



ARCHEOLOGICAL ANTHROPOLOGY NOTES

By MANDAR JAYANT PATKI (AIR 22 CSE 2019)

Following notes are accumulation from various resources mentioned below:

- Indian Prehistory by D. K. Bhattacharya
- Sachin Gupta (AIR 3 2017) sir's Notes and Answer copies
- IGNOU M.A. Material on Archeology

HOW TO UTILIZE THIS NOTES?

1. Following notes are VERY VERY descriptive. It is neither necessary, nor desirable from an aspirant to memorize all the details.
2. Aspirants can take a note of Important broad details (e.g- Feature of particular age, Regional variations of age, Socio-cultural features of age, Tool diagram and tool technology). No need of memorizing details of each and every sites.
3. Diagrams play vital role in Archeology. Do use them smartly.
4. UPSC is focusing more on Indian Archeology (even in Paper I). thus, focus on Indian archeology more.
5. Revise archeology multiple times. Because, many times, false feeling of understanding gets developed and we find ourselves in position of not able to write a single line about any age.
6. Prepare some important sites- langhnaj, Teri, etc. UPSC ask short note on such sites.

INDEX

CONTENT	PAGE NO
Terminology in Archeology	1
- Chrono-cultural ages	3
History of Development of Archeology in India	6
Lower Paleolithic/ Early stone age	12
Middle Paleolithic	26
Upper Paleolithic	32
Mesolithic Culture	38
Neolithic Culture	54
Chalcolithic Culture	74
- Copper Hoard culture	77
- Extra- Harappan Chalcolithic	81
Iron Age	93
Megalithic culture in India	103

TERMINOLOGY IN ARCHEOLOGY

* Evolution of designation of cultural past:

① P.F. Suhm (1776) : Divided cultural stages in prehistoric Denmark as

- Stone Age
- Bronze Age
- Iron Age.

② C.J. Thomsen (1836) - followed above.

③ Lubbock - French scholar divided stone Age into

- Palaolithic
- Neolithic.

based on stone tools.

④ Lartet (1870s) - Advocated that Neolithic form recent human past compared to Palaolithic.

Divided stone Age

- Upper P.
- Middle P.
- Lower P.

↳ Most widely used classification which was based on change in fauna in diff. Palaolithic industries.

⑤ Gabriel de Mortillet (1930) criticised

attempt to compartmentalisation of stages, thus advocated chronological scheme of cultural sequence.

• Chronological ages - Grahm & Leakey (1952)
advocated use of purely chronological nomenclature for designating prehistoric cultures. But it could not be used as Neolithic & chalcolithic period cannot be given any common & acceptable chronological definition worldwide

• Economic Ages - Thompson & Brodwood (1962)
Advocated following based on subsistence
i) Food gathering period - early part of Palaeolithic.
ii) Food collecting period - later part of Palaeolithic (of organised hunting & selective collecting)
iii) Food producing - beginning of Agriculture.
↳ However rejected as this terms also includes many present day population into prehistoric meanings.

• Terminology today used are same as suggested by Lartet, but having stricter definitional controls on them.

• Chrono-cultural Ages

① Palaeolithic: earliest of human culture

occurring within Pleistocene period.

It comprise of stone tools prepared with low expenditure of energy in their manufacture.

subsistence economy at this stage is hunting & gathering.

↳ further Division on cultural features:

① Lower P. - core tools of medium to massive shape.

② Middle P. - flake tools with preponderance of side scrapers.

③ Upper P. - thick elongated tools along with bone tools as well as art execution.

④ Epi-Palaeolithic - terminal pleistocene stage of culture with blade tool (with intermediate size of upper P. & Mesolithic)

② Mesolithic: Earliest Holocene culture which shows no indication of change in economy from palaeolithic is termed as mesolithic.

It is characterised by microlithization.

hafting of various tools on organic handles emerged in this phase.

The tradition of composite tool manf lead to specialisation in microlithic types.

③ Neolithic: Last stage of stone ages in human history which precedes the discovery of Metals is Neolithic.

If shows following socio-eco features:

i> Evidence of food production with precise evidence of domesticated variety of cereals.

ii> Evidence of Animal domestication in which animal anatomy shows adoption of non-competitive existence.

example: Man eating tigers in Lakhimpur-Kheri district (UP) developing attributes of domestication in their bones.

iii> evidence of sedentism as sign of reduced mobility due to agri.

Social control mechanism to control conflict in large groups involved in agriculture.

(iv) chalcolithic: cultural period marked by emergence of metals like copper, gold & man^t and alloying is chalcolithic. As such emergent technology can never replace earlier technique, off stone tools continued, thus terming culture as chalco-lithic
↳ Debate on whether chalcolithic sites be identified by mere presence of metal or knowledge of metallurgy. former is more accepted as metallurgical knowledge evidence can only be found in site of ore production and no archeological record can demonstrate existence of such knowledge.

History of Development of Archeology in India.

• Archeology in India started evolving since early nineteenth century under colonial administrators.

① Col. Meadows Tylor was first to took interest in archeology (particularly in south Indian megalithics)

② Alexander Cunningham (1861) started study of historic period in northern India. However, it was Robert Bruce Foote (1863) whose work is credited to laid foundation of Indian Archeology. He studied earliest stone age period and also credited with reporting of first palaeolithic tools from India.

③ Foundation of Archaeological survey of India in 1861 was parallel with foundation of Denmark prehistoric museum. Indian archeology, tracing parallel with of France & England saw many firsts in history of development of Euro-Asiatic archeology.

④ later, spectacular discoveries of Harrappa and Mohenjodaro in early 20th cen. revolutionised Indian Archeology.

⑤ De Terra & Patterson in 1939 with Yale-Cambridge expedition published details of geological study of Potwari region in Punjab & described tool cultures. In same year, Michael Todd reported an Upper palaeolithic in stratigraphic context from Khandivli (Bombay). However, proper synthesis of retrieved fragments of past was not attempted till 1950 when Stuart Piggott in his book 'Prehistoric India' attempted synthesis. Panchanan Mishra too, before Piggott, attempted such analysis.

⑥ Archaeologist till 1940s were engaged in what Kuhn (1970) calls as 'stamp Collection', without formulating any theoretical paradigm. It was Mortimer Wheeler (1944) who trained many archaeologist in what Dhavalikar (1984) calls

'time-space' perspective. He gave many excavation techniques as well as introduced vertical sequencing method of excavated materials to Indian archaeologists.

↳ However, this 'wheelerian obsession' for constructing sequence resulted in Indian Archaeology suffering from lack of scientifically demonstrative chronological framework. Also, due to influence of American ~~and Indian~~ archaeologists who started asserting 'ecology' as dominant factor in shaping human culture, Indian Archaeology was increasing getting tangled in environmental archaeology.

⑦ Many institutes like Deccan College in 1964 attempted to bring together all info. gathered till date in Indian archaeology.

D.D. Kosambi's work on reconstructing Indian civilization & Subbarao's 'The personality of India' (1958) made remarkable contribution in this regard.

⑧ in 1967, special journal for archaeology known as 'Pratittha' (प्रतिष्ठा) started.

⑨ In 1970s, New Archaeology started impacting Indian archaeology to which Dhavalikar calls 'Bin-Clarke revolution' in Indian Archaeology.

Prof. Sankalia in D.N. Majumdar memorial lecture (1974) made efforts to explain tenets of new archaeology.

Paddayya (1985) also worked to introduce Processual archaeology in Indian context.

However, Indian archaeology, According to Prof. D.N. Bhattacharya, still remains in 'descriptive stage'. An strong analytical stage has not emerged evident in less focus on relation with culture & change.

Archaeology in India, according to Bhattacharya, has it's umbilical cord tied to history, and this kind of archaeology cannot help to understand complex civilization as India.

* Divergence b/w Indian Anthropology & Indian Archaeology:

owing to obsession with descriptive methods, Indian archaeology has largely & historically ignored subject relation with subject matter of Anthropology.

In 1st international conference on Asian Archaeology (1961) arranged on ~~the~~ Platinum jubilee of ASI showed this divergence.

The conference brought Indian archeologist on face-to-face with anthropologist on many issues. But, Archaeologist, with pandora of material culture information, choose to ignore the cultural logic of renowned anthropologists. Instead, it wedded with American archaeology with undue emphasise on environment.

- Many attempts to bring two branches closer were made.

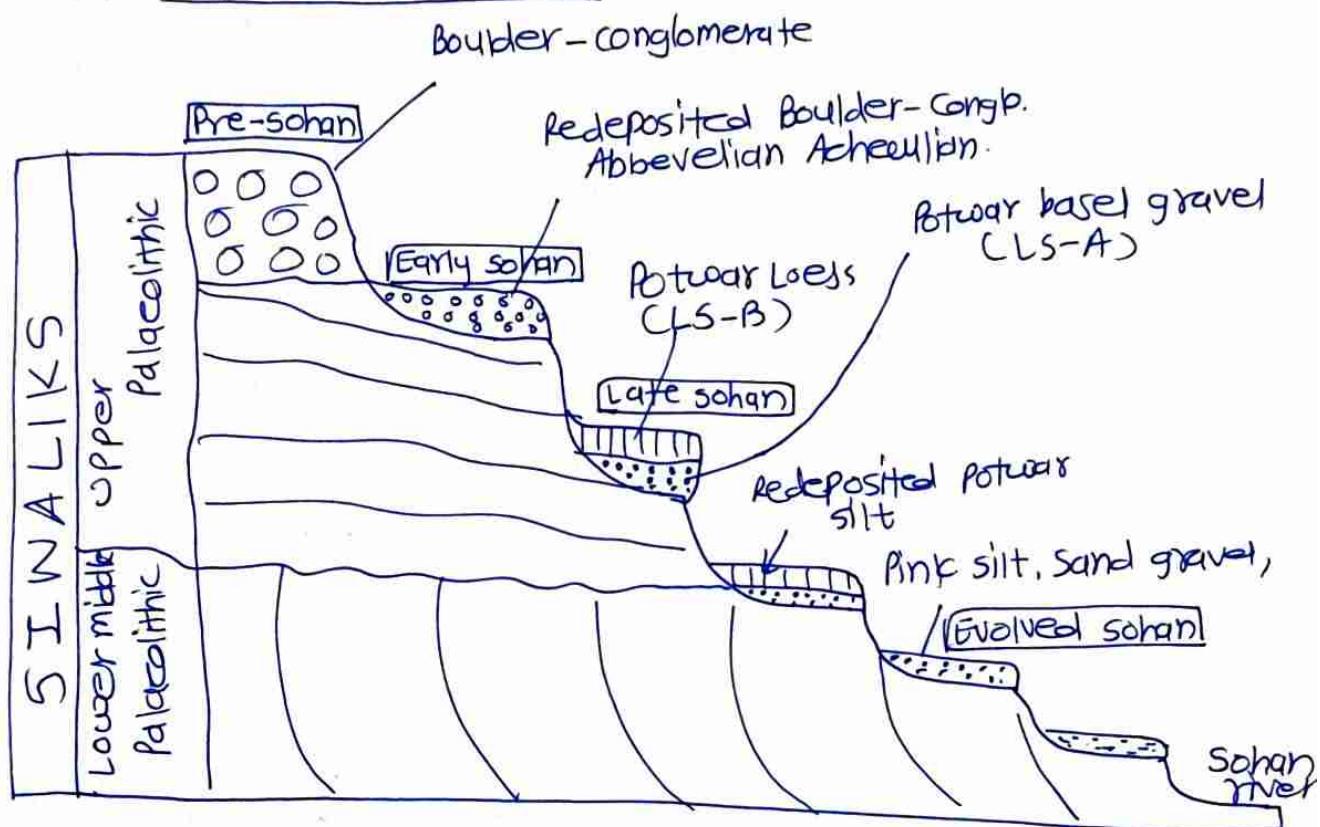
Prof. D.P. Agrawal (1970), supported changes in archaeology to use more knowledge from natural & biological sciences.

- Malik (1968) advocated more role of Indian Anthropology in archaeology.

Lower Palaeolithic or Early Stone Age.

- Indian Palaeolithic is neither chronologically homogeneous, nor culturally uniform across places.

(A) Sohan Tradition.



- stretch of 100 km plateau between Indus & Jhelum, bounded by 4 mt. ranges is known as Potwar. This terrace like feature was discovered & worked on during Yale-Cambridge expedition by De Terra and Patterson.
↳ using stratigraphic & faunal evidences, sohan culture was discovered to provide very clear climatic and hence

chronological succession.

- ① Pre-Sohan - large boulders of quartzite, all in very worn condⁿ, plain & unfaceted striking platforms tools.
↳ comparable to somme Valley (France) discovered by Gabriel de Mortillet.
↳ But, absence of any working on them suspected their identity as tool and thus termed as 'pseudo artifacts'.
↳ However, Movius (1944) and fairseনis (1975) considers this as manufacturing base of Early sohan tradition.

- ② Early-Sohan - Most tools are good size pebbles with some flakes also.

Internal chronology of this group-

i) Early sohan A - heavily worn, deeply patinated cores with no flakes

ii) Early sohan B - less worn with evidence of flaking [like clactonian flakes in England]

↳ choppers, chopping tool with work by step flaking.

iii) Early sohan C - least worn choppers, chopping tools with certain side choppers

- ③ Late Sohan - This have two stratigraphic unit as follows:

① Potwar basal gravel - (LS-A) -

older layer with basal gravel evidence
↳ chauntra → site where handaxes & cleavers are discovered.

② Potwar Loess (LS-B) - younger layer

- ↳ Late sohan was flake dominated industry with variety of flakes like levalloise flakes, circular flakes, tortoise flake & 'bladish' flakes discovered.
- ↳ De Terra & Patterson felt chauntra depicts mixture of < ^{late Sohan} Abbevillo-Acheulian tradition.

* Scholarly opinion on Sohan tradition -

[B.B. Lal], in his excavation of Beas-Banganga region in Kangra found entirely pebble dominated industry, thus supporting De Terra & Patterson's findings. [G.C. Mohapatra] discovered typical Upper Acheulian tradition in Shimla.

Considering this, chauntra is considered as Northernmost limit of Acheulian intrusion. Sohanian group, on other hand, fairly widespread further north in Tajikistan may be independent of Acheulian.

Thus, [K.V. Soundary Rajan] terms Sohan as endogenous culture.

[Dennell & Rendell], however, states that

region being highly unstable tectonically, it is improper to consider deposits as depicting succession of climatic change. In addition, many units being time-transgressive, cannot be used to mark horizons. Thus independent dating of each layer using Palaeomagnetic & radiometric dating is required. Thus, cultural features & antiquities recorded by De Terra may be correct, but inner succession seems grossly incorrect.

(B) WESTERN REGION - might be area of late colonization.

Being contiguous with Punjab, Western region with RJ & SJ has yielded signs of lower Palaeolithics. Evidence used are of faunal nature like Narmada skull or Pollen profiling in RJ or stratigraphy used in Saurashtra.

I) Rajasthan

Being rich harvest for Harappan civ., Area yielded many Palaeolithic traces

↳ Misra excavation in chittorgarh

↳ No. of sites shows exposed pebbly Conglomerate,

↳ sites along river Gambhir, Bans and Aravalli mountains shows Nearly 38% of specimen are cleavers, rest are choppers, flakes.

↳ Misra also excavated chambal valley, showing clear evidence of lower Palaeoliths.

Misra also investigated very rich Acheulian sites called Singi Talav near Didwana 'in Nagpur district, which according to him was 'earliest power palaeolithic industry' in India. with choppers & heavy hand axes.

II) Gujarat

Saurashtra peninsula, southern GU has yielded rich deposits of L.P. culture.

- ↳ sites along Sabarmati, Mahi, Narmada, Orsang & Kavjan.
- ↳ difficult to put broad chronological sense due to difficulty in stratigraphy.
- ↳ evidence of clactonian flakes, primitive choppers prepared by removal of flakes, massive Acheulian handaxes, pebble-butted handaxes & flake-deavers made by cylinder hammer techniques.

C) Lower palaeolithic popu. not only present in western region, but shows evidence of evolved into successful late Acheulians.

C) CENTRAL REGION

[De Terra] after Sohan expedition, tried to link evidences from central region, especially Narmada with glacio-fluvial deposits in sub himalayas. He tried to explain almost complete successional history of rivers of pluvial zones from 2nd glaciation onwards.

- ↳ Discovery of Narmada Man with Abbrevillo-Acheulian industry increased interest in region.

- ↳ [Gregory Possehl], in his analysis, dated this alluvial deposit much older than IInd glaciation, thus discarding Deterra's claim.
- ↳ Narmada industry has yielded massive sized handaxes, cleavers, choppers, chopping tools, clactonian flakes.
- Bhimbetka - no. of caves & rock shelters in Raisen district, discovered by V.S. Wakankar in 1962 & studied also by V.N. Misra. Misra identified 8 layers, ranging from late Acheulian to Mesolithic. He also found nearly 5000 artifacts including flake cores, hammer stones, flake cleavers is peculiarity of Bhimbetka Acheulians. Absence of chopper chopping & Abbevillian type differentiates it from other L-P. sites.
- Adamgarh - series of rock shelters on bank of Narmada in Hoshangabad district excavated by R.V. Joshi. Various features, including paintings, tools and even raw material resembles Bhimbetka. Microoliths, however are much more denser than Bhimbetka. Acheulian tools, along with handaxes & cleavers, side scrapers & points are majority.
- Belan Valley - in ~~Vindhyan~~ Vindhyan UP discovered & studied by G.F. Sharma

where he found moderate size handaxes, cleavers, flakes. Flakes here resemble to french Mousterian. This site is considered to show stage, just ready for transition to middle palaeolithic.

④ Eastern Region

Region dominated by coastal plain, drained by rivers & having hilly terrain, the eastern region provides for rich heritage of

L.P. culture.

- * ODISHA
 - Kullana & Kamarpata - Two quarry-pits formed in Mayurbhanj district by Rushablang river, discovered by N.I.C. Bose & Dhavani Sen did not yield any satisfactory result except for confirmation of L.P. industry with abundance of chopper-chopping, Abbevillian & Acheulian axes, cleavers (with pebble butts)
 - Kirnta & Bangiposi - Area ~~near~~ excavated by Valentine Ball which yielded very advanced Acheulian handaxes along with Levallois flakes, with very few chopping tools.
 - Mahanadi River - excavated by Mohapatra,

who yielded same result as of Ball.

- Sambalpur - discovery of huge L.P. assemblage by Partha with preponderance of pebbles, handaxes & cleavers. Also evidence of cylinder hammer technique & levalloise flakes.

* Bihar & West Bengal

- Ashok Ghosh in excavation of Singbhum (JH) & Midnapur (W.Bengal) discovered large no. of L.P. assemblage on hilly slopes along river Subarnarekha.
↳ poor chopper-chopping elements, however excellently preserved Late Acheulian handaxes & cleavers.

- Paisra - open air primary site in Monger district (Bihar) discovered by Pant and Jaiswal having unique features of -
 - i> strong evidence of Acheulian tradition
 - ii> Tool assemblage of flakes, cores, hammerstones, etc.
 - iii> dominate feature - levalloise flakes & flake tools.
 - iv> evidence of Megalithic settlers

- Meghalaya - large area around Rongam & adjoining hilly slopes discovered by

T.C. Sharma. Predominance of chopper-chopping tools is evident with some handaxes & cleaver with pebble butt.

However, owing to heavy raining in region, stratigraphy becomes difficult, thus difficulty in ascertaining relation with Narmada basin culture.

(E) PENINSULAR REGION.

Triangular region b/w western & eastern ghats has yielded many rich L.P. industries.

• Madrasian industry.

↳ Rich & varied L.P. assemblage was reported from Kottalager Valley in Chingleput district (TN) by Krishnaswami. He discovered large variety of massive asymmetrical Abbevillian types entirely prepared by primary flaking (which can be compared to Rostro handaxes described by Reid Moir in England), symmetrical handaxes, upper Acheulian forms like ovate and cordate.

A unique flaking was discovered which was named by François Bordes as 'para-levalloise' → first preparation of

core and then delivering a flaking blow, which must have formed inspiration for Levalloise technique.

Industry also reports absence of pebble tool as well as any flake tool types.

However, latter excavations found some of this.
↳ Grudiyam cave in recent times yielded pebble & flake tools

- other Andhra sites

- ↳ Gundlakamma River - Area explored by [Zeuner] in Kurnool district (AP), who was assisted by [K.V. Soundara Rajan], reported large variety of Abbrevillio-Acheulian handaxes, cleavers, dactonian & levalloisean flakes.
- ↳ Prakasam district - Discovered by [Madhusudhana Rao] discovered rich Acheulian site called Palery, rich with handaxes, cleavers, knives.
- ↳ Muratipalem & chintalapalem - two clusters near Tirupati discovered by [Pemi Reddy] which yielded handaxes, cleavers, side scraper, scraper-cum-borer, levalloise flake.

This variety of assemblages discovered makes Andhra one of richest centres of early Palaeolithic population.

- Karnataka -

↳ Malaprabha, Ghataprabha & Tungabhadra
Surveyed by Sheyadri, Pappu & Joshi yielded
similar result as in Maharashtra.

↳ one peculiarity about industries in KR -
absence of paucity of pebble tools
compared to Andhra Pradesh.

↳ Hungsi industry - in Gulbarga district
discovered by Padayya, who described
2 peculiarities of site: i> remarkable
freshness of tools.
ii> high concentration of artifacts.

Thus, Padayya claims Hungsi as primary
site.

- Maharashtra

↳ Cherkhi-Nevada - in Ahmadnagar, discovered
by Gudrun-Cornius having freshness
of tools as well as total absence of
flake tool which is otherwise largely
present in upper Acheulian industry.
Thus site qualifies as late-Acheulian.

Conclusion for Lower Palaeolithic-

Tentatively, L.P. in India can be accepted as emerging around early upper Pleistocene.

Even this late beginning was not universal for whole continent, like western zone that might have been site of late colonization.

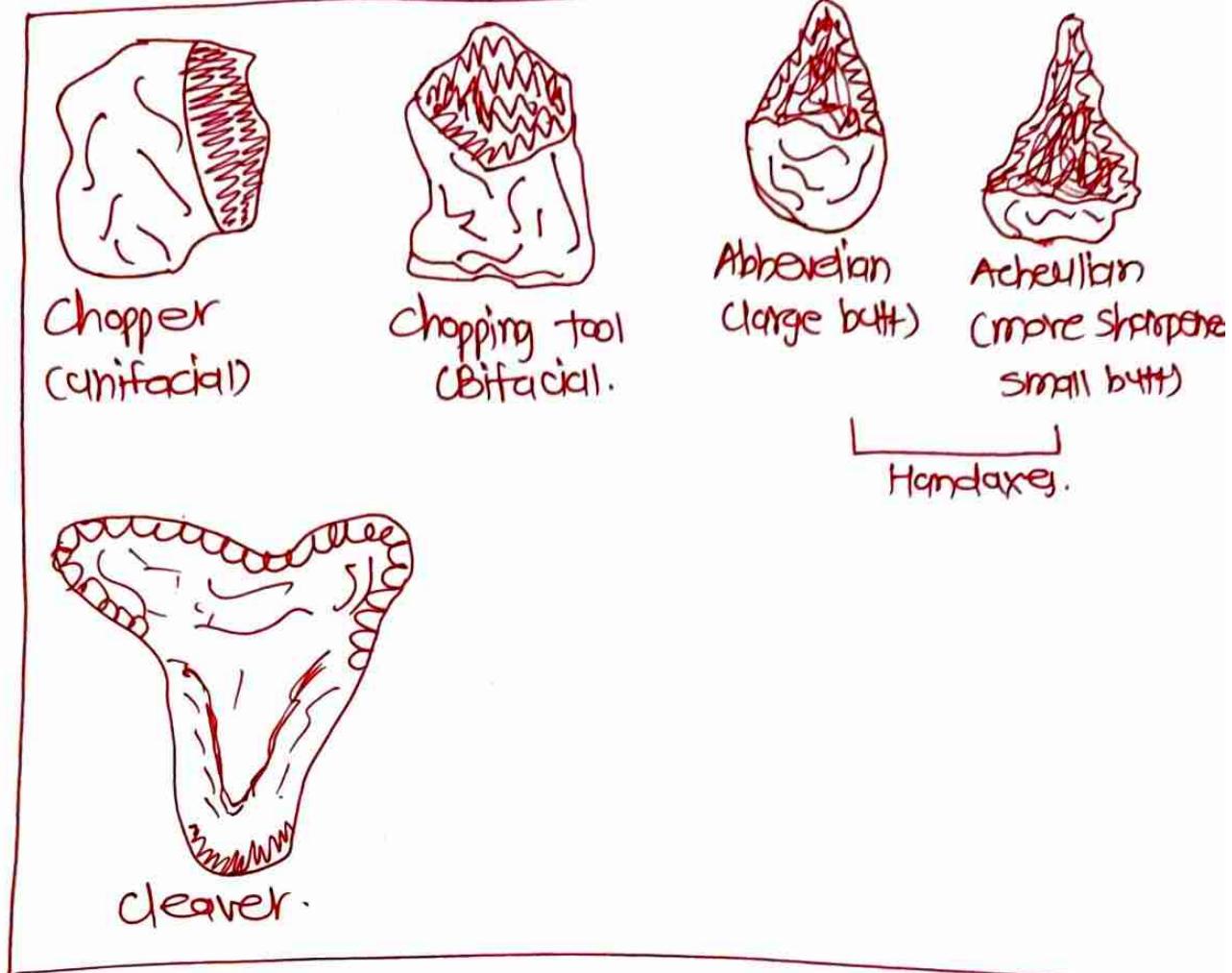
Central region (Narmada, Krishna, Mahanadi) was most thickly populated.

Abbevillian types purely intruded into Acheulian type. Acheulian tradition in India has to be much younger than Acheulian in France. Estimate of this range from 1,00,000 to 60,000 years.

* Socio-cultural features of Lower P.

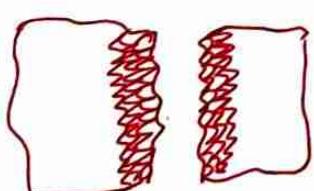
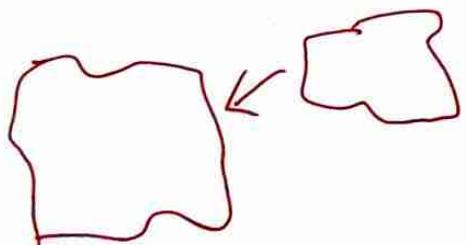
- ① Food gatherers & hunters who were nomads
- ② No clothing reported, thus naked life.
- ③ Small & dispersed population.
- ④ Hunting of large animal indicates preference of some sort of group coordination.

* Tool types

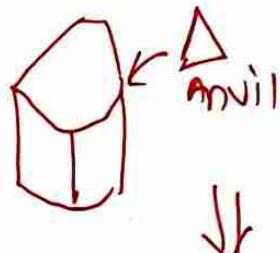


• Tool technology

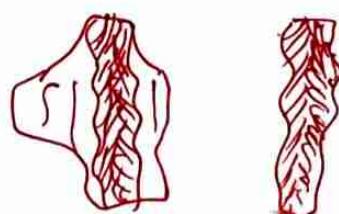
① Block on block or direct hammer



② Anvil-hammer



③ Clactonian technique.
Large flakes of considerably longer dimension are removed.



MIDDLE PALEOLITHIC

- ① Due to absence of proper stratigraphic evidence, M.P., until 1956, was not considered as distinct cultural phase. It was when in 1956, Prof. Sankalia demonstrated flake tools in depositions of Pravara river near Nevasa, that new cultural stage was recognised as middle paleolithic.
- * Features of Indian Middle paleolithic -
- ① Lack of primary sites - which does not enables to reconstruct lifestyle of past.
 - ② Distinctiveness of different industries - due to much localisation, and concentration of evidences of M.P. culture in region, Indian M.P. is referred by some scholars as Central and Deccan Indian Phenomenon.
 - ③ Complete changes in raw material - In most of cases, raw material has changed from lower to middle paleolith, thus utilized by diffusionistic theoreticians.
 - ④ ↳ However, such change is neither universal over subcontinent nor uniform to particular material.
 - ↳ but mostly to flint, jasper, & chalcedony.

④ Dominance of flake tools - flake tools, which emerged in lower P., started dominating in middle P.
↳ shift from core to flake.

⑤ Model of development - certain industries were influenced by outside cultures, while others were developed more locally

example - Moustierian in Afghanistan have more similarity with our desert zone middle P.

↳ Maharashtra-Karnataka adopts proper Levalloise based middle P. as and thus come closer to Mousteroid character.

↳ from Kumool to Chhattisgarh, middle P. was entirely local development.

↳ while Narmada maintain two distinct varieties of middle P.

Bhim betka
↓
Mousteroid Variety
without changing raw material

↓
Shivna to Damoh
variety with change in raw material, but containing handaxes, cleavers

This shows Narmada region was habitat of 2 different groups of people.

⑥ Composition of tool kit - at some places, scraper & borer dominates tool kit.

Thus Sankalia proposes that most of Indian middle P. industries were designed to shape ultimate weapons of hunting in wood, bone, antler

⑦ Typological spectrum of middle Palaeolithic -

from diverse sites:

i) side scrapers of large variety

ii) sharp points with triangular abs.

iii) Borers with thick & sturdy body which

Sankalia termed as 'scraper-cum-borers'

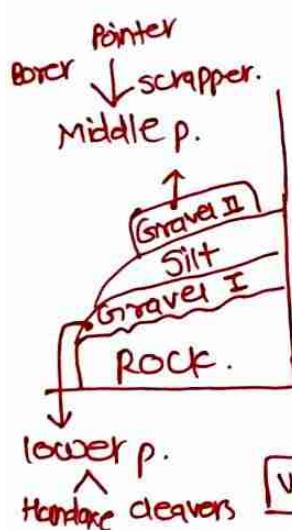
(borers showing broad & open notched)

iv) Retouched blades, Burins & end scrapers.

v) Handaxes, cleavers, choppers, chopping tools.

* Regional Variations

Analysing river-valley survey of country, it can be said that western dry zone shows quite rich, though isolated, pockets of occupation during middle palaeolithic.



① Western zone

① Nevadian industry - Most rich middle p.

↳ industry discovered by **Sankalia**
↳ Levalloise technique - well marked.

② Luni industry - high quantity of repeatedly

reworked flakes. It yields evidence of side scrapers, burins, side choppers, handaxes, cleavers, edged blades.

② Southern zone

Andhra does not record clear stratigraphic context of middle p. as in Maharashtra or K.R.

nor it records sudden change in raw material.

① Kumool - large scale excavation by
[Cannidae] tools of quartzite made by cylinder
hammer technique. Round scrapers, burin
are most common tools.

② Chittor & Nalgonda - tools developed by
cylinder hammer technique, round
scrapers, elongated blades & end scrapers.

↳ However, Levallois technique in site
is not much frequent as in Nevasa.

III Central region.

① Madhya Pradesh & Bundelkhand - Best
representation of middle p. along Narmada,
Betwa, Shivna, Chambal.

↳ evidence of patinated chert tools including
small handaxes, cleavers, choppers,
retouched flakes & flake cores.

↳ Levallois technique well marked, but
not as much as Nevasa.

② Chhattisgarh & Chotanagpur - in this region,
middle p. loses its identity and merges
with upper p.

↳ [Mohapatra] shows from records of all
Odisha rivers that pebble choppers &
blade cores were abundant.

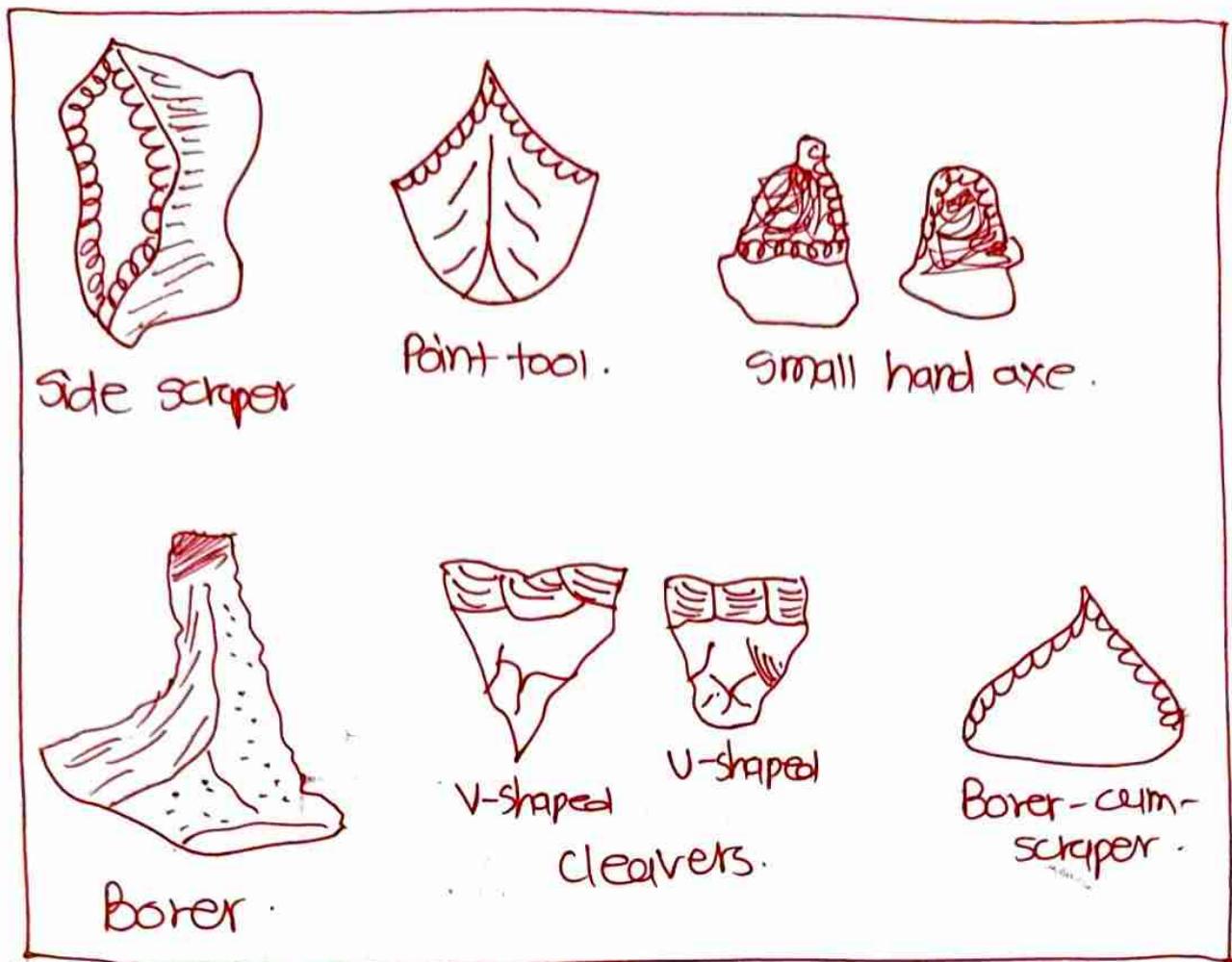
↳ [Sheila Misra 1993] - Bhedaghat on Narmada
near Jabalpur

IV Northern zone - Belan valley, like lower p., also rich in middle p.

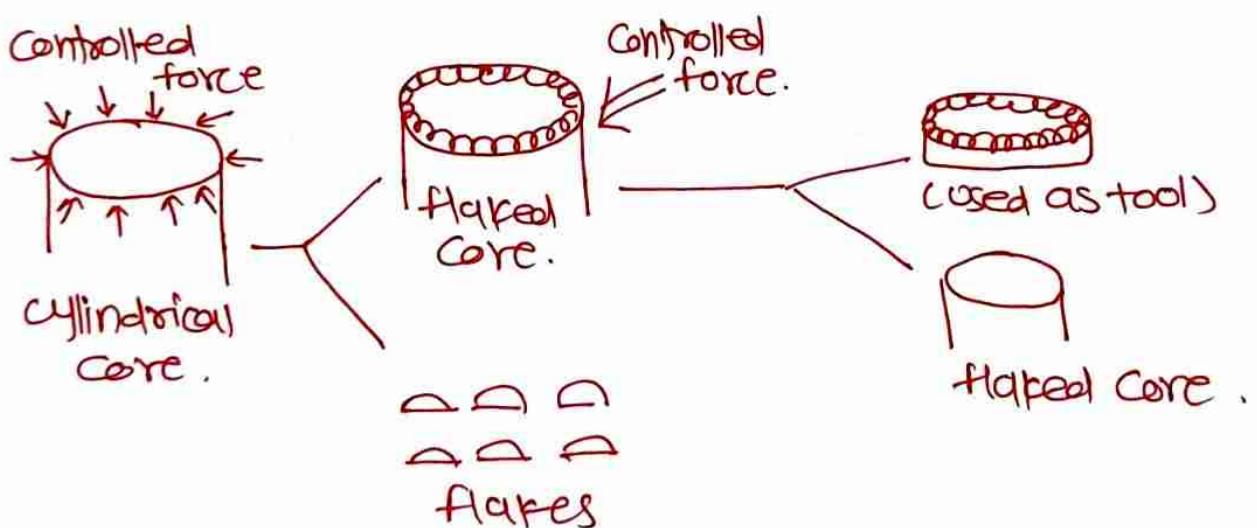
* Socio-cultural features of Middle Palaeolithic

- ① Hunting & Gathering became most common occupation. This occupation required change in tool kit, with need of lighter & sharper tools which increased efficiency of hunting the animals.
- ② Division of Labour based on age & sex.
- ③ Highly egalitarian society with least amount of profession. Band organisations are most common.
- ④ Hunting of large animals, group coordination was essential. This might have led to rise of kinship relations.
- ⑤ discovery of fire (though evidences in India are not as strong as Europe)
- ⑥ Middle p. art as studied by N.N. Mishra in Bhimbetka.

* Tool types -



• Tool technology - Levalloise technique.



Upper Palaeolithic

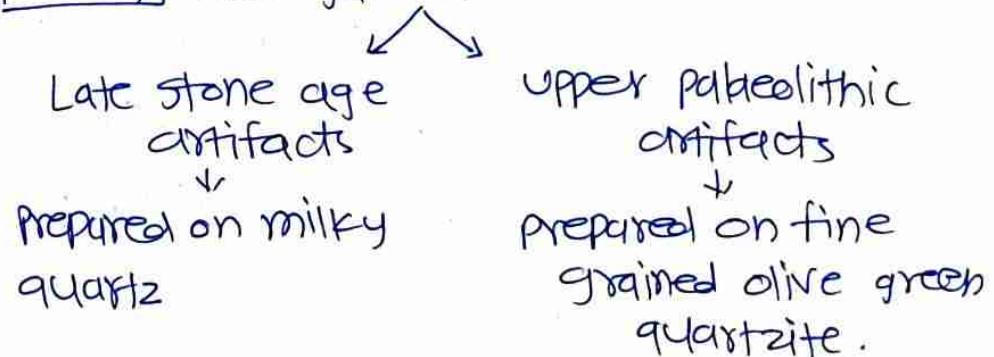
② Upper palaeolithic as separate cultural stage in India is not as well established as Europe. This is due to lack of subtype specialization like busque burn or Nogilles burns (Bhattacharya). Bone tools & art objects, which form major characteristics of upper p. in Europe, are largely absent in India.

* Regional variations

① Reninguta - locality around river Ralla-Kallava

site discovered by M.L.K. Murthy shows best evidence for upper p. Site yields artifacts of upper p. mixed with late stone Age industry. However,

Murthy distinguishes between two as



↳ Reninguta contains overwhelming no. of blades, which indicates industry was entirely based on 'blade tool manf'

↳ Types identified by Murthy are:
Burns, Awls, points, Backed blades,
Scrapers, choppers.

↳ The illustration of tools clearly indicated Renigunta is more akin to generalized East-Gravettian of Central Europe.

- ② Muthchatta chintamani Gavi - cave site in Kurnool (AP) discovered by [Murthy].
The site becomes significant because for first time, Upper p. with bone tool component could be demonstrated in primary context.
Lithic industry comprised only 10%, while bone industry dominate with 90%.
↳ Bone implements identified are: scrapers, perforates, chisels, scoops, shouldered points, barbs.
↳ Different animals like Antelope, Bubalus, felix were used to acquire bones.
↳ [San Kalia] feels that many of these bones show evidence of Groove and Splinter technique.

- ③ Bhimbetka - rock shelter from Jabalpur district (MP) shows continuity from lower p. to upper p. Excavation of cave number III F-23 shows deposit of upper p.

↳ tools: Broad blade end scrapers, burins,

backed blades (micro-scarpette, mints)

④ Belan valley & Baghor II - Belan is small river in Allahabad (UP) which received maximum attention from G.R. Sharma. Along with Belan, rivers like Seoti or Koh yielded traces of Upper p. The radio-carbon dating of this excavation points to 17,000 B.P.

- ↳ Joint excavation by G.R. Sharma & J. Desmond Clark in area betn Son & Kaimur discovered 4 major alluvial depositions:
- i) Sihwai formation - yielded Lower p. Acheulian handaxes.
 - ii) Patpara formation - yielded tools of 'final Acheulian' and middle p.
 - iii) Baghor formation - Two depositions in this have been identified:
 - a) lower deposit - of carbonised cemented gravel & coarse sand
 - ↳ Middle palaeolithic.
 - b) upper deposit - of fine silt & clay with yields upper p.
 - ↳ dates approximately 26,000 B.P.
 - ↳ Also yielded some Epi-palaeolithic artefacts dating 12,000 - 10,000 B.P.
 - iv) Khetaurhi formation - youngest formation containing Neolithics dating 3000 to 4000 B.P.

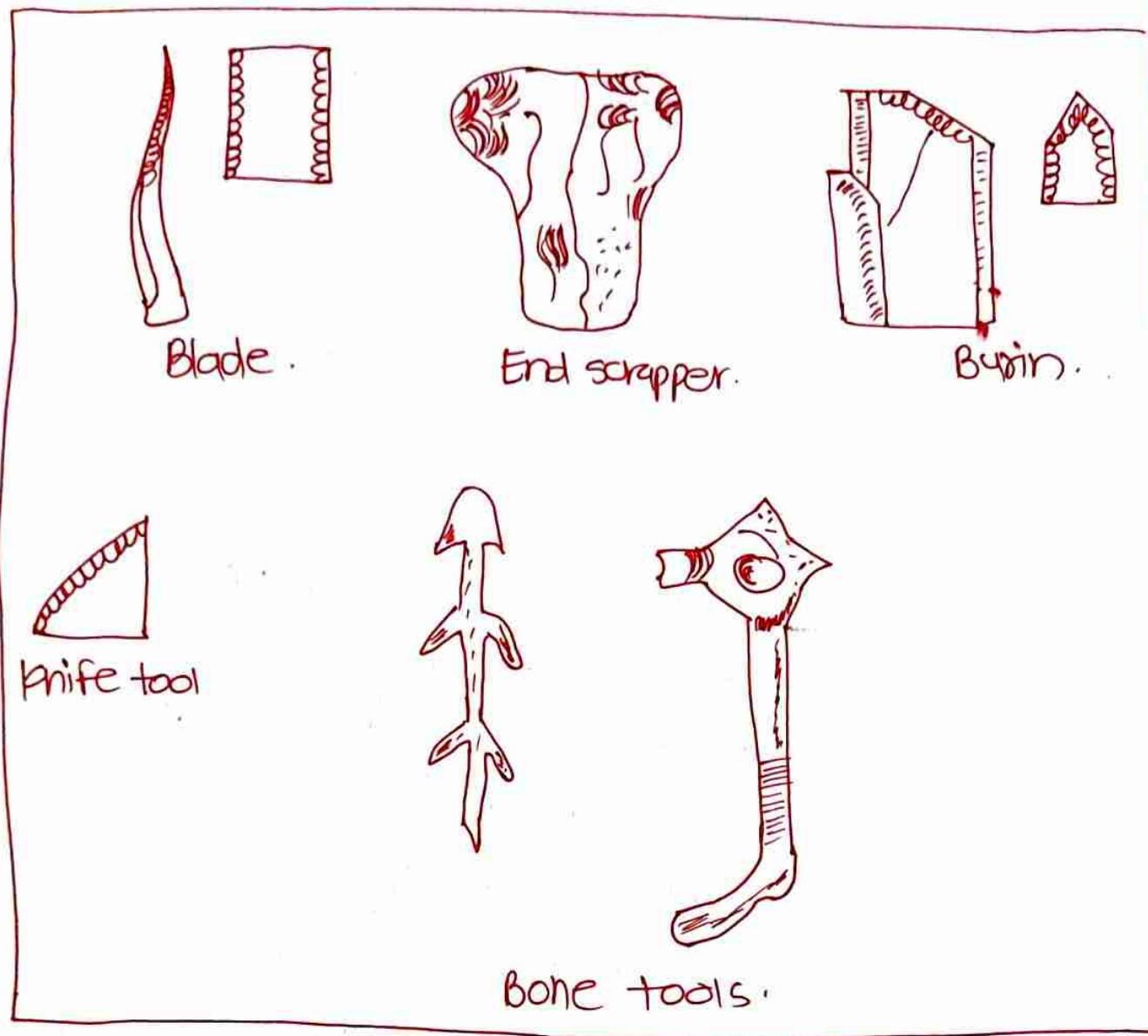
- ↳ Bagh formation also yielded structure called the shrine having circular platform of sand stone blocks which as concentric triangles at centre.
- ↳ similiar stones are even today used by locals to worship mother goddess.

Conclusion - upper Palaeolithic is very late phenomenon in India. However, except certain types of tools, no major variation can be reported from European counterpart.

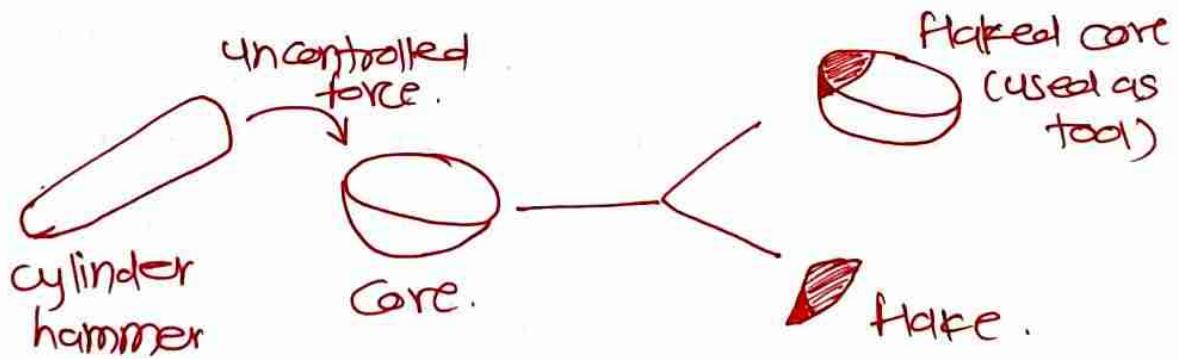
* Socio-cultural features of Upper P.

- ① Band organisation starts with upper P. to maintain social order in group.
- ② With growing complexity, the Division of Labor emerged based on age and sex.
- ③ Development of art as seen in Bhimbetka gives us idea of development of early human imagination.
- ④ Along with cave art, home art also started executing on movable items including female figurines, ivory arm bands, etc.
- ⑤ Early signs of religion can be extracted from fact that paintings started appearing deep inside the cave.
↳ Bagor River excavation found a Shrine type sand structure of a circular platform consisting of concentric triangle which are believed to be worshipped.

* Tool types



* Tool technology - cylinder hammer technique



Mesolithic Culture

• Period-

10,000 BC to
4,000 BC

① Mesolithic culture is earliest Holocene culture that occurs before agri. was started. microlithic blades detached by pressure flaking from cylindrical cores is main identification of period. As agri. does not begin everywhere at the same time, thus mesolithic phase expands & shrinks depending upon how early agri. begins.

Microliths shows basic principle of shading mass drastically. Thus, invention of bow and arrow is attributed to outcome of this principle.

↳ one general view holds ~~that~~ evolution of microliths is that 'fishing & fowling' must have replaced large mammal hunting. This then later developed agri. society in Neolithics.

In India, widespread absence of widespread evidence of upper p. led the belief that most of microliths trace western origin through corridors like Tharo hills in Sindh or Chetta Valley near Rawalpindi in Pakistan. ↳ However, microliths discovered in this areas

are not enough to prove it as corridor.

* Regional Variations

(I) WEST

① Tilwara - site lying in fringe of desert in Bamer district is India's westernmost Megalithic site. V.N. Misra excavated in 1971 & reported 2 distinct phases

Older phase Younger phase
↓ ↓
Megalithic settlement with iron glass beads,
 wheel made pottery.

- ↳ Tools: Trapeze, lunates, points, parallel sided blades, fluted cores.
- ↳ Fire hearths, charred bones & circular arrangement of stones indicate Megalithic settlement.

② Bagor - prominent sand dune excavated by Misra in 1967 on river Kothari near Bhilwara town. He identified 3 phases

i) phase I - Animal remains & microoliths.

ii) phase II - Copper tools, pottery, microoliths.

iii) phase III - iron implements, wheel made pot shards.

• Tools - lithic industry of Bagor is one of richest in world with yielding perhaps the finest of microoliths (2cm to 1.5cm) from India

- ↳ includes blunted back blades, Trapeses, crescents, points, etc.
- ↳ However, flake types such as scrapers or burins are totally absent in this industry. Also, crest guiding blades, which otherwise are common in other megalithic sites, are absent here.
- Faunal discovery - very revealing with sharp decline from phase I to III
 - ↳ 80% of animal fauna counts for domesticated species with sheep, goat, pig, buffalo, fox, chinkara. This even include some aquatic fauna like tortoise & fish.
- Burials - 5 burials forms interesting feature
 - ↳ in phase I: body laid in extended position with head oriented towards west
 - ↳ later phases show drastic change in practice with body in flexed position & head oriented towards east.
 - ↳ grave goods are also present in burials like earthen vessels, ornaments, metals.

The Bagor settlement, from evidence, show character of repeated reoccupation until as late as medieval period. Thus it earned local name as Mahasati mound.

③ Langhnaj - In Mehsana district (GJ), few km from Bagor, Sankalia recorded many microlithic sites on western bank of Sabarmati. Later, Subbarao later listed more than 80 such sites, Langhnaj being prominent one.

Sankalia identified 2 main layers along with 3 distinct cultural phases

- Mesolithic {
↳ phase I yielded microliths, burials, animal bones, some crude pot-shreds. Also yielded a tanged iron arrow head, a stone bead & some fragments of stone querns.
↳ radio carbon date of phase I & II goes back to 2040 ± 110 BC.
↳ soft haematite piece with smooth rubbed surfaces, a rhinoceros shoulder blade, several hammer stones were also discovered with microliths.

• Burials - 14 human skeletons buried in flexed position with legs backwards & tied before interment. The repeated finding of cut on forehead led to belief of existence of cannibalism.

↳ Animals identified: cattle, deer, blackbuck, rhinoceros

• Relation with Harappan civilization - radio carbon date of 2000 BC for hunting gathering community within 100-200 km distance

from full blown Harappan settlement makes Langhnaj clear indicator of fact that these communities might have survived in primitive economic stage with being in symbiotic relationship with ~~modern~~ neighbouring urban culture. Evidence, however suggest unfair trade deal b/w Harappans & Langhnaj as in exchange of Honey & hunted meat, hunters of Langhnaj got only cereals (not metals) in exchange.

Following key takeaways are noticed from Langhnaj by archeologists:

- ① Langhnaj proves that rigid, cut & dried cultural chronologies can be misleading i.e. Harappa should occur after whole range of paleolithic, megalithic, Neolithic is over. In reality, pure megalithic of Langhnaj occurred with harappa.
- ② Metals, their extraction & processing was held with either utter secrecy or tied to symbolic belief structure which made trading beyond consideration.
- ③ A simple hunter gatherer society in neighbourhood of rising urban civilization is not only important requirement, but also plays determining role.
- ④ Technological evolution occurs when H-G society internalizes the need of intensifying the economy. Thus, Langhnaj & Bagor give insights to megalithic cultures.

III CENTRAL AREA

Unlike western zone, many sites in central zone (MP, some parts of UP) have yielded Megolithic occupations occurring vertically above palaeolithic habitation. This provides evidence that hunting niche has not substantially changed from palaeolithic phase. However, faunal evidence are not much helpful in this region.

Continuity

- ① Bhimbetka - cave site has yielded microliths in floor and paintings on walls & ceilings.
8 layers, → top 3 are of Megolithic. Rich geometric industry of microlith is discovered, ^{Next group discovered} along with painted wheel made pottery & copper objects, thus not considered as mesolithic.
- ↳ Megolithic horizon dates roughly at 5000 B.C. & contains burials as well. However, burials are extremely fragmented.
- ↳ important feature of megolithic Bhimbetka is that it witnessed shift of raw material to chaledony.
- ↳ microliths - touch large size with 3-4cm long slender lunates besides fluted cores, parallel sided blades.
- ↳ Some scholars argues that in this period, ecological
adoption there was effort to build screen or wall by piling of stones near mouth of cave towards the side wall.

- ② Adamgarh - 18 trenches were dug near rock shelters which yield plenty of microliths.
- ↳ interesting thing about Adamgarh megalithic is that they are constantly associated with pottery fragments & rich animal remains.
- ↳ At least 14 animal species identified from bone - dog, buffalo, sheep, pig.
- ↳ Tool types - blades, lunates, triangle, tapers, flake types like side scrapers, borers, points, etc.
- ↳ radiocarbon date points two dates:
 $895 \pm 110 \text{ BC}$ and $5500 \pm 130 \text{ BC}$
 However, both are incongruous if we have to accept Adamgarh microliths as representing early Neolithic economy.
- ↳ Thus, though more crudely finished than Langhnaj, chrono culturally, Adamgarh seem to fit with this Gujrat group rather than being earliest Neolithic of the zone.

- ③ Sarai Nahar Rai Group → The region of Allahabad- Pratapgarh which was formed by early alluvial spread of Ganga & its various streams from south. The largest site in this region is SNR.

The site seems to be single occupation site similar to Mahadaha & Dym Duma found in contiguous region.

- ↳ site yielded living floor of $5 \times 4 \text{ mt}$ with

↳ suggest some kind of communal cooking

↳ 4 post holes in 4 corners. floor is made of burnt clay lumps and has several fire hearths & charred bones near them.

↳ Faunal remains points towards domestication of animals like Goat, Buffalo, cattle, etc.

↳ 13 human burials in extended form with head towards west were discovered. One of these skeletons, a microlith was found pierced in the rib indicating massacre. Also occurs pot which is round, ill fired.

↳ Tool industry - Geometric industry which also maintains several flake tools.

Tools: Blades, Triangle, points, Lyrate, Burnin, Boxer, Arrow head.

↳ Radiocarbon dating of site is done from uncharred bones, which not being too reliable, indicated $10,345 \pm 110$ B.P.

However, Agrawal claims that site should be more logically 1000 B.C only. But Bhattacharya proposes that though cultural indicators put radiocarbon date as improbable, but stretching at 1000 B.C seems too far.

> other sites in SNR group -

- Dam dama in pratapgarh district (UP) & Mahadaha in same region are prominent sites contiguous with SNR.

↳ successive phases excavated at this site
indicates slow rise of megalithic culture in
this zone.

↳ Tools: the microoliths here are described
as pre-pottery and geometric.

↳ blade fragment, cores, backed blades,
trapezoids, lunate, drill, side and end scraper

↳ Burials are associated with large qty of
microoliths, burnt clay lumps, hearths &
charred animal bones.

In addition, several bone objects also
recorded from site which includes
bangles, pendants, ~~bracelets~~, ~~earrings~~ ~~earrings~~.
stone fragments like querns, mullers &
anvils are also discovered.

↳ charred bones of animals - cattle, sheep, dog.

• Mirzapur district - forms last Vindhyan limits
before entering Gangetic valley. several
sites discovered, of which brief mention
can be made of:

① Morhana Pahar - rock shelter 70 km south
to Mirzapur with more than one
occupation, along with microoliths &
pot shreds.

② Baghai Khor - situated in Morhana Pahar
region

③ Lekhania - rock shelter which yielded
rich prehistoric antiquities. Site

yielded both geometric & non-geometric microliths along with bone tools, beads & broken ring stone.

④ Chopani Mando - open air alluvial site on Belan river where 3 different phases have been discovered → 2 early mesolithic & 1 advanced mesolithic (i.e. proto-neolithic)

↳ Tools: side scrapers, burin, points, borers, backed blades, retouched blades.

↳ cultural artifacts - burnt clay bumps, animal bones, hammer stones, anvils & 4 chauri hut.

⑤ Ghagharia Rock shelter I. - in Sidhi district on Kaimur ranges facing river Son.

↳ ceilings & walls are covered with paintings which are comparable to central zone mesolithic paintings.

IV EASTERN AREA.

Area of Chotanagpur region covering Bihar, Orissa, CT, WB have many unreported mesolithic sites. None of sites except some as Kuchai & Birbhanpur were excavated.

Most of microliths in this region are fairly large size & occasionally prepared on black chlorite stone or even fossil wood.

Geometric forms are either absent or rare.

• Birbhanpur - near Burgapur railway station (WB) on river Damodar, the site was excavated by B.B. Lal in 1957. Different layers of land were analysed. Based on geomorphological studies, it has been concluded that lateritic gravel bed perhaps marks last of wet spasm during close of Pleistocene. Thus, implementiferous layers were caused due to increasing aridity of early Holocene.

↳ findings - some post holes.

↳ industry seems archaic as big flakes & blade tool dominate. ↳ Tools - Birbhanpur industry seems archaic as big flake & blade tools dominate it. Lunate forms main microlithic type while triangles & trapezes are conspicuous absent

↳ No evidence of burials, hearths, bones

- Kuchai - reported microolithic horizon without any ceramics
- Burdwan, Bankura & Purulia - microliths found in association with Black-and-Red ware pottery, ring stones or even iron slags



SOUTHERN AREA

Biggest concentration of microliths occurrence is from Karnataka. Padayya reported 25 sites alone in Shorapur Doab of Krishna & Bhima.

He discovered microliths which are extremely slender & long. Mostly these are flat with hair-thin lateral retouchings. These, with triangular section are often compared to micro-gravette points of Epi-palaeolithic of Europe.

- Sanganakallu - site in Bellary district, famous for prehistoric discovery. Subbarao excavated site in 1949. Sankalia undertook small scale fresh excavation in 1965-66 to discover microliths like - flakes (both utilized and retouched). However, surprisingly, blades are not recovered at all.
↳ Radio carbon date estimate around 3500 BC
- Teti - group of 11 sites of microlithic clusters occurring along fossilized sand dunes in Tirunelveli district (TN) is referred as Teti sites. Zeuner believes that older transgressions of sea had caused the formation of this sand dunes.
Microliths in area were first discovered by Robert Foot. Subsequently, Aiyappan made discoveries from sawyerian & finally Zeuner made detailed report.
↳ The industry is prepared on chalcedony, quartz & fossil wood & shows one of most primitive features in typological sense.

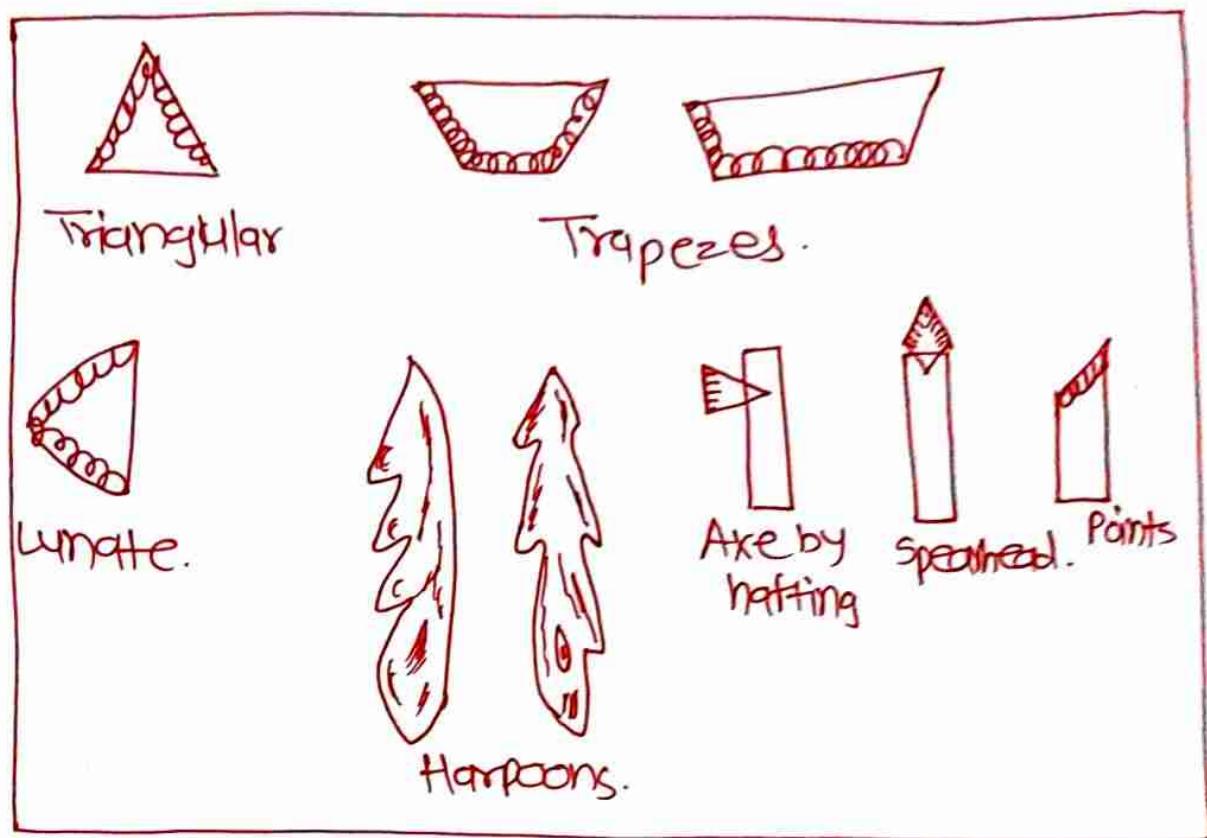
* Socio-cultural life in Mesolithic

climate started to change which is reflected in change in socio-cultural life:

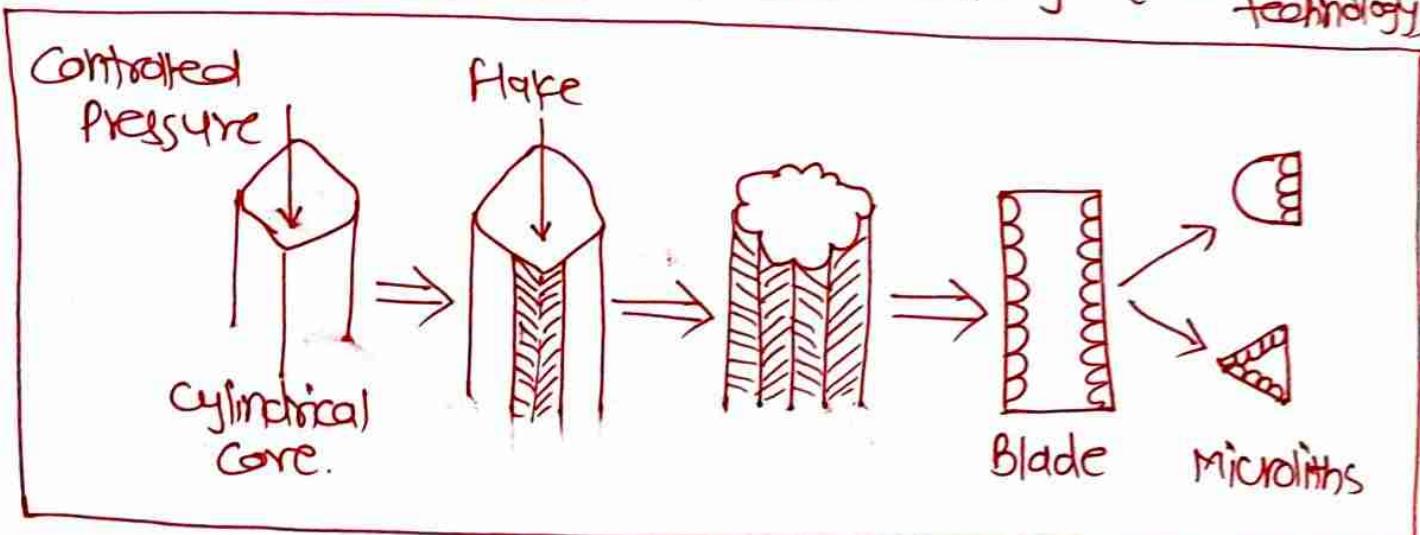
- ① Hunting necessities compelled man to change tool kit → adoption of microliths.
- ② Increasing dominance of non-lithic substances like Bones as seen in shoulder blade of Rhino found at Langhnaj.
- ③ Clothing emerged from skin of animals
- ④ Domestication of animals started which kept base for rise of agri. in neolithic.
- ⑤ evidences of partial sedentism from structures like erected structure in SNR and Bhimbetka.
- ⑥ Human creativity & imagination reflected in canvas of mesolithic art which depicts various facets of human life like hunting, inter-group rivalry and human aggression. (Mirzapur, Bhimbetka, Adampur)
- ⑦ Evidences of intergroup fights from microlith in rib of skeleton in SNR.

* Tools diagram

Tools
Geometric - Triangular, lunate, trapezoidal
Non-geometric - Points, Arrow head, compound tools.



• Technology - pressure flaking. (Blade technology)



↳ The Teri industry, it is argued, shows close resemblance with Sri Lankan microliths, especially due to tradition of preparing bifacially pressure flaked points. The Bandarawela factory site of Sri Lanka has rich tradition of this.

* Conclusion for mesolithic

Pure microlithic survey of India would indicate a widespread tradition of lithic technology. Though doubts on identity of 'mesolithic India', but true mesolithic India is clearly demonstrated in Central & west zone besides at Teri. However, each industry has its individuality due to diff. adaptive strategies.

Bagor & Tilward shows quite specialized type of adaptions, while Adamgarh & Bhimbetka put emphasis on animal domestication. Langhnaj, represents oldest & best state of mesolithic India. while South India had an entirely independent development of microlithics thus forming regional identity.

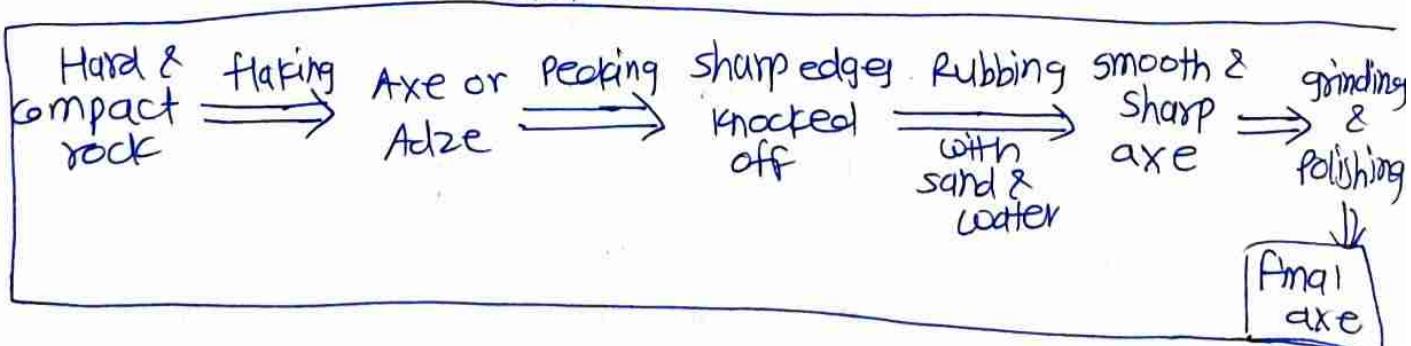
Numerous Rock paintings shows emphasis of fishing, honey collecting & net trapping. Also, from evidence of SNR, inter-group warfare can also be inferred. The same

can be concluded from paintings which occasionally shows factor of human aggression. Wild seed collection & partial sedentism seem to be also indirectly indicative from several archaeological evidences.

In short, a stage was set to enter into settled & productive economy. Thus, megalithic & Neolithic in India are fairly overlapping in both typological as also in chronological sense.

NEOLITHIC PERIOD

- ①- Youngest (or last) period of ~~Stone age history~~ ~~Holocene~~ of man is Neolithic. It is commonly perceived to precede the discovery of metals. Around 6000 B.C., numerous sites in West Asia started showing certain following features which classified as 'Neolithic features':
- ① sedentary nature of life with developing interpersonal relations for cooperative existence. Thus social organizations become more complex.
 - ② Above was outcome of change in economy because the man started to get land-tied because of adoption of agriculture.
 - ③ Agriculture caused changed interaction with natural environment. Medieval thr which such changes took place are counted as Neolithic attributes:
 - i) to cut large vegetation & to till the field for cultivation, Neolithic tools were evolved.



- ii) Storage become important to pursue agriculture as gainful activity. Thus, management of land become pivotal

issue, also, fire burnt earthen pots are believed to have evolved to fulfill storage needs.

Thus, archaeologically speaking, ground celts, pot shreds, permanent dwelling structures, whatever found are taken as indication of Neolithic culture.

* Different classifications in India (Regionwise)

① **N.D. Krishnamoami** was first to give regional classification in 1959 based on data of various neolithic archaeological explorations. He divided Indian neolithic culture into 4 zones:

sr. No.	zone	sites	characteristics
①	Northern zone	Burzahom (Kashmir) (only known site from N. India till 1959)	i) pit dwelling. ii) pointed butt celts.
②	Eastern zone	Bihar, Orissa, Assam, WB.	i) varieties of shouldered celts. ii) zone identified on basis of surface collected celts from region
③	Central & Western zone	Malwa region. Northern MH.	i) microliths & pot shreds more common than celts.
④	Southern zone	Brahmagiri, Sanganakallu, Pilkhal	Broad butt end celts. ◎

② Sankalia, who extensively studied neolithics from N. Maharashtra & Karnataka, proposed in 1962 that large majority of Indian sites did not fit into either pure Neolithic or pure chalcolithic. Thus he termed them as Their Neo-chalcolithic. c Neo-chalcolithic sites?

Thus, Sankalia classified Indian Neolithics as:

A) Pure Neolithic

- 1) whole of eastern India (Assam, Bihar, Bengal) - characterized by ground axes, with shoulders and very little pottery
- 2) Kashmir sites - ground axes, bone tools, pottery and pit dwelling

B) Neo-chalcolithic

- 1) South India (W. AP, TN, KR) - ground stone tools, microlithic blades, handmade pottery, round huts on hilly terraces. → Brahmagiri - Tekkal Kotta sites in Deccan.
- 2) Early Baluchi cultures which show habitational structures & ceramics - often wheel made.
- 3) Bagor in Bhilwara considered to form separate Neo-chalcolithic group with microliths, copper arrow heads, pottery and huts with wooden posts.

③ However, P.K. Bhattacharya points out that as dating of almost all Neolithic sites go at the

most upto 2,500 BC, the same time when Harappan civilization started. Thus, we are yet to discover our pre-chalcolithic phase of Neolithic.

Bhattacharya also points out that owing to lack of demographic pressure (which accelerate the rate of transformation to Neolithic phase) or lack of ecological pressure, Indian Neolithic witnessed retarded rate of transformation.

* Regional Variations

(A) Borderland evidence

study of Indian Neolithic must be preceded by 2 corridors in neighbourhood which acted as routes of human migration: Baluchistan in Pakistan and eastern Afghanistan.

① Kili Ghul Mohammad - small mound near city of Quetta excavated by Fairseini in 1950. 3 distinct cultural phases show transformation of non-farming Neolithic to stable Neolithic.

↳ However, absence of axes & pottery put this camp as purely seasonal camp for pastoral community.

② Damb Sadat - 12 km south to KGM, indicating continuation of cultural phase from KGM. Evidence support culture

of neolithic growing out of pastoral base.

- ③ Mehrgarh - site near Bolan pass excavated during french archaeological exploration in 1977 by Jarrige and Lechevallier. It is probably closest site to Indus plain Neolithic. Radiocarbon date marks 5100 BC, making it one of the oldest neolithic site in subcontinent.
- ↳ The site has yielded evidence for all the 7 archaeological periods.
 - ↳ interesting findings - in early phase of Mehrgarh: one copper bead & some turquoise beads are identified, which became regular feature in Harappan civilization nearly 2000 years later.
 - ↳ later periods also yielded pendants of lead, beads of Lapis-lazuli, redslipped pottery, a grooved elephant tusk, basket marked pottery with animal motifs on it. Thus, Mehrgarh signifies cultural evolution towards urban settlement.
 - ↳ Mehrgarh is thus spectacular discovery of a community with rudimentary evidence of all attributes & achievements which are considered as prime movers to urban civilization, but occurring nearly 2000 years earlier within a culture which essentially was merely stone using & pre-ceramic in character.

④ Burzahom

- discovered by Detenbeck and Paterson (1935) and excavated by T.N. Phacchi of ASI.
- Dwelling pits - 16 dwelling pits with oval shape at top & square at bottom. Stairs constructed to reach at bottom. Evidence of fire on floor.
 - Parallel with rise & decline of Harappa as radiocarbon date shows 2375 BC to 1550 BC.
 - Burials - some in crouched form, some in extended, often covered in red ochre. Trepanning of skull indicated the knowledge of primitive surgery. Burial of dogs with owners.
 - Pottery - handmade, coarsely finished. made by Cooling technique. ↳ ill fired pot shreds in earlier phase. Later → 26 inches high jar with woven mats
 - Tools - celts with variety of function which include axes, wedges, chisels, adzes
Bone tools: Harpoons, eyed needles, points & arrow heads
↳ Absence of microliths
↳ special tool named harvester → rectangular knife → resembles tool in Chinese Neolithic.
 - Absence of domesticated plants

⑤ Eastern border - evidence not so widespread

- i) Thailand - most spectacular site: Spirit caves which yielded large no. of fruit, nut, tuber, creeper much before domestication of cereals. At sites like Ban Kao, Ban-chiang, evidence of domestication of rice & millet as early as 8000 BC.
- ii) However, Habitational structures or microliths are absent.

* Indian Neolithic sites

Indian neolithic sites offers findings in total contrast that of rest of India.

① Gufkral - site 40 km S.E. to Srinagar, excavated

by Ishma in 1981. Shows 3 distinct periods

i) Aceramic Neolithic - Comparable to Burzahom

↳ population live in ground pits with bones of animals discovered like bear, goat, sheep, cattle.

↳ Tools: points, scrapers, axes, drills, querns

ii) Early Neolithic - handmade pottery having matt impression similar to burzahom

iii) late Neolithic - along with stone celts, querns, some terracotta spindle whorls discovered

② Chirand - early historic mound from Saran (chhapra district). Belief that neolithic occupation was around 2000 BC.

↳ Main features -

- i) overwhelming amount of bone & antler tools.
in addition to developed microolithic industry.
- ii) evidence of domestication of wheat, rice, masoor & moong.

↳ Houses - Circular with 2m dia & having bamboo & mud plastered wall. (These houses replaced pit dwellings with thatched roof)

↳ Tools - most imp feature is bone tools including picks, scrapers, eyed needles, pierced buttons. However no harpoons

↳ artifacts - extremely well made pottery → probably on turntable. Red, Gray, Black and Black-and-Red coarse with criss-cross design.

↳ several terracotta objects including beads, bangles, several bulls, birds & serpent figurines *

③ Koldihawa - in Mahagaya-Dam Dama cluster near Allahabad, a chalcolithic mound having neolithic layer dating almost 5440 B.C.

↳ Main features -

i) domesticated rice in pure neolithic group - not recorded from any other site of such early date.

↳ pot shreds yielded evidence of rice husk. Palaeobotanical analysis resulted that rice was of domesticated variety

ii) claim of cattle pen with post holes
at corners & hoof impression on floor.

④ chopani-Mando - on left bank of Belan
^{Transition} → near Allahabad town, site yielded 3
different phases: Epi-pakao, Early Medo, Proto-neo
↳ hut foundations with fire hearths.
few pot shreds of thick fabric & hand
made variety.

⑤ Mahagary - on banks of Belan, site yielded
evidence of 6 structural phases.

↳ series of successive floors, pot holes?
pits occur within this deposit.

↳ evidence of rice

↳ ceramics: cord impressed, rusticated,
burnished red and burnished black.

⑥ Sohagaura - site near Gorakhpur (UP)
which discovered earlier level of cord
impressed pottery. It seems more fit
with neolithic of Bihar & WB rather than
neolithic of middle Ganga.

⑦ Kuchai - within Mayurbhanj plateau near
river Burhabalang, Thapar excavated this
neolithic site.

↳ Tools are smaller as compared to neolithics
from farther south in Andhra or KR.

↳ Tools: Neolithic axes, faceted hoes, chisels.

⑧ Neolithic in North Eastern India

ⓐ Daojali Hading - site in North Cachar hills

excavated by T.C. Sharma, although couldn't yield any evidence of habitation structure, but yielded collection of ground & polished celts, grinding stones, pot sherds.

↳ Celts were usually sharp angular shoulder, which led to doubt by some scholars about their antiquity. They argued that ~~sharp~~ such sharp cutting can be done only by metals, thus must belong to much younger age.

↳ However, Daojali Hading destroyed this myth as it does not show any sign of metal + some experts, using sliver of bamboo, showed that how it can cut local soft stone (cjadeite)

↳ Ceramics were extremely fragmented & thus could not be used for reconstruction. All sherds carry cord impressions.

↳ Debate on Yunnan origin - Absence of microliths, bone tools & artificially constructed habitation in addition to distinctive variety of celts led many scholars to believe that Daojali Hading may represent breakaway faction from Yunnan

ⓑ Dani and Sharma reported 17 tools from Mishmi, Abor hills & Ningru on bank of Dihing river.

Dani studied neolithics from 24 sites in Nagaland. 63

Some sites : Lazami, Shiromi, etc.

- ⑥ Garo hills of Meghalaya - Neolithic collection from this site is kept at Pitt-River Museum at Oxford & studied by Dani.
↳ Sharma also reported tools like celt, chisel, axes from same area.
↳ M.S. Goswami records neolithic evidence from Salbalgiri, Rongigiri of Garo hills.

⑦ Brahmaputra Valley -

- i) Darrang district - lying in central part of Brahmaputra valley show collection similar to North China.
- ii) Shillong plateau - Kamrup district excavated by Goswami & Bhagwati - yielded site of Sarutary which showed evidence of ill fired blotchy grey pottery along with ground celts.

⑧ Neoliths from Santhal Pargana

- Bodding of Norwegian Mission started collecting prehistoric artifacts from Santhal Pargana. This, after kept in oslo museum, were studied by F.A. Alchin.

- ↳ artifacts contains more than 2000 axes, adzes, rubbers & hammer stones collected by Bodding in Dumka region.

- ↳ artifacts include shouldered specimen → showing S.E. Asian connection.

- ↳ Various sites discovered:
 - i) Oriup - situated in Bhagalpur district in Ganga valley, discovered by [Sahay] (1982)
 - ii) Sonepur - Gaya district site which shows Hut evidence indicating wattle & daub structure
↳ often compared with Oriup
 - iii) Cheohar Latubpur - Vaishali district in Ganga basin. Neolithic phase is comparable with neolithic of Chirand.
 - iv) Barudih - site in Singhbhum district in Sanjay river, studied by [Sen] (1969)
 - ↳ An iron sickle like object and some carbonized rice grains known as onyza sativa is interesting feature of site
 - v) Dugui - near river Sanjay, excavated by [Sen] (1962)
 - vi) Goldbaj Sasan - left bank of Mandakini in Puri district (Orissa) surveyed by Archaeological Survey of India
 - vii) Sulabhodhedi - in Brahmani valley in Odisha discovered by [Behera] (1992)

⑩ Neolithic in Peninsular region

(i) Most of Neolithic sites in India are known from region south of Narmada. [Krishnaswami] divided region into < central & western zone & southern zone.

However, [Sanjalia] and [Bhattacharya] treats region as one owing to striking similarities. Many archaeologists do not treat Neolithic in the region as pure, thus calls it Neo-chalcolithic or Deccan Neolithic.

Radiocarbon date find range from 2400 BC to 900 BC.

• sites in Deccan Neolithic

Brahmagiri.
KR ← Sangankallu
Hallur.

i) Tekkal kota in KR

ii) Otnur by [Allchin] (1961)

iii) Nagarjuna konda by [Sounder Rajan] (1958)

iv) W. AP & Palavay by [Rami Reddy]
↳ Piplivali.

> Tekkalkota - site in KR yielded evidence

↳ Habitation - 19 small circular huts with 3 meter to 5 meter diameter.

↳ small & big wooden posts were erected in some cases

↳ Burials - under floors of house, bodies interred with urns.

↳ Art - granite boulders show art execution by pecking & bruising and also paintings with red ochre.

Bull, deer, gazelle & stylized human figures are usually depicted in Andhra & KR sites.

↳ Grey ware ceramic lid excavated from Tekkai kota. → Bull, Cobra & 2 antelopes are executed in this lid by puncturing the clay.

↳ Ceramics - dull gray in colour & hand made. shapes are exotic & do not match with personality of culture.

↳ Decoration is starkly missing or very insignificant.

↳ At Utnur → hoof impression from cattle pen ash mound has been identified. Thus term Neolithic Ash mound site is often used in literature.

↳ Tekkai kota - Gold toe ring is found with microliths & celts.

> Elichury - multi cultural site in Prakasam district (AP) excavated by Telegu Uni. at Hyderabad.

↳ reported early Neolithic with circular hut structure & burials.

Pedda puliyam is another site in Cuddapah district.

- Migration pattern in peninsular Neolithic-
 Majority of sites in peninsula, interesting enough, show no change either in habitation or total material culture even after arrival of metals. The true change indicating a more complex social org. is indicative only after the arrival of iron.
 Since culturally such an unchanging status inspite of knowledge of new & better tech. is unexplainable, scholars points out role of size of habitation & their nature of occurrence. Since relatively smaller hordes of megalithic hunters settled around rocky plains because of more forest cover. Archaeologist point out 3 groups of migrants:
 - ① Those who settled down in rocky plains were more of seasonal nature & did not domesticate plants
 - ② Those among above group who, due to power of their demographics and highly polished axes could clear the dense forest.
 ↳ Nandotoli, Digmabard & Inamgaon in MH shows such breakaway factions who developed stable villages with intrusion of copper items also reported.
 - ③ 3rd group of pastoral economy is archaeologically demonstrated by

ash mounds in Andhra may had connection with north western late Harappan region from where economy based on cattle emphasis was brought & readapted in southern plains in form of pastoralism.

- Development of Agriculture in Deccan Neolithic
Though evidences of domestication of millet, horse gram, legumes, date palm & bajra are found, but radiocarbon dating indicates late dev. of agri. in region. Scholars attribute reasons to:
 - ① Climate - regions of KR, even today, receives less than 25" rainfall yearly. Thus, due to development of aridity in region, conditions were not conducive in region for agri.
↳ cultivation of seed crop recorded only around 1600 B.C., here too, sturdy lentil crops are found requiring small patches of land.
 - ② Tool-kit - hill dwellers, though confined with sophisticated tools required for pastoral life, but lacked in tools for agri. as such in evidences recovered from sites. Plough agri, thus, did not develop in the region.

③ Economic stagnation - symbiotic relationship

with higher cultures impacted rate of growth of agri. Purely economic contact with settled agri. communities fulfilled needs of hill dweller. In addition, agri. communities had desire to keep dweller's economy unchanged to fulfill their needs. Thus, keeping dwellers away from alien agriculture system, it prevented hill dweller from internalizing the advantages of agri.

Thus, surprisingly, we witness virtually no change in characters of site for sweeping 2000 years. inspite of intrusion of metals.

• New evidences of agriculture.

Early lake site settlement in village named Lahuradeva near Gorakhpur (UP) excavated

by UP state archaeology dept led by Rakesh Tiwari

↳ Reported that findings from Lahuradeva,

Mahagara & Kunjhun in North Vindhya

and Jhasi, Dam Dama & Chirand in Ganga

Plain shows that rice based cultivation

started prevailing in area from Himalayan terai to N. Vindhya during 6000-3000 BC

Diffusion of rice culti. from Ganga to Harappan

site dated around 3rd millennium B.C. where

rice is dated from various harappan sites

to 2850 BC to early historic times.

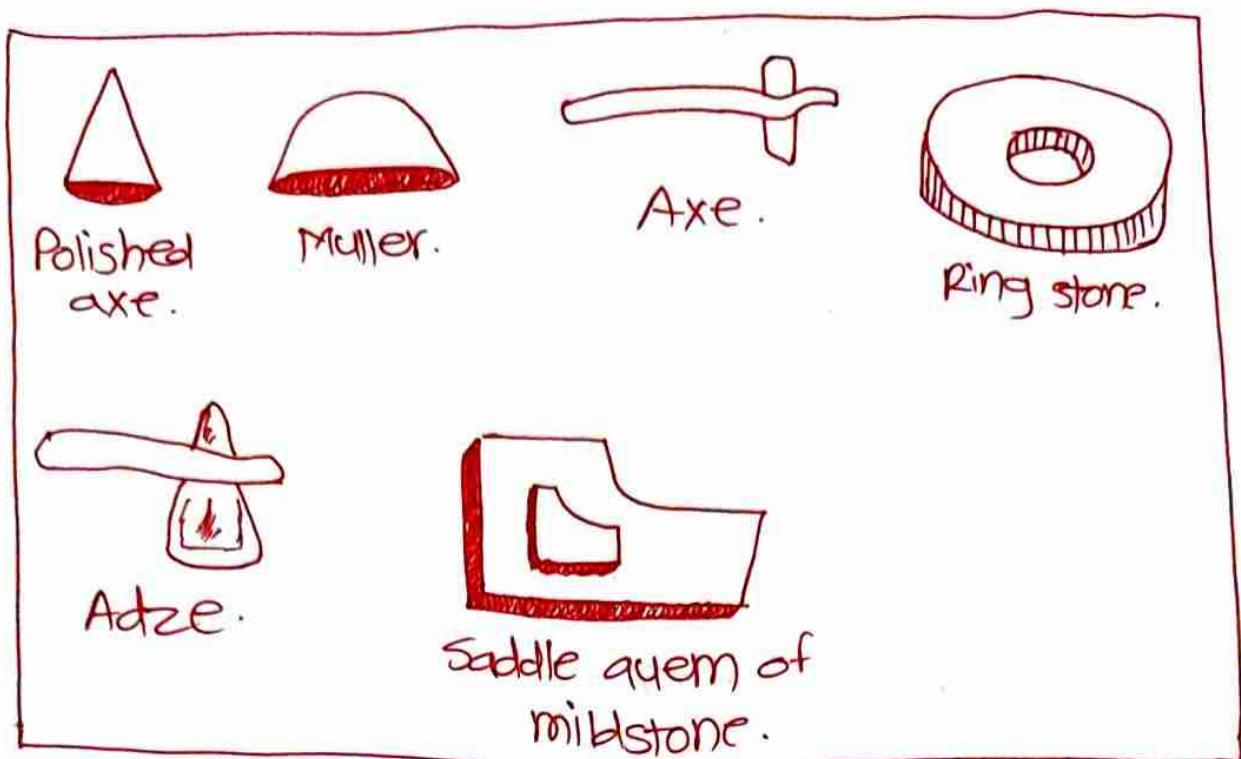
↳ Thus report indicates spread of agriculture from 6000 BC from terai region towards southwards and also easterwards.

* Socio-cultural life in Neolithic

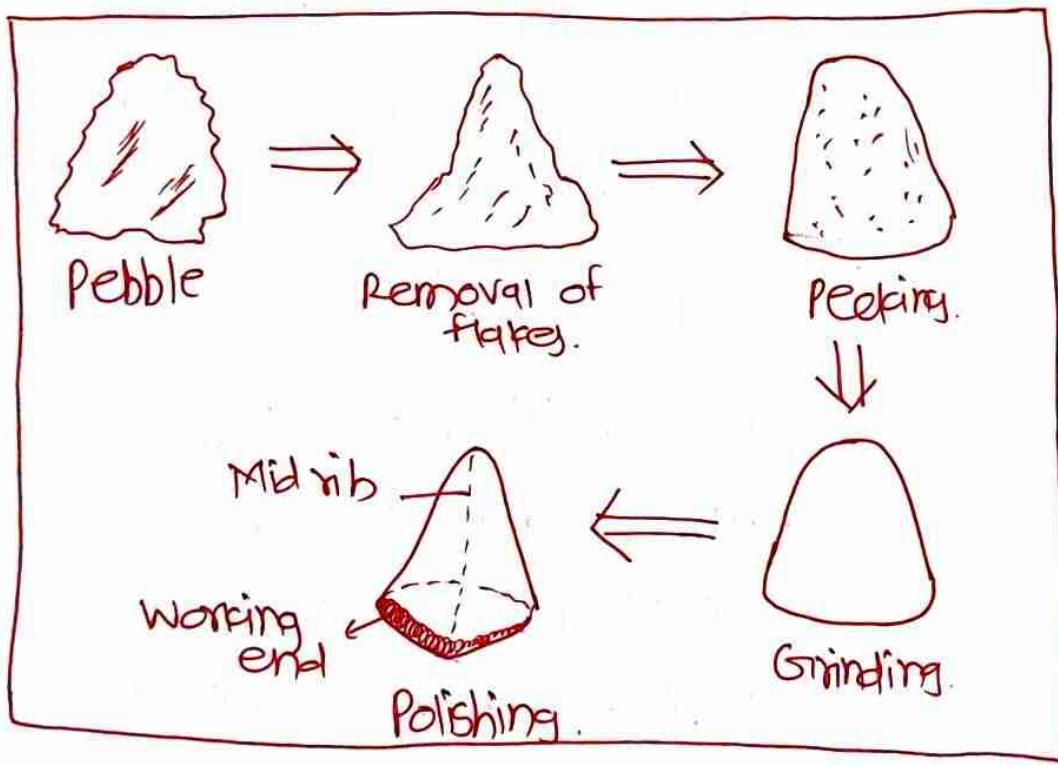


- ① Agricultural revolution introduced landmark changes in every facet of human life.
- ② Agriculture brought sedentism. The surplus production increased which led to evolution of pottery cultures.
- ③ Domestication of animals intensified owing to needs of agri.
- ④ sources of production became commonly owned.
- ⑤ Division of labour & Specialization → diff people specialised in diff professions thus marked need of DoL more significantly than earlier times. and thus community interdependence increased manifold.
- ⑥ Advent of political organisation - with cultivation, surplus, there felt need of P.O. to safeguard them & resolve disputes b/w communities. Although no evidence of P.O. is found archeologically.
- ⑦ Neolithic marks first settled life and leisure time to develop social relations.
- ⑧ Inequality & conflict resolution paved way for rise of Religion.

* Tool forms



- Tool technology — Pecking, grinding & polishing.



CHALCOLITHIC PHASE

① Cultural phase marked by emergence of metal is chalcolithic phase. However, as old tech. use continued, thus the name chalco-lithic. In India, chalcolithic as a chronocultural phase becomes difficult because of acute incongruency recorded both various regions within country.

* Chalcolithic on Western borderland

Chalcolithic flourished in regions of Baluchistan & Afghanistan around 1000 BC when dry phase was dominant.

• **Mundigak** - site in north of Kandhar city near Lashkari Bazar which is important for 2 reasons:

- i) lies in midway b/w Iranian influence in west & Baluchi region in east.
- ii) Lashkari Bazar, Mahmud Ghazni's winter capital, remain significant in controlling passes from Kandhar to Indus valley.

↳ identified 4 phases - from seminomadic occupation to fortified city feature.

Thus Mundigak shows archaeological evidence of village evolving into urban civilization with high degree of social complexities.

The region b/w Baluchistan & Indus plain has plenty of local isolated chalcolithic industries

like Rana Ghundai, Periano Ghundai (by Stein)
Sur Jahgal (by Stein), Anjira, Sarai Khola
(by Halim), Jalilpur (by Mughal), Rehman
Dheri, Lewan Dar Dari.

The region blessed with many varieties of
ceramics like

Couetta ware
zhob ware
Amri-Nal ware
Kulli ware
Kot Diji ware.

* Early farming communities in Gujarat (Pre-Harappa)

Prior to emergence of IVC, many adjoining southern and eastern regions show evidence of village settlement. These are entirely different from those of Baluchistan & Afghanistan.

- Prabhas Patan - very interesting site in estuary of Rupen river of N. GJ. First occupation here dates back to 2900 BC & named as 'pre-prabhas' period.
↳ pottery → gritty & sturdy, mostly red or gray ware with incised chevron decoration.
- Nagwada - site near Baroda with early date of 3000-2600 BC is probably earliest evidence of human movement from Sindh to Gujarat before rise of IVC.
↳ ceramics - hard pink to red fabric
↳ pottery - shapes often comparable to Amri

Thus, from Mundigak to Kot Diji, numerous early farming communities settled in rocks of valleys to develop their own characteristics. Almost all sites show ceramic similarities with both Iranian sites & Harappans.

Thus, scholars assume that origin of Harappa has links with these hill cultures which shows properties:

- i> Simple village life with mudbrick dwellings, microliths & crude pottery forms.
- ii> Continuation of microliths inspite appearance of metal.
- iii> Some of these sites continue to survive even after Harappans had consolidated their regime in lower plains.

* 'COPPER HOARD' CULTURE' -

Copper hoard culture describes cultural complex occurring in northern part of India (especially Ganga valley). These occurs mostly in hoards, large or small, which are believed to date to 2nd millennium BC. The culture is distributed from N.W. Pakistan in west to Bengal in east to Tamil Nadu in south. The thick ~~watter~~ logged pottery termed OCP (Ochre Glour Pottery) is suspected to be associated with copper objects of culture.

CHC is taken to represent a late Harappan and pre-Iron culture. However, this is not substantiated by any direct evidence.

- Copper objects in culture - included both beaten and prepared by double casting. The main objects include : Harpoon, celts, swords, Anthropomorphs.

• CHC sites

first Copper hoard harpoon was published in 1822. B.B. Lal in his 'Ancient India' published 35 such from N. India region. Later, Paul Allen Yule discovered more such objects.

Regional variation of CHC can be described as:

- ① Copper hoards of doab region - sites in W. UP like Bisauli, Rajpur Parsu, Mathura, Etawah

② Eastern group of copper hoards - sites from W. Bengal to Bihar like Khunti, Mahisadal, Sonpur, Humi Saguna.

③ Central group of copper hoards - Jabalpur - Nagpur strip, Gungeria in Balaghat district (MP)

④ Southern group of copper hoards - in areas of neo-chalcolithic concentration like Pihlai, Brahmagiri, Tekkakota, Hallur.

⑤ Western group of copper hoards - certain areas of Rajasthan needs special mention.

⑥ Jodhpura - on banks of river Sabi,
excavated by [R.C. Agrawal]
↳ lowest layer yielded O.C.P. with red
Slipped wares.
↳ types include: handled pot, basin, bowls
↳ also recorded Hanuman type round shape
terracotta, mud brick structures.

⑥ Ganeshwar - in Sikar district of RJ, site
yielded red ware industry similar to
OCP industry in Jodhpura.

↳ pottery is treated with slip which
has mostly peeled off.
↳ large no. of copper tools along with
microliths → unique feature.

Thus, association of OCP with such rich copper
tools with available absolute date puts
RJ OCP in peculiar position.

* OCP phase set debate on ~~the~~ chronological position.
Attempts have been made to examine possibility
of declaring OCP as distinct cultural phase.

From all the evidences, it can be inferred
that findings from most of types of artifacts
recorded same marginal variation from either
Harappan or west Asiatic Chalcolithic centres.
This led some scholars to consider copper
hoards as Harappan Antecedents.

The present findings suggest strong possibility
that copper hoard cultures were completely
contemporaneous with late Harappans and
were politically governed from Harappan urban
centres.

Thus, concluding, we must admit that chalcolithics
of Ganga valley are only region which is
still not fully understood.

* OCP phase

The attempts have been made to examine
possibility of declaring OCP phase as distinct
cultural phase in chalcolithic India.

① Excavation of Saiyai, in Etawah district (UP)
first time yielded hoofed swords &
harpoons of copper associated with OCP

② OCP at Hastinapur occurs below the

iron bearing P.G.W. level.

③ Dadu region - sites like Alampur, Bargao yielded OCP with late harappan elements.

④ Iron age sites like Atanjilchera, in Etah district, Laldeula in Bulandshahar district yielded OCP layer.

Gaur (1983) reports Thermoluminescent (TL) date ~~for~~ for OCP in iron age site as 11th cen. B.C.

Dates at Laldeula, Nasirpur & Jhirjhing reported 1880 BC, 1340 BC & 2670 BC.

Thus, there is no doubt that OCP is one of most longest staying ceramic tradition in chalcolithic India.

It may have origin in Jodhpura region, but spread wide. It occurs to be precursor to both P.G.W & also Black-and-Red ware zone (zone beth N.Bihar & lateritic W.Bengal)

* EXTRA-HARAPPAN CHALCOLITHIC

~~Ahar~~ northern chalcolithic is considered contemporary to Harappans, while some scholars points out western chalcolithic as separate phase of 'Ganeshwar-Jodhpura' complex. Eastern chalcolithic also yielded various sites, while southern chalcolithic developed along its own line.

(I) Ahar Culture (1700-1400 BC)

Banasian complex, including sites Kayatha, Ahar & Gilund is important landmark in western chalcolithic. Owing to climate complexities in region, the first human colonization of region after Megalithic period is witnessed along river Banas during chalcolithic period.

Ahar, is ~~closest~~ closest to Harappans, both in geographical proximity & in radiocarbon dates.

> House - walls are of stone & mud brick, at times decorated with quartz. Roof must have been thatched & flat with wooden rafters used.

> Agri. - Although no grains found, but it is believed that both bajra & rice may have been cultivated by these people.

> cultural materials - multiple hearths, querns, saddle and querns. Interestingly,

Chert blades, which are quite common in adjoining sites is absent. Richest collection from site is of ceramics & terracotta.

> Ceramics - 2 main wares dominate

i) Black-and-red wares with white paint

ii) cream slipped wares with black paint.

↳ Decorations show linear or dots or comas.

↳ variety of types - vases, lotas, variety of bowls, crudel storage jars

↳ Terracotta - humped cattle, bangle, lids

> Copper industry at Ahar - excavation yielded

large human settlement to cater large population.

Beside, it discovered crucible & furnace.

However, unlike other chalcolithic sites, no iron traces have been found. Thus, it clearly indicates that active copper smelting activity was in full force.

↳ Ahar, for that matter Banasian complex, has developed completely with village infrastructure without even indication of proper farming activity.

↳ cutting of wood for copper smelting required axes, and Ahar shows only some crude axes

Thus, all above evidences indicate that Banas group was merely miners' camp under suzerainty of Harrappans at Lothal). Gilaynd & Kavatha, in

this regard appear relatively individualized & influenced by Malwa regional features.

② Kayatha culture — site named Kayatha

↳ excavated by N.S. Wakankar in 1964. Located near Ujjain (MP). The river Chotkali Sind, on right bank of which excavation was done, yielded 5 phases

Period I - Kayatha culture.

Period II - Ahar culture.

Period III - Malwa culture.

Period IV & V - early historic period

↳ Possehl (1992) reported radiocarbon date for Kayatha around 2450-2000 BC ☺

↳ Kayatha yielded 3 main types of ceramics:

① Red painted buff ware — prepared on well levigated clay and buff colour wash is used after firing & finally also given variety of painted motifs

② Combed ware — has red slip with decorative patterns like zigzag or wavy horizontal lines prepared by comb.

③ Pinkish red ware — thick & fine fabrics with variety of shapes.

↳ Houses were of mud and wattle and daub with hardened floor.

↳ also yielded beads of semi precious stones, 83

axes, bangles and chisels of copper.

North western MP yielded more than 40 Kayathra sites predominantly concentrated along Chambal river.

culture (1400-1200 BC)

③ Malwa - western districts of MP are traditionally referred as Malwa region.
by Sankalia The region is drained by Chambal & Betwa and Deccan lava produces rich black soil, which must have attracted agriculturist in time of prehistory. Large amount of human colonization happened from 2000 BC ^{until} 1100 BC when iron arrived.

- sites
 - MP → Eran, Nagda, Navdholi
 - N.MH → Chandoli, Nasara, Inamgaon, Diamabad.

↳ These sites and their cultural features show so homogeneity that they are referred to as 'Malwa culture'

↳ in upper reaches in south of Godavari, ceramic content is discovered & named as Malwa ware. Around 1300 BC, N.MH sites developed some different traits, the group came to be known as Jarwe culture.

> House - Navdholi recorded circular and rectangular huts of wattle & daub.

The site Eran on river Bina recorded

defence wall prepared by mud bricks.

- > Ceramics - Navdaitoli shows Banasian forms of Black-and-Red painted ware. Also, red slipped ware with decoration in black paint are also recorded. This forms later developed in what come to known as 'Malwa ceramics'. However, Navdaitoli Phase II show complete disappearance of Black and Red painted ware.
- ↳ Goblets with solid pedestal became quite common in Malwa culture.
 - ↳ Lota shaped jars, goblets on stand, storage jars are given very shining red slip & then decorated with various motifs. These include naturalistic, geometric & zoomorphic forms.
 - ↳ Human forms with curly hairs along with animals are best represented designs

Thus, Malwa ceramics, in terms of decorations, is considered as much richer than Harappans.

- > Tools - metal objects include copper antennae sword, knife, flat axe & fish hooks
stone objects include chalcedony blades, celts, ring stones, saddle & axes.

- > evidence of internal stratification - two distinct variety of dwelling structures
- ↳ wooden houses → belonged to ruler.
 - ↳ Round house
 - ↳ Rectangular house

④ Savalda culture - in 1956, Sali discovered a mound at Savalda on bank of river Tapti in Dhule district (MH). Excavation by Sali and then R.V.Joshi yielded 2 periods

i) Period I - belonging to Savalda culture (2200 BC - 2000 BC)

ii) Period II - early historic period yielding N.B.P. and Black-and-Red wares.

> Ceramics - Savalda ware is of medium to coarse fabric made on slow wheel and coated with thick slip which shows cracks in many places.

↳ Most unique feature - designs of arms or weapons such as antennae arrows, notched arrow head, double barbed fish hooks.

↳ other motifs → geometric, decorations of peacock, fishplant motifs

↳ Types - bowls, basins, ring stand, knobbed lid, high necked jars, dishes.

Considering this, Sali opined Savalda to be an autochthonous chalcolithic culture of India. which preceded arrival of late Harappans. Allchin considered Savalda only a stylistic variant of Jorwe. Sundara (1971) reported Savalda wares from Bijapur & Belgaum in KR. Sali tried to prove

his point through excavation of Daimabaud which recorded diff. layers, showing Savalda as occurring before late Harappan.

Period I : Savalda culture : 2200-2000 BC

Period II : Late Harappan : 2000-1800 BC

Period III : Buff & creamware : 1800-1600 BC

Period IV : Malwa culture : 1600-1400 BC

Period V : Jorwe culture : 1400-1000 BC

⑤ Jorwe culture (1300-700 BC)

Daimabaud,
Nevasa,
Nasik.

Jorwe culture earned it's name from it's Ceramic speciality. It is spread all over Maharashtra & might have evolved slightly later than the Malwa in MP (1300-1400 BC). The culture had adapted to dried inland regions and evidences show its heavy dependence on irrigation.

> Agric - wheat, barley & rice might have been cultivated in initial stages, but later stages adapted mainly to millet.

> Houses - initially rectangular huts, later round huts. The Jorwe, at this stage, start showing similarities with Deccan chalcolithics.

> Jorwe ware - upper reaches of south of Godavari developed 'Malwa ware'. Then⁸⁷

around 1300 BC, N.MH started developing own variant of ceramics, later known as 'Jorwe ware'

↳ The famous Jorwe ware is red or orange surfaced either matt surfaced or burnished with geometric designs executed in black.

Cannulated vessels with 5 spouts fixed at various angles form one of characteristic.

Cannulated bowls & lotas are other forms.

↳ Jorwe also records Beads of agate, carnelian, gold, copper & even ivory.

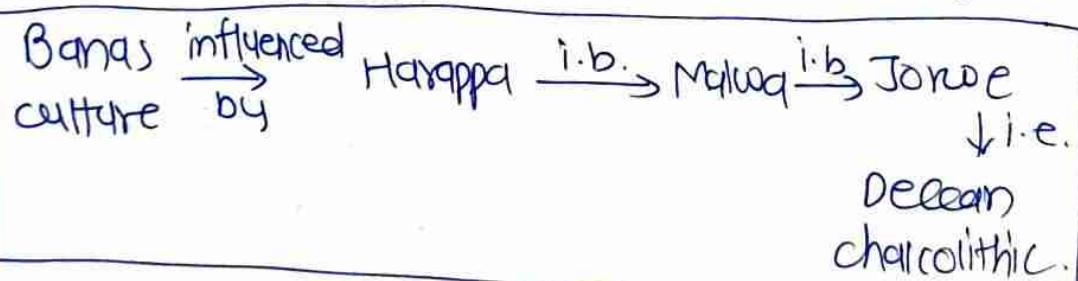
Copper objects → axes, fish hooks, bangles.

> Links with other culture

Archaeologist argue that increased aridity forced many of early Jorwe settlements to either migrate or to adapt by changing food habits around 1300 BC.

↳ Many migrated to Malwa region, thus the Malwa is heavily influenced by Jorwe ceramic. Some might also migrated to Deccan region.

↳ Thus archaeologist explain chain of linkages:



• Inamgaon - site in Pune (MH) best represents Jorwe culture. Spread over 5 hectares, it is probably one of largest chalcolithic settlements of Maharashtra. Excavated by Deccan Cg which discovered extensive settlement from 1600 BC till 700 BC.

↳ site yielded sequence of 3 cultures:

Malwa, Early Jorwe & Late Jorwe.

↳ Jorwe starts to appear at around 1400BC little early than rest of MH (1300 BC).

↳ Two unique features of site:

i) pattern of chalcolithic settlements → location of quarters for craftsmen on periphery of habitation.

ii) some distinct evidence of distillation

> Habitation - along with workmen's quarters a unique structure found → squarish structure partitioned into 2 rooms by reed screen. This had mud walls, on which there was mud-plastered bamboo screen.

↳ early inhabitants of Inamgaon lived in rectangular houses with dwarf walls on which bamboo framework was fixed. Also has evidence of pit dwelling.

> other artifacts - Ivory objects, gold ornaments, lumps of finely made lime.

⑥ Eastern Chalcolithic culture -

Certain sites excavated like Chirand (Bihar), and Mahisaddi and Pandu Rajor Dhibi from W. Bengal give overall picture of eastern chalcolithics.

The region show chalcolithic duration of only 6 to 7 centuries before iron appears. Starts around 1500 BC upto 800 BC.

- ↳ No evidence of elaborate habitational structures as of many western chalcolithic.
- ↳ Pottery, however, shows advanced technology.

- Chirand - ceramics with design of decoration mainly criss-cross lines and concentric circles painted in black & red ochre.

- ↳ unique feature: from premetal to iron age, generalized cultural features hardly show any change.

- Pandu Rajor Dhibi - in Bardhauan district along Ajay River, where 4 periods have been identified, 2 of chalcolithic and 2 iron age.

- ↳ round & rectangular huts with red plastered walls, floor paved with mud & cowdung.

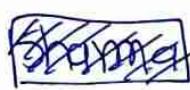
- ↳ ceramics: pottery is both PLAIN as well as black-and-ware. Decoration is only of geometric forms.

- ↳ fish hooks, bangles, ground stone axes

- Mahisadal - in Birbhum district, a culture here comparable to Pandu Rajar Dhibi.

Thus, eastern chalcolithic shows feature that copper enters essentially with a stone-bone base. Though ceramics shows considerable perfection, this did not affect total cultural status of these 'inhabitants'. This features even continue to occur even after iron emerges on the scene.

* Socio-cultural period of chalcolithic

- ① remarkable trend of Ruralisation seen in chalcolithic. Even very early sites like Prabhas Patan shows evidence of village settlement.
- ② Excellent progress in pottery variations with emergence of regional varieties like Jorwe, Malwa, Kalyatra wares along with Amri ware, Quetta ware, Kot Diji ware.
- ③ Improvements in Habitats like wattle & daub pattern, workmen's quarter in Inamgaon, use of bamboo framework.
- ④ Evidence of rising inequality: seen from habitational patterns in Malwa culture.


Nevasa : burial of children with copper bead necklaces only pots.
- ⑤ Shama (1977) observes that large no. of children burial may be indicating high infant mortality (epidemics, nutrition)
- ⑥ disappearance of urban Harappan economy traces & rise of rural economy.

IRON AGE

② Iron age in India is considered as threshold of ancient history. Thus, some of historical accounts of ancient history like Vedic, Upanishadic and Brahmanic literary evidences are sometimes used to construct cultural evidence of Iron age.

The origin of Iron in our sub-continent still remain matter of dispute. However, formal iron age is considered as started when iron is harnessed to clear forest for establishing permanent colonies.

Clearing of forest \Rightarrow sedentary life \Rightarrow surplus \Rightarrow large cities \Rightarrow superstructure

As Iron enters at diff. parts of India with diff social contexts, thus diff Iron age features are developed in diff. areas.

Ⓐ Economic Region North Western Boundary.

① Mehrgarh - site in Baluchistan where probable earliest evidence of copper

(2000 yrs earlier than Harappa) found.

↳ abandoned before development of mature Harappa, however transition

to post Harappa is witnessed at Pirak.

- ↳ Though Pirak shows initially a Harappan influence, but around 1370-1340 BC, Iron appears.
- ↳ most imp feature of this phase: first time appearance of bamboo & rice cultivation in this zone.
- ↳ Terra Cotta figurines come in much larger frequencies.
- ↳ from evidence at these site, iron age in area west to Indus can be ascribed as 1100-900 BC.

- ② Gandhara sites - Taxila, Charsadda & Timargarha. → These are large complexes of graves and entirely described from accompanying grave goods.
- ↳ The sites receive metal without any change in their pre-existing culture.

B) Gangetic Region

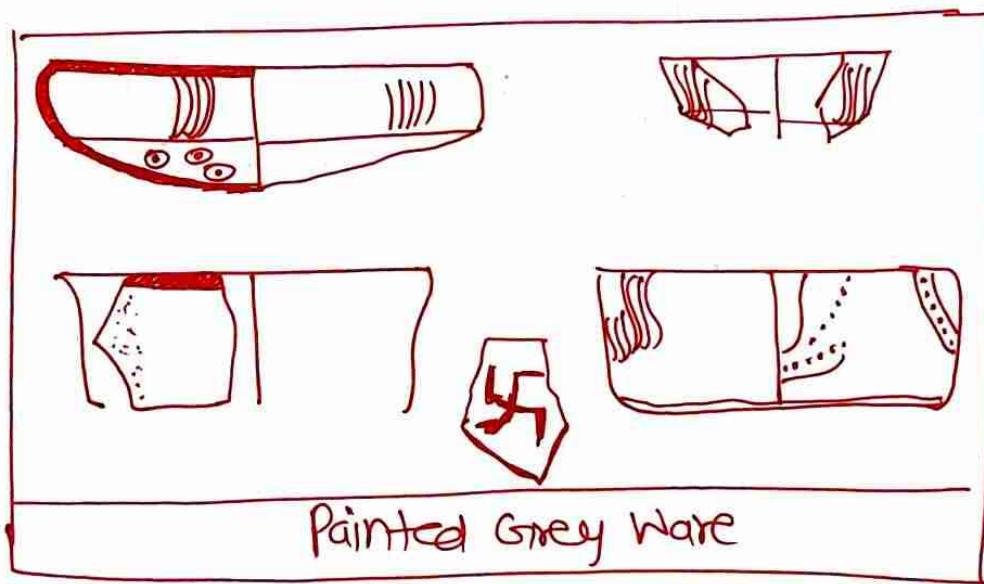
Colonization of Ganga basin by Iron users can be taken as one of best evidences of second urbanization in India. The urban centres around Indus, Ghaggar during 2600 BC to 1500 BC were vacated after this phase.

Evidence for flush of population movement into Ganga Valley comes from number of sites of Siswal group of Haryana and East Punjab.

However, it must be noted that Ganga Valley was not attractive for most of metal user in prehistory. This is proved by fact that most of city states in Gangetic basin do not urban development.

emerge until the ~~city~~ late iron users settle their city states on western flanks of Ganga Yamuna region.

- Painted Grey Ware Culture



It is Iron age culture of western Gangetic plain and Ghaggar-Hakra Valley, roughly between 1200-600 BC. Considered as successor of Black and Red Ware (BRW) in western region.

and contemporary to BRW of eastern region.

↳ PGW is new ceramic type having thin fabric of very well levigated clay. It is fired uniformly grey by heating upto 800°C in well oxygenated kiln.

Main types - straight sided bowls, dishes & trays.

Decoration - thick black lines. with paintings of short spirals, sigmas, susciticas

↳ The associated culture is of village & town settlement,

↳ increase in bone & ivory
↳ evidence of iron smelting & forging
↳ along with advent of iron metallurgy. Almost most PGW sites are farming villages, but some are relatively large settlements which can be characterised as towns.

↳ Japhera: demonstrates proto-urban stage with evidence of fortification by moats, Roads of 4 meter width, storage bins for surplus grain, stone weights, water channel & embankments.

↳ Bhagwanpura: in Kurukshetra district of Haryana
Site shows overlap b/w late Harappan & PGW with evidence of large bricks.

↳ PGW culture is interpreted differently by diff scholars.

① R.B. Lal: associated Hastinapura, Mathura 96

Kurukshetra sites with Mahabharata period

- ② Archaeologist Jim Shaffer observed that archaeological records indicate no cultural discontinuities separating PGW from indigenous prehistoric culture.
- ③ Chakrabarti (1968) : origin of subsistence Patterns & most characteristics of PGW are in eastern India or S.E. Asia.
- ④ B.R. Mani & Vinay Kumar Gupta, of ASI based on excavation at Gosna near Mathura indicates that there might not be any phase as PGW, but simply a plain grey ware.
- ⑤ D.P. Tewari in his excavation of Kampil confirms early PGW ceramic tradition.

Thus, PGW culture probably corresponds to middle and late Vedic period (Kuru-Panchala Kingdom) thus a first large phase after decline of INC. It is succeeded by Northern Black Polished Ware (NBPW) from 700-500 BCE.

- Eastern region

A region eastwards from middle Ganga valley from Kausambi onwards, Iron is seen merely grafted within \varnothing previously existing Chalcolithic Black and Red ware.

- ↳ Iron occurrence is not very diff in chronological sense from western region. At Kausambi, Chirand, Mahisadul & Pandy Rajar Dhibi, the iron occurs around 800 B.C.
- ↳ Almost all sites shows continuation of microlithic component without change.
- ↳ sharply carinated vessels becomes quite common, although many of them do not carry decoration.

- ③ Southern Region

Southern Neo-chalcolithic sites shows change in metal around 800 B.C.. At sites like Hallur, this change to iron have occurred earlier.

By an average, appearance of iron in south India is chronologically almost

nearer to that of western UP i.e. 800-500 BC

↳ The fact that iron age of south is known entirely from large & complex variety of burials & grave goods (like Gandhara grave culture) gave it name Megalithic Culture.

↳ origin: debate on origin of southern megalithic

i) appearance of culture, entirely exotic to pre-existing cultural canvas of region lead to belief that megalithic builders arrived from west, via sea route (from coastal region of Arabia)

ii) Sancar (1960), examining skeletal from Brahmagiri, Yalleshwaram, trace origin of racial stock to Sythians or Iranian

↳ Burials:

i) large urns, with collected bones, put in pit along with grave goods. The pit after covering is marked by circular stones

ii) Cists made of slabs of stone which may at times be covered with flat stone cover.

iii) legged urn or sarcophagi. used to encase body before burial

iv) sometimes, chambers are cut out in

compact lateritic floor & then body is placed.

↳ Pottery : Black and Red ware is most commonly found at all sites.

Pottery - Carinated vessels, bowls with pedestals and spouted dishes besides a conical shape lid.

Iron implements - sickles, flat axes, tripods tridents, spear heads, arrow heads.

* Socio-cultural features of Iron Age:

- (A) Economic - use of iron in tool kit enabled clearing of more forest, thus increased production in Agriculture.
- ① Irrigation started appearing owing to needs of agriculture.
 - ② Trade & commerce initiated between different regions.
 - ③ Pottery making reached ~~another~~ peak with rise of PGW along with BRW.
 - ④ More non-lithic tools like bone arrow heads, bangles, beads along with glass appears.
- B
- (B) Social - ① Urbanisation started emerging once again since decline of IVC.
↳ Middle Gangetic plain witnessed 2nd urbanisation phase during 'Iron age'.
- ② Complex, class based society started appearing due to complexities of trades, agric.
 - ③ Habitational pattern shows trends like mud bricks, cattle & dayab

③ • Religious

- ① Megalithic culture of south shows that role of religion & supernatural entities reached it's peak during this phase.
- ② Terracotta figurines shows personification.
- ③ emergence of full-time specialist

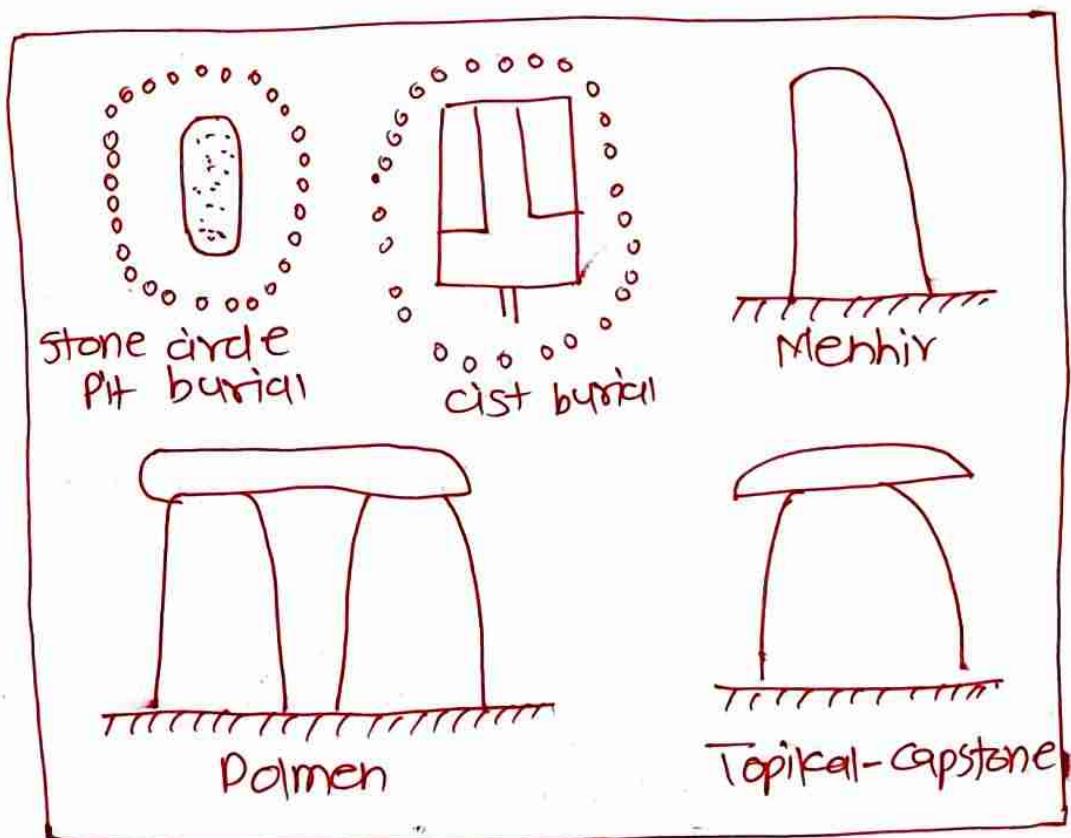
④ Political

- ① scholars like [B.B. Lal] equates Iron Age with age of Mahabharata.
- ② large sized kingdoms were based on foundation of iron age.
- ③ warfare increased owing to emergence of complex technology.

Megalithic culture in India

R.E.M Wheeler describes megalithics as 'monuments which are built of rough, large, undressed block of stones of rudimentary character which are burials, fulfilling funerary or commemorative or religious fun'?

In 1872, Fergusson in his 'Rude Stone Monuments in all countries' talked extensively about Indian megalithics. Meadows Taylor (1873) analyzed cairns, celtics in Deccan. However, first excavation done by Dr. Jagor in Adicandallur in Tirunelvelly district (TN). Rennett - Carnac (1875)



excavated site of Junapani near Nagpur.

Foot (1901) also discovered various antiquities. 103

- Regional variations & sites:

- ① Brahmagiri and chandranalli (KR) - by Mortimer wheeler who attempted to organise South Indian megalithic chronological
↳ wheeler discovered that megaliths here were not as old as thought.
- ② coorg - by K. K. Subbaya in 4 sites at Heggaddehalli
↳ unique burial → pit laid on granite slab on which funerary offerings were deposited.
↳ underground passage under cist.
↳ pottery - BRW
- ③ Karnataka megalithics - Sundara (1975)
tries to show mutual borrowing b/w people of neo-chalcolithic & megalithic.
Sundara, on examination of post holed cist finds resemblances with Mediterranean and western European megaliths.
- ④ Hallur & palyampalli - site shows judicious use of rocks → particular rock for particular tomb.
↳ unique architectural ex → passage chamber
↳ evidences of agriculture.

⑤ Maharashtra megaliths -

- i) Khapaq - on bank of river Krishna,
excavated by Nagpur University (1968)
 - ↳ 9 megaliths found, yielding evidence of BRW, micaceous red ware and coarse red ware, weapons of copper & iron.
 - ↳ Takalghat site → evidence of habitation.
- ii) Mahurjhari - considered as heaven of megalithic.
 - ↳ Consider to have 300 stone circles
 - ↳ pottery is BRW similar to Khapaq Takalghat.
- iii) Pune - just a memorial to dead, not a funerary megalith.

- ## ⑥ UP megalithic - discovery of megalithics in Banda, Allahabad, Mirzapur & Varanasi.
- ↳ cultural change in grave goods:
Unlike South (where microliths were found in grave goods), iron objects are found.
 - ↳ at Koldihwa & Khajuri → chalcolithic megaliths are found. between Varanasi & Ketta of Allahabad.

- Burial Rituals

- ↳ megalithic communities dominated by religious & supernatural beliefs → evident from elaborate objects associated with burials.
- ↳ diff burial tradition indicate diff. social & ethnic groups. But No regional convention regarding orientation of bodies or graves is observed.

- Social organisation

- ↳ as data on settlement pattern is virtually absent, difficult to construct social org.
- ↳ might have comprised of diff professional groups like smiths, warriors, goldsmiths, carpenters. which can be inferred from grave goods offered.
- ↳ community life must be present indicated from mammoth task of erecting megalith.

- Ethnic Affinity

- ↳ Rivett-Carnac relates megalithic builders to central Asian tribes
- ↳ Sarkar (1960): Scythians or Iranian based on Brahmagiri skeleton
- ↳ Gupta & Dutta (1962): Yaleswaram excavation also notes similar findings as of Sarkar (1960)

- Chronology

↳ Wheeler (1948) → assigned them date

2nd cen. B.C.

↳ Gordon & Haimendorf → 700 - 400 BC

↳ B.C. Seshadri → 6th cen. B.C.

↳ A.D. Sundara (1956) → 1100 BC for Tondai
in Karnataka.

↳ Sundara & Aiyappan extends megalithic
to Neolithic times.

- Megalithic as living tradition in tribes

The custom of erecting megalithic on large scale is seen among diff communities from Neolithic times to Bronze Age and early historic period. certain tribes erect megaliths till today, though reasons not clear.

(A) CENTRAL INDIAN TRIBES

Gonds, Kurumbas, Marias, Savaras, Ho & Munda who erect megaliths.

- Stone menhirs & wooden pillars

↳ wooden pillars curved at top to project as human head.

① Gonds - belief that spirit of dead resides in wooden pillars & menhirs

↳ Gronds give 3 reasons for erecting megaliths

- Soul of ancestor not to wander after death
- Soul not to harm descendants.
- bring rain.

② Morias: apply oil & turmeric on stone & wooden pillars. sacrifice animal and offer rice to megalithic pillars. in belief that spirit resides in it.

③ Savaras - before sowing, presents seeds in front of pillars & sacrifice animal to promote fertility of seeds.

④ Kurumbas - approach megalithics to get help in difficult times.

⑤ SOUTH DENDAS

⑥ • SOUTH INDIAN TRIBES

- Mottur village in TN - 'headless'

anthropomorphic statue called as Valiyar vadu in local language.

This represents god who refused to come with locals in difficult times, thus locals cut off his head.

(C) EASTERN INDIAN TRIBES

- ① Savars of Odisha: 'Gaur ceremony'
on death of member, where whole
community erects mehhirs to represent
dead who believed to have reached
'under world'. Elwin (1955) comments
that belief is that whatever offered to
Gaur goes straight down to under work

- ② Ho & Munda of Chotanagpur - resemble
Khasi mehhir → first cremate body,
collect ashes & bones and then put
them in grave.

(D) NORTH EASTERN TRIBES

There seems similarities in megalithic tradition
of N.E. tribes & S.E. Asian tribes.

- ① Garos (Meghalaya): erect a wooden
carved post of 'Y' shape in front
of houses in memory of deads.
as in Indonesia & Oceania.
↳ belief that it prevents misfortune.

- ② Khasis (Meghalaya): mehhirs, cist,
cairns, dolmen are found all over 109

Khasi hills. Locally, these are known as 'kynmaw' meaning 'to remember? The remains of dead are carefully preserved in stone sepulchers.

- ③ Karbis & Tiwas of Assam - Karbis erect Menhirs & Dolmens in honour of deceased. They also give feast to megaliths.
- ④ Anal Nagas - traditionally occupy a site of ancient marketplace known as Nortiang (near Shillong) which is important megalith site in Meghalaya.
- ⑤ Angami Nagas, Marams (Manipur) - female principle is represented by flat stones, male by upright stone (menhir).

Haimendorf (1945) opines that rituals associated with megaliths of N.E. tribes is to gain prestige for living & establish links to dead. This is similar to Indonesia. Thus Haimendorf suggest megalithic complex in zone extending from Khasi hills to southern Sumatra.