliefs and mythology. The study of coins are included in the science of Numismatics. The Numismatics reveals facts and customs of the period of that coins. The historians have traced the records and authentic information about ancient dynesties and kings through the various primary sources, coins is one of the important source to write the authentic history and to analyse the proper information based on primary sources.

In the early periods, coins had played an important role of the newspapers. The Romans and Greeks used coins to announce new emporers, winning battles, holidays, celebrations and charitables events. Similarly it happens in India during Ancient period. Therefore, the study of numismatics is very ittential to trace the authentic information in the history.

10.5 QUESTIONS

1. Why Numismatics is an important science to study o the various the coins?
2. How coins are the authentice sourc to study the history?
3. What are the different phases of Numismatics to study the Indian History?

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11

ANCIENT INDIAN COINAGE

Unit Structure

11.0 OBJECTIVES:

After going through this unit the students will be able to:

1. Understand the history of coins.
2. Know the details of coins made by various dynaties
3. Analyse the contribution of Numismatics in Indian History.

11.1 INTRODUCTION

Approximately 2500 years ago, the coins were struck in India for the first time. They were used as a symbol and token of value. Thus the system of barter exchanges was replaced by the coin have been discovered in large hoards in almost all parts of India. We get a clear evidence of the coin currency in India during the Sixth century B./C. from the writings of Herodotus-a Greek historian and Panini – the author of Ashtadhyayi empire, paid 300 tablets of gold dust as annual tribute from about 518 B. C. to 350 B. C.

Panini in his Ashtadhyayi has also mentioned about the stamped metallic pieces of coins. In this book, instances of transactions in terms of Satamana, Nishka and Pada and the coin term such as Vimsatika, Trimsatika, Sana and Karshapana are mentioned.

In the Third Century B. C. Kautilya in his Arthasastra has described how coins were manufactured. He describes the method of minting coins in his book.

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11.2 PUNCH MARKED COINS

The earliest coins of the India are made of silver. These coins bear the stamps of one to five punches. Unlike today, more than one punch was used to stamp the coins. Because of its manufacturing technique these coins are known amongst the numismatists and scholars (historians) as Punch Marked Coins. The symbols were usually punched on metal pieces.

Coins:

The following are the important features of Punch Marked

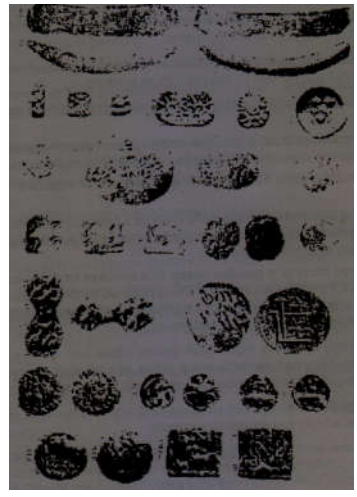
a) The earliest coins of India have only Figures, devices or symbols. They were in various forms like hills, trees, birds, animals, reptiles, human figures, floral and geometrical patterns, religious symbols etc. They did not contain and inscription.

b) The coins of ancient period have the shapes of the conceivable liner, geometrical forms, round, oval and elliptical. They bear the stamps from one to five punches.

c) The coins enable us to isolate the coins of one area from those of another one.

d) The early silver punch marked coins have been found in large numbers, scattered all over the country. The earliest of them were issued by the Janapadas and Mahajanpada was which existed after the Mahabharata war (circa 11^{th} century B.C.)

e) These coins are found only in a particular area or locality. Some or probably all of the Mahajanpadas might have been using metal as currency and money during the later Vedic period (circa 8^{th} century B.C. and after). Gradually the idea of coin must have originated among them. However it may only be said that the coins of these states were current in prior to the Fifth century B.C. and they gradually disappeared by the end of Fourth Century B.C., when the Magadha Empire extended.



Punch Marked Coins

The states which issued the Punch Marked Coins were :

1) Surasena 2) Uttar Poanchala 3) Dakshina Panchala 4) Vatsa

5) Kosala 6) Kuntala (Kunala) 7) Kasi 8) Malla 9) Magadha

10) Vanga 11) Kalinga 12) Andhra 13) Asmaka 14) Mulaka

15) Avanti 16) Saurashtra 17) Gandhara

The coins of each state differ from one another in their execution, fabric, weight, quality of metal and symbology. They have been discussed. The coins of Asmaka and Kunala were produced by pouring out molten metal on a flat board. They were stamped, when the metal was still soft.

a) The Asmaka coins were thick, circular or oval and slightly scyphate. The symbol is very simple, appears like two small pulleys attached to a bigger pulley with two separate belts. Their weights varied from 21 to 23 to 108 to 121 grains.

b) The Kunala coins were also thick and dumpy pieces, but in shape they were irregular and linear. The coins had a few small symbols around the centre. The bold symbol on these coins appears like a lotus pattern or three semi circles with rounded ends around a pellet. The coins weighted 105 and 50 grains.

c) The coins of Saurashtra were thin, small pieces of about 15 grains in weight. The symbol represented a bull surrounded by several minute symbols.

d) The coins of Saurasena, Uttar Panchala and Dakshin Panchala were approximately of 25 grains.

- Surasena coin has a cat or lion like animal placed over two inverted semicircles, taurine, triskelis, crescent etc. were found in the field on the right.
- Uttara Panchala coins had fish, bull, elephant with or without a rider as the main symbols.
- The coins of Dakshin Panchala were in about a hundred varieties according to the form and symbol. The symbols were found, composed of dots solid and hollow circles, pellets, lines, squares, taurines etc.

e) Gandhara issued coins of a peculiar shape of a concave long bar bout 1’ to 1.75” in length and about 4 centimeters in width. They appeared as the Bent Bars. The common symbol was circular design composed of six tridents and pellets radiating from a central circle. They weighed between 150 to 180 grains.

f) The coins of Vanga were thin, rectangular pieces, about half inch in size and 50 to 52 grains in weight. They had symbols like a single

decked ship, a wheel, a six armed symbol consisting of six arrows placed around on double circle.

g) Vatsa coins were thin in fabric which weighed 42 grains. The symbols were geometrical pattern, animals, whorls and six armed symbols.

h) Earlier Kosala coins were broad, thin and roundish pieces and later coins were a medium thick fabric. The symbols on these coins were mostly geometrical patterns, elephant, bull and hare, some forms of the trees also seen. These coins weighted only 42 grains.

i) The coins of Kasi appeared a little saucer – like due to the mode of punching the symbols. The symbols were composed of a compiled form of whorls, consisting of four arms and having several curved branches. Some symbols appeared like a lotus pattern. They weighed 75 grains.

j) The Andhra coins were thin pieces of irregular shape and bore neatly punched symbols. An elephant facing left or right was the most common and was found on almost all coins. The other symbols were a conventionalized form tree, geometrical pattern made by circles, taurine, dots etc. occasionally bull was also found. The coins weighted about 20 grains.

k) The Kalinga coins were very similar to Andhra coins in their fabric and weight. They also followed one of its varieties for their symbols. They seemed to be interrelated with Andhra Coins.

l) Some of the coins of the kingdom of Malla were dumpy, thick and weighed 65 grains while some others weighed from 10-12 to 48-50 grains. They had two symbols. These were simple geometrical patterns.

m) Magadha coins were grouped into two periods.

1) The coins which were issued when Magadha was merely a kingdom.

2) The coins which were issued during the period of its imperial expansion.

They weighed in three groups : 46 to 49 grains, 92 to 97 grains and 125 grains. Some coins were oval shaped flat pieces round or elliptical. The symbols on them were lotus patterns, a symbol of common type which appeared to be six armed symbol.

Important Symbols found on the Punch Marked Coins:

i) On the main variety of wheel marked coins occurred the wheels or sun like design.

ii) A mountain of three or more peaks with or without crescent.

iii) Among the animals shown were the elephant, bull, dog, hare etc.

iv) Trees and branches also played significant part in the symbols of the punch marked coins. They were shown in several forms. The most common of them had the tree in railing.

v) Rarely weapon and tools were shown. They contained bow and arrow with or without taurine symbols.

vi) One very common symbol was caduceus arrangements of squares or triangles were also found.

vii) The symbols apparently represented buildings.

viii) Sometimes, human figures were also found. The most important was the group of 3 human figures struck by one punch.

Symbols found on Punch Marked Coins

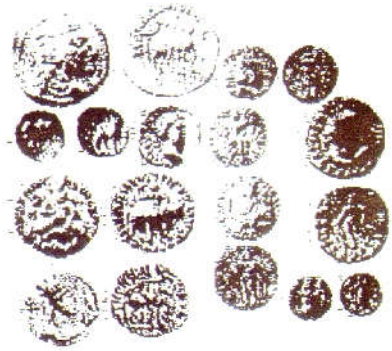
The Interpretation of the Punch Marked Coins :

The interpretation of Punch marked symbols on the coin is a matter of guess work. Some scholars think that they are religious in nature. Others feel that they are official marks adopted freely from animal and plant world. Sometimes it is assumed that they stand for ruling dynasties or kings while some scholars are of the opinion that they stand for ruling dynasties or kinds while some scholars are of the opinion that they are marks of the bankers.

The issue of these silver punch marked coins stopped sometime in the second century B.C. However the coinage exerted a wide influence during the next 400 to 500 years. During this period, the punch marked coins of Magadha continued to be in circulation.

The copper came into use for coins most likely during the time of the Mauryan and Kautilya refers to them. But copper punch marked coins were very rare and were most likely local issues, which were issued in the post Mauryan period.

11.3 KUSHANA COINAGE



Coins of the Kushanas

After the disintegration of the Mauryan Empire, a number of smaller state emerged in India. The North-western part of India was occupied by foreign rulers such as the Indo-Greeks, Parthians and Shakas. They issued coins of Greek style in India. It obviously influenced the Indian coinage. From about 2nd century B.C. onwards many ruling dynasties of India, as well as the republics were highly influenced by the Greek Pattern of coinage.

In the beginning of Christian era, the Kushanas became predominant in North India and Afghanistan. For the first time, Gold coinage with legends in Greek, Brahmi and Kharosthi scripts was introduced by the Kushanas, known to Chinese as Yueh-chi.

Yueh-chi was a nomadic tribe and their homeland was the Chinese Turkistan. They were forced to migrate from their homeland. They arrived in the Oxus region and settled at Bactria. They stayed there for about hundred years. After that a prince of Kue-shuang of Indo-Parthian realm in Afghanistan, Gandhar and lower swat valley. His successors spread their rule in the North Indian territories. The Kushanas occupied the land upto Varanasi in the east lasted for more than a century. According to some scholars, the Kushanas had moved into Bihar and the Gangetic delta in Bengal and probably also in Orissa. The original name of the tribe was lost in the course of time they were referred to as Kushanas in their coins and the inscription. They are mentioned in Buddhist literature such as Madhyamik sutra by Nagarjuna and Buddhacharita by Ashvaghosha.

a) Coins of Kujula Kadfises: He was the first Kushana ruler of India.

The earliest Indian Kushana coins were issued by him. They were made by copper. On some of these coins the symbols were a bull on the one side and a double humped Bactrian Camel on the other. On some coins Hermaeus was depicted on one side of the coin and Herakles on the other. He issued some other type of coin on which Roman style male head was depicted on one side and on the other was shown a male

dressed in Indo-Scythian costume and seated on a coach who was probably Kujula Kadfises.

All these coins were bilingual having Greek inscriptions on the observe and Kharosthi on the reverse.

b) Coins of Wima Kadfises : Wima was the son and successor of Kunjula Kadfises. He also issued many varieties of the coins. His coins were radically different from his father's he issued copper coins like his father and also extensive gold coins for the first time in India. Probably he issued these coins inspired by Roman gold coins – that were pouring into India in plenty through trade. He issued gold coins of 3 denominations which were Double Dinara, Dinara and Quarter Dinara. The last one was rare.

Wima is portrayed on observe side of these coin as an elderly man in various moods, i.e.

1) Seated on a coach

2) Seated at a window

3) Riding on an elephant

4) Standing sacrificing at an alter etc.

On the reverse sides of these coins were – 'Mahishwara Sarvaloka Ishvara.' This shows that he had identified himself with Shaivism. His coin were also bilingual – i.e. Greek and Kharosthi. He was succeeded by Kanishka.

c) Coins of Kanishka : Kanishka issued coins in gold and copper and on them he used the same type of his father's portrait standing, holding a spear in his hand etc. On the reverse of his coins many deities were depicted. He introduced three deities with Greek name. But they were not portrayed on their iconographic forms.

He also introduced some mid-Iranian (Bactrian or Khotanese) deities on his coins. These were a number of deities make and female, bearing the Iranian names Mihira or Mithra. Mao (moon), Oado (vayu), Athsho (fire), Mazdhah (supreme Zoroastrian deity) etc. These coins bear legend – 'Shaona no shao kaneshki koshana'. Kanishka also retained Shiva of his father's coins under the name of osho (shiva). He introduced the figure of Buddha with the legend 'Bodo' or 'Sakamano Boddo' (Shakyamani Buddha). He stopped the bilingual tradition of Greek and Kharosthi and retained only Greek legend. His coins were of two denominations i.e. Dinara and Quarter Dinara.

d) Coins of Huvishka: Kanishka was succeeded by Havishka. He also issued gold and copper coins on which he was portrayed I various moods. The inscription on the coins is informally 'Shao Nano Shao Oeshki Kushana'. All the Iranian deities seen on the cons of Kanishka were also seen of the coins of Huvishka. Besides, he added to the list of

deities a number of new ones. His coins also had a few non Iranian deities such as Herakles (the Greek God). Oron (Varuna) etc. Some Indian gods such as Shiva with his consort Ommo (Uma), their son Kartikeya also find place on his gold coins. Skandakumra and vizago (vishkha) also were depicted on his coins.

e) Coins of Vasudeva: Vasudeva succeeded Huvishka. He also issued coins on which he himself was portrayed on one side and three deities – Nana, Oesho (shiva) and Vasudeva. Vasudeva has come to light only recently from a coin. His Oeho (shiva) type coins were well struck and neatly engraved.

Coins of later Kushana Rulers:

The Kushana coins of later rulers such as Kanishka – II, Vasishka etc. are also available for the historical studies. On these coins, the deity Oesho was replaced by the Goddess Ardoksho. Recently a coin bearing the name of Masra of this kushana dynasty has been found. This has revealed the fact that he was the last ruler of the dynasty. With his rule ended the kushana dynasty in India.

11.4 COINS OF THE SATVAHANAS AND THE SAKAS

The coins of Satvahanas:

The successors of the Mauryas in western Deccan were the Andhra-Satvahanas. In the puranic lists they were mentioned as Andhras. However the inscriptions refer to this dynasty as Satvahanas. According to some puranas, there were thirty kings of this dynasty, who ruled for more than 450 years. According to Matsya Purana, the duration of dynasty was 460 years and Brahmanda Purana, it was 456 years. Simuka (Shrimukha) was the founder of dynasty as is mentioned in the puranas.

However, when we analyse, and study the numismatic evidence of this Andhra-Satvahana dynasty, it gives an entirely different historical picture. The first twenty one rulers of the dynasty mentioned in the Puranic lists are not familiar with our numismatic series. It is only the last nine rulers of the Puranic lists whose historicity is supported from coins.

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Silver Portrait Coins of the Satvahanas

These nine rulers issued their own coins and these coins show that they were the rulers of some considerable importance. They were – Sri Pulumavi, Siva-Sri Pulumavi, Skanda Satkarni, Sri- Yjna Satkarni, Vijay Satkarni and Karna Satkarni who issued their own coins but are not mentioned in the puranic lists.

Some copper punch marked coins bearing a legend on them as 'Sri-sata and 'Sir Satkarni' have been found in Gujarat, Malwa, Saurashtra, Maharashtra regions. These rulers have been identified as 'Sri svati' and Gautamiputra Satkarni by Dr. P. L. Gupta.

One of the notable features of the Satvahana coinage is that, they are of different labrics and motifs, made of lead and copper.

In Gujarat – Malwa region, their coins bear the figure of a lion predominantly. In Gujarat Saurashtra region, their coins have an elephant on one side and a tree railing on the other side. In Maharashtra, a large number of lead, copper and potin coins are found. An elephant with trunk upraised is shown on them as main symbol.

Besides lead, copper and potin coins at least seven of the Satvahana rulers issued Silver coins. They were – Vasisthiputra Pulumavi, Vasisthiputra Satkarni, Vasisthiputra Sivasa Pulumavi, Gautamiputra Satkarni, Gautamiputra Yajnasri Satkarni, Skandasri Satkarni and Vijaya Satkarni. Some of these silver coins bear their life like portrait – heads in Roman tradition on the obverse with the name in Brahmi script and Prakrit language. The main symbols on them are a six arched hill and an Ujjain symbol with a common legend on them. The legends are written either in Tamil or Telugu language. Perhaps this is earliest example of the bilingual coins bearing two indigenous languages.

One notable thing of these silver coins is that, Gautamiputra Satkarni, who was perhaps the most powerful king of the dynasty, did not issue any silver coins of his own. He only counterstruck the silver coins of his vanquished for, Nahapana – the western Kshatrapa – with his own devices – a hill symbol with the legend –

'Rano Gautamiputasasiri – Sataknisa' on the one side and the Ujjain symbol on the other. This is evident by a discovery of a hoard of some 13,000 coins of Nahapana was discovered at Jogalthembi in the Nasik district of Maharashtra. Many of these coins had been restruck by Satavahana king Gautamiputra Satakarni. This clearly reveals the historical fact that – 'Nahapana' sometimes had conquered the Konkan and western Maharashtra from the Satavahanas as is evident by their inscriptions. However, these territories had been re conquered by Gautamiputra is evident by coins of Nahapana, which Gautamiputra had restruck.

The Satavahana coinage was highly influenced by the Graseco – Roman coinage is explained by Dr. H.S. Thosar as given below:

a) The Satavahanas started the use of election in their coinage from the imitation of Romans. Such coins belonging to Sri Satkarni, Vsisthiputra Pulumavi and Kochhiputra Satakarni were found. In this coinage, the Satavahanas not only adopted the mixture of different metals but also the western technique of weight standard.

b) The practice of engraving the portrait or mask of the kind on con was adaptation by the Satavanas from the Romans which is mostly found on the coins of Pulumavi and Yajnasri Satakarni.

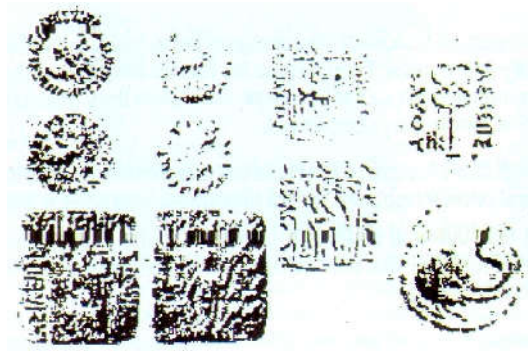
c) Sophistication and variety were among other characteristics which the Satavahanas borrowed from the Roman coinage. For example, some coins of Yajnasri Satakarni display different stages of his life. In some of the coin his mask looks middle aged and elderly one. In the hair style the Hellenistic effect is clearly seen.

d) The classic example of Graceo – Roman influence on the Satavahana coinage is the joint silver coin of Sri-Satakarni and his queen Naganika. It reminds us of the coin of Hermaeus and his consort Calliope.

e) The ship type of coins of Pulumavi and Yajnasri were inspired by the Roman Counter parts issued by the Roman Emperors Hardrian and Commodus.

The Satavahanas has thus a major contribution in the development of ancient Indian coinage. Their coinage was in circulation in the major parts of India, stretching from Vidisha in the north to Kanchipura in the south and from the Arabian sea in west to the Bay of Bengal in the east. Almost all the Satavahana kings had issued their own coinage. They followed uniform weight standard and fixed the relative value of coins of different metal. The main symbols on the Satavahana coinage include bull, elephant, hill, tree, conch, lion, chakra, horse, ship, auspicious signs and Ujjain symbol.

The Sakas (Western Kshatrapas):



Coins of the Sakas

The Western Kshatrapas were the contemporary of the Satavahanas. While Satavahanas ruled in Western Deccan, the Sakas ruled mainly over the Western coastal region of Gujarat and Maharashtra, especially, in Gujarat, Saurashtra and Malwa. They were grouped into two dynasties viz.

1) The Kshaharatas – consisting of more than twenty five rulers.

2) The Karddamakas – consisting of two rulers.

1) The Kshaharapa Family:

Bhumaka was the first member of Kshaharata family and only a few copper coins issued by him are found in the coastal regions of Gujarat, Saurashtra and Mava. His coins bear the name 'Bhumaka' on both the sides, one in Brahmi script and Sanskrit language and another in Kharosthi script and in Prakrit language. He was succeed by Nahapana.

Nahapana - He issued silver coins. The notable feature of his coins is that they are Triscriptural. The blundered mixture of Graeco-

Roman characters on the obverse, with an exact translation of Prakrit legend, which is written on the reverse in Brahmi and Kharosthi. A few copper coins of Nahapana have also been found.

2) The Karaddamaka Sakas:

The first member of this family was Chastana. He issued silver coins. His earlier coins had traces of a Graeco-Roman legend which underwent a change into partly ornamental design. The main symbol on his coins are – a crescent and a star, three arched hill surmounted with a crescent. The legends on these coins are in Brahmi script. The Karddamaka Sakas issued coins in silver and potin commonly and copper rarely. A few led pieces attributed to Swami Rudradaman III have been found who was a later ruler.

The important features of the Saka coinage :

The most important feature of the coinage of these rulers is that the Brahmi inscriptions on the coins are fully informative. They give us the names and titles of the issuers. Sometime they give us the names and titles of the issuers. Sometime they give the names and titles of their father or relative, whom they succeeded.

Another important feature of the Saka coins is that the system of the year of issue of the coins in numerals was introduced for the first time on the obverse of these coins. It was introduced during the region of Jivadaman. These Saka coins are the earliest coins with dates which help us in fixing the chronology of the western Kshatrapas as well as their contemporary ruling dynasties.

Depicting higher as well as lower tiles of kinds is a unique feature of the Saka coins especially the coins of the Karddamaka dynasty bear a higher title such as 'Maha Kshatrapa' and a lower title 'Kshatrapa.'

The module and the weight of these coins appear to have been based on the Indo-Greek of Roman silver coins.

The Sakas issued chiefly the silver coins, very few copper, potin and lead coins of these rulers have been found.

The symbols on the coins of chastana, a horse is depicted, while on the coins of Jayadaman, jivadaman, Rudradaman-I, bul id depicted. On some other coins an elephant is seen.

Their coinage was similar to the coinage of the Kushanas on one side and to that of the Satavahanas on the other.

11.5 COINS OF THE GUPTAS

The disintegration of the Mauryan Empire resulted in the rise of many republics in Northern India. They were Malavas, Yaudheyas, Kunindas, Arjunayana etc. These republics issued the coins, some of them bearing the legend on them like 'Yaudheya Ganasya Jayah'. 'Malava Ganasya Jayah' etc.

However the first quarter of the fourth century A.D. saw the foundation of an empire by the Gupta family. The reign of Guptas in Indian history is a fascinating one. As a matter of fact, it saw a prosperous and plentiful life. The founder of the dynasty was 'Sri Gupta'. This dynasty produced emperors of class, who consolidated the political power of India. As compared to the empire of the Mauryas, Gupta empire was less extensive, but more enduring that the Mauryas. This period witnessed the growth of arts and science in all the conceivable branches of learning. Almost all the Gupta rulers issued their own coins. The coins of the Gupta rulers are very useful for the reconstruction of their history. These coins can be classified into four groups viz.,

a) Gupta Gold Coins b) Gupta Silver Coins

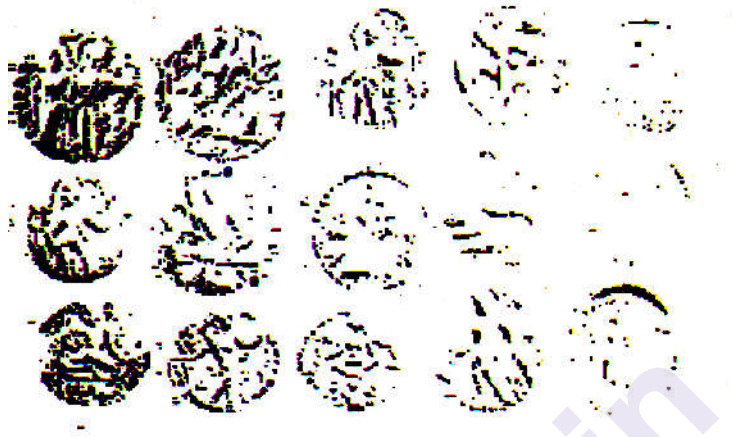
c) Gupta Copper Coins d) Gupta Lead Coins

a) Gupta Gold Coins:

The Gupta emperors chiefly issued Gold Coins. They issued them in such a large numbers, that a contemporary poet has rightly termed the phenomenon as 'a reign of gold'.

The earlier gold coins of the Guptas were deeply influenced by the coinage of the later Kushanas. But the later Gupta coinage show more superiority in their execution, and they are considerably original in their style. The influence of the Kushana coins on the early coins of the Guptas is seen especially in their dress and posture as depicted on their coins. For example, the early coins of the Guptas show the standing king at the altar.

This is very much similar in pose and posture of the kings as shown of the Kushana coins. The king on these coins is seen wearing the Kushana long – coat and trousers of the Kushana pattern are replaced by Indian Dhoti and the form was changed as the kind is shown bare bodied. It must be remembered that the art of Indian coinage reached the zenith during the period of Chandragupta – I.



Gupta Coins

The following are the notable stages of development of the Gupta coinage:

a) The Guptas retained the method of placing the name of the king perpendicularly in Chinese fashion on the left hand.

b) They placed a circular Brahmi inscription around the king towards the edge of the flan.

c) On the reverse side of the early coins of the Gupta rulers, Greek Goddess Ardoksho was retained. Gradually, this pattern was changed, and Lakshmi, an Indian Goddess with a lotus in her hand is depicted on the coin. On some coins she is shown, seated on a throne and on some others seated on a lotus.

d) The system of naming the deity as is seen on the kushana coins was replaced on the above coins with epithet on the issuing king by the Gupta rulers.

e) The archer type coins of the Guptas are most common coins issued by al the rulers of Gupta dynasty. Generally these coins show the king who is holding a bo0w in his left hand. Sometimes the kind also holds an arrow in his right hand.

The coins of Chandragupta – II and Kumaragupta – I of this type were issued I a number of varieties and sub-varieties. These coins show the king in

- Different postures, figures either left or the right
- Wearing a dress or bare bodied and,
- Many other variations in the depiction.

However, Samudragupta issued the coins mostly depicting him with a spear or a standard. A few coins of this type were issued by Chandragupta – II also. A coin of Kumaragupta – I and a few coins of Samudragupta depict them holding a sword in place of standard. Samudragupta issued another type of coin of this series.

There he hold a battle axe, his right hand is on his hip and a dwarf is standing on his right.

Besides the above mentioned coins, the Guptas issued coins of many other types. These coins are truly original in this contents and are excellent in their art. These are as follows :

a) On one of the types of the coins, we see both the king and queen are portrayed. They were issued by Chandragupta – I, Kumaragupta – I and Skandagupta. Chandragupta – I's coins bear the names of both i.e. Chandragupta and his consort Kumaradevi. But Kumaragupta I and Skandagupta's coins dot not mention the names of their queens.

b) On another the coins, the king is shown seated on the coach, playing the Indian Lute (vina). This lyrist type coins were issued by Samudragupta and Kumaragupta – I. In these coins, the king is portrayed in Indian dress. The excellent modeling of the king's figure, the skillful delineation of the features and the careful attention to details rank these coins amongst the best expression of the excellence of the Numismatic art of the Guptas.

c) Riding on a horse or elephant, shown on some other coins, shows the royal interest in riding. Some coins of Chandragupta

– II, Kumaragupta – I are portrayed as riding on horse. On some are coins, Kumaragupta – I is shown riding an elephant.

d) Royal interest in hunting also has become the subject of some other coins; Samudragupta's interest in hunting wild animals is portrayed on his tiger – slayer type coins. Chandragupta – II issued coins of the Lion – Slayer type and Kumaragupta issued both types and added another type of coins, riding a horse and killing a rhinoceros and on the other type, riding an elephant and killing a lion.

On these coins, the issuing kings are generally shown shooting the animal with now and arrow. However on a unique coin, Chandragupta – II is portrayed as attacking a lion with his Sword.

e) On one of the types of coins, the king is portrayed with dwarf, male attendant who is holding a chhatra (parasol) at the back. On one type of Kumaragupta-I' coin, three standing figures are shown.

f) Ashvamedha type coins were issued by Samudragupta and Kumaragupta – I. These coins do not have a figure of the king, but show figure of the horse tied to a sacrificial post. Probably these coins were issued for distribution of Dakshina amongst the priests who has participated in their Ashvamedha Sacrifices.

g) On the reverse side of all the coins, the Goddess is shown either sitting or standing. On some coins were she is seen riding

a lion, she may be identified as Durga. On some, where she is standing over a crocodile, she may be Ganga. On some coins, the Goddess is seen seated in profile on a wicker stool. One type of Kumaragupta –I's coin, the God Kumara (Kartikeya) is shown seated on his peacock.

h) Most of the inscriptions of Gupta coins are in the form of a verse celebrating in highly ornate language. The king's glory on the earth and his further bliss in the heaven attained through this merits. 6 different legends are noticed on the coins of Samudragupta, 10 on Chandragupta – II and nearly 24 on the coins of Kumaragupta – I.

b) Gupta Silver Coins:

No silver coins of the early Gupta rulers are known. However, silver and copper coins of the Guptas were issued for the first time by Chandragupta – II, when he came into contact with the Malwa region, where the silver coins of the Sakas were in use. These silver coins follow the Kshatrapa coins only. On the obverse side of these coins, kings' bust appears with the date of Gupta era, and on the reverse, the symbol of the Sakas coins is replaced by the figure of Garuda. But these silver coins of Chandragupta – II are few in number and are found mostly to the western regions of his empire. Kumaragupta – I also issued silver coins in large number in Gujarat – Saurashtra territories of his empire. But the metal of his silver coins is debased. As a result, sometimes it appears to be made of copper. On reverse side of some of the coins, Garuda is replaced by fan tailed peacock. These coins are rare and found in eastern part of his empire (called as eastern type).

Samudragupta also issued silver coins of both the above types (western and eastern). He also issued two new types – having a bull or fire alter on the reverse. The notable feature of his coins is that the debasement of metal that is found in silver coins of Kumaragupta – I is quite absent.

Budhagupta was the last ruler, who issued silver coins. His coins are only of eastern type and are extremely rare.

c) Gupta Copper Coins:

Copper coins of the Gupta rulers are very rare. They were issued only by Samudragupta, Chandragupta II and Kumaragupta I. Only a copper coin of Samudragupta has recently come to light. Copper coins of Chandragupta – II and Kumaragupta – I are in seven or eight varieties and follow the gold or silver patterns for their obverse side. On the reverse, the Gutpa Royal Seal served as the Prototype – a Garuda with the wings spread at the top and the name and title of the king below it.

d) Gupta Lead Coins:

Some square lead coins of Chandragupta – II, Kumaragupta

– II and Skandagupta have come to light in the recent years. They are found only in Gujarat – Malwa region.

The description of the Gupta gold currency during the later period, country passed through an uneven situation. It was mainly due to the foreign invasion by the Hunas.

After the disintegration of the Gupta Empire, Indian economy faced a great west – back due to which, Indian coinage saw the downward trend. The succeeding dynasties such as Chalukyas of Badami, Gurjara Pratiharas. The Rashtrakutas etc. issued their own coins. But by far the Gupta coins were the best.

Check Your Progress:

1. Which Ancient Dynesy had issued gold coins?

2. What was the important features of panchmark coins?

11.7 SUMMARY

The study of coinage in Indian history is called Numismatics. In this unit the period of ancient India coinage traced to understand the authentic history based on primary sources. The coins in different forms and metals are created by the various dynesties and the kings. Maurya, Guptas, Chalukyas, Pratiharas, Rashtrakutas, Satvahana has created their own coins. The history of ancient India written by the historians and scholars based on the primary sources. Coinage has its own importance in the study of history.

11.8 QUESTIONS

1) What is numismatics? Trace the growth of Numismatical studies in India during the 18^{th} and 19^{th} centuries.

2) Write an essay on the Punch Marked Coins of India.

3) Discuss the importance of the Kaushana coinage for the reconstruction of Ancient Indian history.

4) Give a brief account of the Gupta Coinage as a source material for the reconstruction of ancient Indian history.

5) Write short notes on :

a) Developments in Numismatical studies during the 20^{th} Century.

b) Satavahana coins c) Gupta gold coins

d) Silver and copper coins of the Guptas.

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