

LESSON 1

SURVEY OF SOURCES AND HISTORIOGRAPHICAL TRENDS

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India is a country which steadily developed through the ages and maintained a long cultural continuity. Every period of her history has left something to the present day. The purpose for the study of this course namely 'History of India upto 8th century' is to know how, when and where people developed the earliest cultures in India, how they began undertaking agriculture and stock raising which made life secure and settled. As an eminent historian has put it, "the study of ancient history shows how the ancient Indians discovered and utilized natural resources and how they created the means for their livelihood; how they made arrangements for food, shelter and transport; how they took to farming, spinning, weaving, metal working and the like; and also how they cleared forests, founded villages, cities and eventually large kingdoms".

In the eighteenth century, the growing administrative responsibility of the East India Company necessitated its officers to be familiar with the laws, habits, customs and history of the Indian people. The initial efforts in this direction culminated in the establishment in Calcutta in 1784 of the Asiatic Society of Bengal. Sir William Jones (1746-94) and Charles Wilkins developed keen interest in Indian literature and culture. However, the greatest impetus to Indological studies was given by the German-born Scholar F. Max Mueller (1823-1902). His effort gave rise to the idea of a common Indo-European homeland and heritage. Several early orientalist like Max Mueller spoke glowingly about the unchanging Indian village communities. They depicted India as a country of philosophers and believed that the Indian mind lacked the ability for political and material speculation. They stated that the ancient Indians lacked a sense of history and were accustomed to despotic rule. The Western scholars stressed that Indians had no notion either of nationhood or of any form of self government.

The Christian missionaries led by Charles Grant and the Utilitarians like James Mill did not share the early orientalist view of India and are said to have created "Indophobia" by describing Indians as barbaric, irrational and having no concern for political values. They described Indian society as unprogressive and stagnant.

Vincent A Smith was the best known of the British-administrator historians. He made a systematic survey of early Indian history. Smith believed that India had a long tradition of oppressive despots and exaggerated the ruthlessness of ancient Indian kings. He described Kautilya's penal code as 'ferociously severe'.

Thus the British scholars had different perceptions of early India. They wrote with a view to justify colonial rule and its exploitation of Indian resources thus distorting historical evidence in the process.

Indian scholars influenced by Indian reformist leaders, and also by the growing nationalism and political awakening presented a great challenge to the British views. They took upon themselves to reconstruct ancient Indian history in such a way as to make a case of social reforms and self-government. Notable among them were R.L. Mitra, R.G. Bhandarkar, S.K. Iyenger, N.K. Sastri, K.P. Jaiswal, R.C. Majumdar, V.K. Rajwade, and P.V. Kane etc. These

scholars defended Hinduism under the influence of social reformers who asserted that Hinduism embraced all religion in its fold. Reformers preached that revival of Hinduism was essential for the growth of India as a nation. But scholars failed to acknowledge the fact that Hinduism was at best an umbrella term for the different Indian religious thoughts, beliefs and practices prevalent in the Indian subcontinent.

Inevitably the myth of the Aryan race stirred the imagination of the nationalist leaders as well as historians. Though the early orientalist had established connection between Sanskrit and certain European languages, Indian scholars now regarded India as the cradle for the Indo-Aryans who were the earliest of human civilizations. Resultantly, they pushed back the antiquity of Indian culture. The discovery of the Harappan Civilization proved a challenge to the assertions made by such scholars. But R.L. Mitra, R.G. Bhandarkar and V.K. Rajwade generally adopted a rational attitude to the past. They were basically social reformers and against this background of reforms and study of ancient Indian texts that they made significant contributions to the reconstruction of the political and religious history of early Indian. For example, Bhandarkar supported widow re-marriage and denounced the evils of caste system and child marriage. Rajwade's study in Marathi on the evolution of the institution of marriage is a classic insight on the subject.

But the Indian historical scholars, who were initially inspired by the ideas of social reforms, gradually became anti-imperialist. The spurt in changes on Indian political scene after the partition of Bengal in 1905 and the awakening of militant nationalism, made a mark on the historical writings. The gradual change in historical writings was seen partly as a reaction to the imperialist views of India's past and partially as an effort to build national esteem. Hindu culture was looked upon as the precursor of other Asian cultures. The ancient period of Indian history, thus came to be glorified as one of social peace, harmony and prosperity. The age of the Guptas was considered as the 'Golden Age' of the Guptas.

The nationalist historians also began to attribute to ancient Hindus the highest achievements in the field of political thought and practice. The discovery of Kautilya's *Arthashastra* and its publication later in 1909 drew comparison in the social legislation of Bismarck and socio-economic policies of Kautilya. Ancient Indian tribal oligarchies were equated with Athenian democracy. Parallels were also drawn between the constitutional monarchy of Britain and Kautilyan Kingship. All these writings demonstrated that the tradition of democratic government was well entrenched into the Indian Political System. These writings sharpened the edge of freedom struggle. They highlighted the ancient period as glorious overlooking the inequalities and limitations of the past and furthered the struggle of the Indians against the British, thereby providing an ideological weapon to the freedom movement.

The nationalist historians, the most important being K.P. Jaiswal, did glorify ancient India on the one hand, but on the other their approach to the study of early Indian history and culture was no less unhistorical than that of the British historians. They based their information on isolated favourable references from ancient texts and generalized the entire ancient period. They ignored the changing character of Indian society. In a sense, their writings seem to have been influenced by the revivalist ideas of Vivekanand, Dayanand and others. Hindu revivalism also meant the acceptance of Mill's periodisation which was based on the wrong premise that ancient India by nationalist historians meant the glorification of what appeared to them as Hindu India. But these writings ignored the fact that the Indo-Greek, Sakas, Kushanas, Mauryans were not Hindus.

Writings of nationalist historians did not evolve a scientific periodisation of Indian history. They continued to adhere to Mill's chronological order not realizing the essentially composite character of Indian culture. This led to communal historiography thereby ruling out all possibility of a rational basis of periodisation.

Recent scholars have shifted their focus from traditional political dynastic history to the study of social, economic and cultural history thereby recognizing the effect of socio-economic changes on the political developments of the time. Basing their study in conjunction with archaeological and anthropological evidence, elements of change and continuity have been noticed in the early Indian society and economy. Major study in this direction has been made by D D Kosambi in 'An Introduction to the Study of Indian History' and 'The Culture and Civilization of Ancient India: a Historical outline'. In an attempt to survey the periodisation of early Indian history, Kosambi thinks that the history of society, economy and culture is an integral part of the development of the forces and relations of production. Basing one's view point on this theory one could think of arguing that medievalism did not coincide with the advent of Islam but it was the end of the Gupta rule in sixth century A.D. that marks the beginning of some important developments in India. The decline of imperial Guptas led to the rise of feudal principalities. Volume of trade declined leading to a relatively closed village economy. This in turn led to the surfacing of feudal agrarian set up and emergence of serfdom. Regional cultural units emerged as small principalities as a result of lack of imperial control. This led to the growth of regional languages, art and architecture. Bhakti or devotion also played important role in the newly emerging Indian feudal society. Thus the end of sixth century and beginning of seventh came to be regarded as watershed between the ancient and medieval periods of Indian history.

SOURCES OF ANCIENT INDIAN HISTORY

In order to study the life of Indian people in the past, we have to rely on different sources of Indian history. Although there is an absence of any historical chronicle, it does not mean that Indians lacked in historical sense. The information derived from literary sources and corroborated by archaeological evidence helps us to form a complete picture of our ancient times. The sources for the reconstruction of ancient Indian history can be studied under three broad headings namely (1) Literary sources (2) Archaeological sources and (3) Accounts of the Foreign historians and travellers.

LITERARY SOURCES

Literary sources may broadly be divided into three main parts : (1) Socio-religious scriptures, (2) Secular literature and (3) Historical writings.

1. Socio-Religious Scriptures : Socio-religious scriptures again can be classified into three main branches namely (i) Hindu (ii) Buddhist and (iii) Jain.

(i) Hindu : Sometimes it becomes difficult to draw a clear-cut demarcation between religious and secular literature. However, such exceptions will be referred to in course of present discussion.

Rig-Veda is the only indigenous source for reconstructing the history of the Rig-Vedic Aryans. History of the Later Vedic Civilization generally is to be traced in the following main scriptures: the three later Vedas, namely, Sam Veda, Yajur Veda and Atharva Veda; the Brahmanas, which are the commentaries on all the Vedas; the Aranyakas and the Upanishadas which constitute the mystical and philosophical literature; the Sutra literature which mainly

contains socio-religious laws, customs and usages of Hindu society; the two great epics namely Ramayana and Mahabharata (partly religious and partly secular) which throw a flood of light on different aspects of Hindu society before sixth century B.C.; the Puranas (partly secular and partly religious) and the Smriti literature belonging mainly to the period since sixth century B.C., containing valuable accounts of the Hindu socio-religious customs and geneological list of certain Hindu dynasties, chiefly of the Kurus, the Nandas and the Mauryas. The Puranas also contain an unauthentic chronological political history of Northern India and the Deccan before sixth century B.C.

(ii) Buddhist : The Buddhist and the Jain literature bear more authentic informations on the basis of which, since sixth century B.C., political history of ancient India has been ascertained more or less in chronological order with occasional gaps.

The following are the important Buddhist religious works which preserve valuable testimonies on the present subject of study; *Tripitakas* contain all the basic aspects of Buddhist socio-religious order. *Jatakas*, *Divyavadana*, *Lalitavistara*, *Mahavastu*, *Mahaparinibbansutta*, the Pali chronicles of Ceylon-*Dipavamsa* and *Mahavamsa* etc. are the most authentic Buddhist works in determining the early career and the succession of Chandragupta Maurya as the first Mauryan emperor; the Mahayana works of Asvaghosa, such as, *Buddha Charita*, *Saundarnanda kavya* (partly religious and partly secular), *Vajrasuchi* etc. offer valuable materials on different aspects of ancient Indian history during the Kushana period; another important Mahayana work *Manju-Sree-Mulakalpa* (partly religious and partly secular) throws light on the personal qualities of Samudra Gupta, the first builder of the India-wide Gupta empire.

(iii) Jain : The following important Jain works, such as, twelve-Angas, *Kalpasutra*, *Bhagavati Sutra*, *Marutunga*, *Parisistaparvan*, *Uttaradhayayana*, *Andhara-Magadhi*, *Sthaviravali*, etc. not only bear important historical data on Jain religion and culture, but also on important monarchs like Bimbisara, Ajatasatru, Mahapadma Nanda, Chandragupta Maurya etc.

2. Secular Literature : Besides these socio-religious scriptures, there is a vast secular literature containing valuable historical evidence on ancient India. It may be divided into following three main parts (i) Works relating to Political economy, (ii) Drama and (iii) Biography. Of these only the important works are mentioned below.

(i) *Works Relating to Political Economy :* Kautilya's *Arthashastra* reveals most authentic informations on all basic aspects of the structure of the Mauryan empire such as economy, administration including an elaborate system of espionage, art of diplomacy and military strategy and tactics. But systematic political events with geneological lists are conspicuously absent in it as it mainly gives us a detailed information of the politico-economic and religious life of Mauryan times.

(ii) *Drama :* Drama is another source of information regarding ancient India. Only the most important and relevant dramas are noted below : Vishakadatta's *Mudrarakshasa*, a well written drama, contains valuable informations on the Nandas and the Mauryas; his another dramatical work *Devichandraguptam* (only a minor portion of which is now available, most of this work being lost) bears valuable historical data on the geneology of the Guptas; Kalidasa's famous work *Malavikagnimitra* offers us valuable information regarding the Sunga dynasty.

(iii) *Biography*: Among many, following are the few important biographies which give us a glimpse of the private life and work of Gautama Buddha and of certain important monarchs of late Hindu period.

On Buddha's life *Buddha Charita* and *Saundarnanda Kavya*, written in Kavya style by Asvaghosa are well known.

Banabhatta's *Harsha Charita* on Harshavardhan, *Nava-Sahasanka-Charita* by Padmagupta on Gauda King Sahasanka, Bilhana's *Bikramankadeva-Charita* on King Vikramaditya of the later Chalukyas, *Bhojparabanda* of Ballala on the Pratihara King Bhoja, *Prithvirana-Charita* written by Chand Bardai on Prithviraj Chauhan etc. are important monarchical biographies.

(iv) *Sangam Literature* : The Sangam literature of the Tamils in far South, written in Kavya (poem) style are the most representative of the secular literature of the South during the early Christian era. Of those the following three are most relevant as the literary source materials for the study of early history of Far South : (1) *Patthuppattu* or the Ten Idylls, (2) *Ettuthokai* or the eight Collections, and (3) *Pandinenkilkanakku* or the Eighteen Minor Didactic Poems. They furnish us an all-round picture of the life of the people of Tamil land during the 1st to 3rd Century A.D.

(v) *Secular Philosophy* : Ancient Indian philosophy has flourished mainly on the basis of religion. But there are a few exceptions also. The following are the noteworthy theories on secular philosophy : (1) Theory of Dialectics preached by Gautama Buddha and (2) philosophy of relativity formulated by the great Mahayana Buddhist philosopher Nagarjuna in his famous work *Prajna-Parimita-Sutra-Sastra*. He has termed this philosophy of relativity as Madhyamika.

Some of the secular literature noted above contains some element of religion also.

3. Historical Writings : Ancient Indian historical writings may be divided into following two categories (1) History written by individual historians, and (2) Historical chronicles preserved by different local dynasties.

(i) *Individual Historians* : Among the historical writings of individual historians, the most important one is the *Rajatarangini* written in verse by Kalhana in A.D. 1149-50. He wrote this work mainly on the basis of the written records of Kashmir.

(ii) *Local Dynastic Chronicles*: A number of dynastic historical chronicles have been found in different parts of Northern India. Only some important chronicles are mentioned below. In Gujarat the following well-known works have been discovered : *Ras-Mala* and *Kirti-Kaumudi* of Somesvara, *Prabandha-Kosa* of Rajaskhara, *Vasanta-Vilasa* of Balachandra etc. These works contain both fables and facts.

In Sind, in early 13th century, with the initiative of the Arabs, was started the writing of local historical chronicle named *Chachnama*. It narrates in details the Arab conquest of Sind. Only the translated versions of *Chachnama* in Persian have reached us. They also contain the historical background of the century previous to the Arab Conquest of Sind i.e., of the early 7th Century.

Local chronicles of Nepal are known as *Vamsavalis*. Early portions of those works are, "purely mythical", while the accounts narrated in them since 1st century A.D. contain some

materials relating to history of Nepal as they bear a list of the names of Kings with the duration of their reigns.

In Assam local chronicles of Kamarupa Sansnavali are one of the important sources in reconstructing the history of late Hindu period of Kamarupa in Assam.

From the above reference of important historical writings it appears, in different other regions of the Indian sub-continent also was prevalent the system of preserving historical chronicles which perhaps were later destroyed due to reasons mentioned earlier.

ARCHAEOLOGICAL SOURCES

Archaeological evidence may be divided into following four categories (1) Inscriptions (2) Coins, (3) Monuments and (4) Miscellaneous.

(1) **Inscriptions** are the most reliable source of ancient Indian history as they are generally devoid of myths and narrate facts. They are inscribed on stones and metals. Their script enables us to determine the approximate age of the inscription. Thus as historical evidence, inscriptions take precedence over mode of literature.

The inscriptions so far discovered many broadly be divided into two parts: (1) Official and (2) Private. They are written in different languages, such as Pali, Prakrit, Sanskrit, Tamil, Telegu etc. Before the Gupta period 95 per cent of such inscriptions were written in Prakrit.

Two types of scripts were prevalent in writing these inscriptions viz. Brahmi and Kharosthi. Most of the inscriptions were written in Brahmi, while only a few were written in Kharosthi which was derived from Aramaic and similar to the Semitic alphabets.

Brahmi script had an indigenous origin. But due to its long non-use in Modern times up to 1836, it was not understood even by the educated Indians. In 1837, from Ashokan Pillar Inscriptions, James Prinsep, the then secretary of the Asiatic Society of Bengal, deciphered the Brahmi script.

(i) *Official Inscriptions* : Official inscriptions were issued by the monarchs and their officials. The earliest known inscriptions are the Ashokan Edicts. There are 14 major rock Edicts, a number of minor rock Edicts, 7 Pillar Edicts and 9 other inscriptions of Ashoka discovered so far.

The Hathigumpha Inscriptions of the Kalinga King Kharavela, the Junagadh Inscription of the Saka King Rudradamana, the Nanaghat inscriptions of the Satavahana King Gautmiputra Satakarani, the Taxila Silver Scroll and the Panjtar Stone Inscriptions of the Kushans etc. are the most noteworthy inscriptions. They offered valuable informations regarding the life and work of those monarchs.

Prasastis are a different kind of official inscriptions, written by the Court poets and officials, on behalf of the Kings and emperors, narrating their achievements and personal qualities. The following are the important Prasastis: Allahabad Prasasti on Samudra Gupta written by his court poet and high official Harisena on an Ashokan Pillar narrates the India-wide conquests of Samundra Gupta. The Gwalior Prasasti on King Bhoja throws light on the Imperial pratiharas; Deopara Inscriptions on King Vijaya Sena of Bengal bears his victories and achievements; the Aihole inscription which reveals the achievements of Chalukya King Pulakesin II belongs to the category of Prasasti.

Certain other important inscriptions, such as Eran Inscription of Samudra Gupta; two inscriptions of Prabhavati Gupta, daughter of Chandra Gupta II, and married to Vakataka King Rudra Sena II; Mehrauli Pillar Inscription of Chandra Gupta II, Bhitari Stone Pillar Inscription of Skanda Gupta etc. contain valuable data on the Gupta-Vakataka period.

About Harshavardhana, valuable information can be gathered from his Sonipat Copper Seal Inscriptions, Banakhera-Plate, the Madhubana Copper Plate etc.

Aforesaid important official inscriptions are mainly on conquests, administration, politics and personal qualities of different monarchs. There are also a number of royal edicts on the land grants to the Brahmins, officials and favourites which record authentic informations on the socio-economic aspects of ancient India. Certain inscriptions of Ashoka and the Satavahanas, the Gupta, and the Cholas belong to that category.

(ii) *Private Inscriptions* : Private inscriptions are more numerous than the royal edicts. But they contain very little political information. Since the Gupta period, gradually they were issued in large number by the feudal lords under different monarchs to the Brahmins, their tenants and favourites.

The inscriptions engraved on the walls of religious buildings mainly bear information on the socio-religious and cultural aspects of ancient India.

(b) **Numismatic Evidence** : Numismatic evidence, though comparatively less important than its inscriptional counterpart, forms a very authentic source of information on certain periods of ancient India. It can be broadly divided into two distinct periods: pre and post-Alexander's invasions. Coins in the period prior to Alexander's invasion are generally of two types : Coins cast in die and punch-marked coins. Coins punched on metallic pieces bear figures and symbols almost devoid of legends. Such coins were issued both by the monarchs and state authorities on the one hand, and by private merchants, tradeguilds, city corporations and other small private bodies on the other. But in absence of legends their time and exact place has not yet been ascertained. They only bear some vague religious and artistic ideas. The rare legends inscribed on them only mention the private guilds which issued them.

After Alexander's invasions, due to Greek impact Indian coins gradually witnessed qualitative improvements with legends inscribed on them. This has helped us to ascertain their authors, date and place.

The Indian coinage between the two great empires of the Mauryas and the Guptas are greatly indebted to the Greeks. Only few coins of the time of Alexander have been discovered so far. But numismatic evidence plays a key role in reconstructing the history of the Bactrian Greeks, the Sakas, the Parthians and the Kushans. The coins of copper, silver and gold issued by the Indo-Greeks are of artistic excellence. From the literary source we know only names of four or five Bactrian Greek kings who ruled in the North-Western region of India for nearly two hundred years. But the numismatic study suggests that nearly thirty Greek kings and queens ruled there.

Regarding the Mauryan and the Gupta emperors too, coins form an important source of information. But the Gupta coins are the best specimen of all coins of ancient India and are devoid of foreign influence.

Coins correct, corroborate and supplement the literary and epigraphic sources of ancient Indian history. They help us to reconstruct the constitutional and administrative history of India

and at the same time they throw light on historical geography and the religious history of ancient India.

But with the downfall of the Gupta empire, coins play a much lesser role as a source of ancient Indian history. The coins of Harshavardhana, the Chalukyas, the Rashtrakutas, the Pratiharas and the Palas are rarely available and contain meager historical informations.

(c) **Ruined Cities and Monuments** : the most important aspect of archaeological source is the large number of excavated ruined cities where in lie a large number of monuments.

The following are the important excavated cities and towns of ancient India, Rajgir (ancient Rajagriha), Nalanda, Bodh Gaya, certain parts of Pataliputra etc., in Bihar, Peshawar (ancient Purushapura), Taxila etc., in North-western Frontier Province and the Punjab; Paharpur, Mahasthana, Pundravardhana, Kotivarsha etc., in Bengal; Vrissa, Padmavati, Ujjain, Sanchi etc., in Madhya Pradesh; Bairat, Rairh, Sambhar, Karkotnagar etc., in Rajasthan; Langhnaj, Anhilper, Patan, Amreli, etc., in Gujarat; Kolhapur, Kondapur etc., in Deccan; Chandravali, Brahmagiri etc., in Mysore; Amaravati, Nagarjunakonda etc., in Andhra; Virampattanam etc., in Madras; Mathura; Varanasi, Sravasti, Kausambi, Ahichchhatra, Hastinapur etc., in U.P.; Parihaspur, Avantipur, Martand etc., in Kashmir.

Special mention may be made here of the pre-Aryan civilization of Indus Valley, excavated partly in Mohenjodaro and Chanhu-daro in Sind, and partly in Harappa in the Punjab during the later phase of British rule in India. With extensive excavations in post-independent period, sites have been discovered in a large area consisting North-Western India, Rajasthan and the Deccan. Mehrgarh excavations deserve a special mention since Mehrgarh, located on the bank of the Bolan river in the Kochi plain (Baluchistan), is the only known Neolithic settlement in the Indian subcontinent, attributed to approximately 7000 B.C.

(d) **Miscellaneous** : Apart from the above mentioned archaeological sources, certain other materials, such as cave temples and monasteries, pillars, potteries, seals, stone, tools and implements etc. also provide us authentic information on socio-economic, religious and cultural aspects, and to a lesser extent on the political aspect of ancient Indian history.

It has already been pointed out that since independence, with the initiative of Central and State archaeological departments and different universities, almost every year archaeological excavations are revealing new data on different aspects of pre-history and ancient history of India. Yet it will take a long time to complete the entire archaeological excavations as Indian sub-continent is the treasure-house of archaeological information due to its long history of civilization.

ACCOUNTS OF FOREIGN HISTORIANS AND TRAVELLERS

Foreign accounts are of immense importance in the reconstruction of ancient history. According to K A N Sastri, "The accounts of any country and its people by foreign observers are of great interest to the historians of the country. For they enable him to know what impression is made upon the minds of such observers and to estimate with greater confidence the part played by it in the general history of the world".

Herodotus in his "*Histories*" gives us information about Indo-Persian relations and the political condition of North West India in his time. Arrian wrote a detailed account of the invasion of India by Alexander. The Greek ambassador to the court of Chandragupta Maurya, Megasthenese in his book Indica, gives a descriptive account of India at that time.

The Greek account of the *Periplus of the Erythraean Sea* gives us an idea of the maritime activities between India and the west by mentioning ports, harbors and merchandise. Ptolemy wrote about the geography of India during second century AD. Pliny gives an account of the Indian animals, plants and minerals in the first century AD. The accounts of Plutarch and Strabo also provide us useful information regarding socio-economic life of their times.

But the Greek accounts are based on generalizations. Their ignorance of the Indian languages might have affected their impressions and knowledge of our country. Since the Greek ambassadors mostly stayed in state capitals, their information was based on mere hearsay which could have been put up in distorted or exaggerated way.

Chinese accounts of Huein Tsang and Fahein provide us with useful information regarding the life during the reign of Harsha and Chandragupta II respectively.

Tibetan historian, Taranath in his "History of Buddhism" gives us information about Buddhism and its spread. Arab accounts of Travellers and geographers mostly deal with India and its inhabitants and not history as such. Alberuni's *Tehquiq-I-Hind* throws light on various aspects of socio-economic and political condition of India at the time of Mahmud of Ghazni.

Limitation of Literary Sources

If we had to rely on literary sources alone, our information would have been incomplete. The greatest handicap in the study of the history of ancient India is the absence of a definite chronology. Since the fall of the Andhras in the third century AD our knowledge about ancient India is very less. Fortunately the gap has been filled by actual remains of this period in the shape of coins, inscriptions and monuments.

We do not have continuous written records of the past because some have been destroyed with passage of time. Some records narrate falsification of data, some do not write the events as they were held but mention the impression of the event on the mind of the writer followed by latter's interpretation. Moreover the bias and exaggeration in the works of court poets does not give an objective assessment of the period the work pertains to. It is at this stage that the actual remains of the past come to the rescue of the historians to form a fair and objective assessment of the events that took place in the past.

The digging of the old sites at Pataliputra gives us information regarding the old capital of the Mauryas. The Angkor vat in Combodia and Barabodur in Java bear testimony to the colonial and cultural activities of the Indians in ancient times. The temples of Deogarh in Jhansi and Bhitargaon near Kanpur throw light on the artistic activities of the Guptas. The excavations at Sarnath have added to our knowledge regarding Buddhism and Ashoka. Stone tools and artifacts tell us about the Paleolithic age. Paintings at Ajanta and Ellora show the artistic excellence of Indians in ancient times.

Conclusion

Thus, in order to study Indian history in a comprehensive manner one has to depend on literary as well as archaeological sources which help us to form a complete picture of the ancient times. The information provided by literary texts if corroborated by archaeological remains helps the historian to improve the scale of historical authenticity and reliability of fact.

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INTRODUCTION

The Terms –Region, Environment and People

Region is a concept both familiar and useful to fields of knowledge ranging across the arts and social sciences. Distinctive resource endowments, climatic features, and plant and animal life along with the widespread patterns of human occupation, all differentiate the earth's surface. This differentiation is the basis for identifying and naming regions. In other words, a 'region' refers to an area having associated definable characteristics. However, the term 'region' is a broad concept which is defined differently in various contexts. While classifying the regions, a geographer may use expressions such as 'physical regions', 'natural regions' etc., whereas a linguist would be more interested in 'linguistic regions'. Likewise, a sociologist would venture to investigate into 'cultural regions', 'caste regions' etc. These regions can be further divided into sub-regions.

However, despite the various connotations, the region enjoys a special relevance in geography due to its popular association with earth's surface. Thus, regions, by this very fact, are geographical regions with different characteristics. But it is to be noted that for understanding historical processes one has to assimilate the various facets of a region rather than just confining to any single approach. Moreover, these regions do not have fixed boundaries always. Hence, a social scientist must use the tool of interdisciplinarity while delineating regions. Therefore, regions here will be discussed as a geographic concept.

Environment is taken as the surroundings or conditions in which various species (man, animals and plants) exist and function. We know that history and geography mutually influence each other. In other words, History without Geography is incomplete, and cannot be explained in terms of spatial developments. That is why, the study of geography specially environment helps us to understand the history of human impacts on nature and the interactions between human and nature (Ecology). The term 'nature' and 'environment' are largely seen as being synonymous. In traditional, preindustrial societies, generally, the natural environment is described as comprising of elements such as the landscape, rivers, climate and weather, animals, plants, etc.

People have been the prime movers in history. The mankind has adapted itself to the changing environmental conditions corresponding to different regions since prehistorical past. The journey from the hunter-gatherers to modern man has followed an evolutionary pattern. Not only this, it becomes important here to draw from the researches with regard to composition of different races, communities, etc. People too are differentiated in terms of demographic patterns, ethnicity, cultural traits, occupations, etc. by anthropologists, sociologists, psychologists, historians, and other social scientists. Besides, terms such as backward, underdeveloped, primitive, uncivilized, etc. have often been used in connection with progressive terminology.

Indian subcontinent has been the meeting ground of several languages and cultures. Thus, the role of people becomes significant for exploring about the social formations and transitions in different regions in our ancient past.

Constructing Regions and Environment with Special Reference to India

Here, we would discuss the regions with regard to physical divisions. This would reflect how the regions are classified on the basis of the geographical factors. This alone can justify why different kinds of population existed in different regions with different environmental conditions. These factors are the major determinants of historical developments.

Regions

Indian subcontinent is spread over six countries-India, Bangladesh, Nepal, Bhutan and Pakistan and Sri Lanka. It is as large as Europe without Russia. It covers a total area of 4,202,500 square kilometers. Indian subcontinent is marked by variations in soil types, topographical features, rainfall and climatic conditions, which are given shape to different regions. These regions have their distinct identity on account of their separate language, food, dress, crop pattern population density, caste structure, etc.

The subcontinent can be broadly divided into the following main regions on the basis of their physical features. These are :

- (i) The Himalayas,
- (ii) The Indus Plains,
- (iii) The Gangetic Plains
- (iv) Eastern, Western and Central India, and
- (v) Peninsular India

The Himalayas, the world's largest mountain range, include extensive mountain ranges with 95 peaks reaching a height of over 7500 m. These mountain ranges measure about 2,560, km in length and their breadth varying from 240 km to 320 km. As a great barrier these ranges have not only checked the enemies but also protected us from the cold winds coming from the north. Nevertheless, the passes have provided access to the invaders, traders, missionaries, and other elements of population, which resulted in interactions in various spheres. The Himalayas can be further sub-divided into three main sections : (i) Eastern Himalayas, (ii) Central Himalayas, and (iii) Western Himalayas.

The Eastern Himalayan section extends from Darjeeling to the Assam-Burma ranges. The Central Himalayan region covers the areas from Bhutan in the east to Chitral at the fringe of the great table-land of Tibet in the west. The Indian sections of the Central Himalayas are separated by Nepal into the western and eastern regions. The Hindukush range forms the westward extension of the Himalayas into Afghanistan. The Karakoram range, which now lies in Pakistan, is the greatest part of the northernmost Himalayan ranges. This is separated from the Zaskar ranges running parallel to the south by the Indus river. Surrounded by these high peaks in the north and the Pir Panjal in the southwest lies the famous Himalayan valley of Kashmir.

The rich Indus plains in the upper part include the areas of Punjab (both India and Pakistan). The five tributaries of the river Indus in this region have created a vast alluvial plain earning the name 'bread-basket' of the subcontinent. In the east these plains merge with the Gangetic delta. The lower Indus Valley and the delta constitute Sind. This covers the areas between the Baluchistan hills on the north –west and the Thar desert on the south-east. This region is also gifted with rich alluvial soil suitable for the cultivation of rice and wheat.

The Gangetic plains of northern India were formed by the deposition of alluvium in the trough fronting the Himalayas, and the erosion caused by the rivers. They can be subdivided into three – (i) Upper, (ii) Middle, and (iii) Lower.

The Upper plains largely include the *doab* in western and central Uttar Pradesh. The Middle Gangetic plains correspond to eastern Uttar Pradesh and Bihar. This starts from Allahabad, the confluence of the Ganges and Yamuna, and the terminal point of *doab*. The lower plains include the areas of Bengal. These are formed by the alluvial-deposition of the rivers Ganga and Brahmaputra.

The Eastern Indian region constitute the coastal plain of Orissa. This is located to the south-west of the Gangetic delta and the eastern end of the hills of Central India. Mahanadi is the major river which along with other rivers have drained this region since ancient period.

Western India is located on the western end of the Central Indian belt. This corresponds to the modern state of Gujarat. The central peninsula of this region is called Kathiawar. The northern Gujarat is a semi-arid region whereas the southern areas on the western coast are fertile. Rann of Kutch is the low-lying area which turns into a swamp during the monsoons. The Saurashtra region is close to the Indus and has often served as a transition zone between Sind and lands farther west. The rivers Narmada, Tapti, Sabarmati and Mahi have helped in the formation of the coastal plains by carrying and depositing alluvium brought from the Central Indian hills.

The Central Indian belt constitutes the areas falling under southern Bihar, Chhattisgarh, western Orissa and eastern Madhya Pradesh. It is a hilly region where the elevation of hills are not very high. But these hills are broken by steep slopes and intersected by valleys. Except the Aravallis, all other hills run from east to west. The Aravallis, located in the north-western part of this region extend from south-west to north-east. The Chhattisgarh plains, drained by the upper Mahanadi, is located on the east of this region. Narmada and Tapti are the main rivers.

A larger part of the Peninsula, in contrast to the alluvial plains of north India, comprises Archaen rocks. Rocks of this system are the oldest in the world. The oldest rocks (gneiss) in the peninsula are dated at more than 3100 million years old. The Nilgiris and Palani Hills are among the most striking examples. The Eastern Ghats are a second major belt of gneissic rocks. The distinction between the Indian peninsula in its triangular shape from the Aravallis mountains southward and including Sri Lanka, and extra-peninsular India is fundamental both in terms of their origins and their geological structures. In short, this region includes the Deccan (meaning “South”) Plateau and the surrounding coastal plains. The coastal plains are broad in the east and extreme south while those in the west are narrow. One can observe their narrowest stretch between Bombay and Palaghat. The Deccan Plateau is divided into three major regions which largely correspond to the states of Maharashtra, Andhra Pradesh and Karnataka. The Andhra region is sub-divided into many sub-regions such as Telangana (north-western part of the Deccan Plateau), the coastal plains, Rayalaseema, etc. The major rivers of the peninsula are Narmada in Maharashtra, Krishna and Godavari in Andhra Pradesh, and Kaveri in Tamilnadu. The coastal regions embedded with a number of ports facilitated the commercial and cultural exchange through the ages.

Environment

The natural environment is the primary determinant of what all species of plants and animals are present in a particular surrounding. Climate, for example, influences site location, subsistence and settlement patterns. Moreover, it does constrain which crops are grown and when they are planted.

The environment mainly comprises of various elements such as the climate and weather, landscape, rivers, animals, plants, etc. However, of these, climate is instrumental in influencing the other characteristics of a region. With regard to the subcontinent, the term 'monsoon' ("the Rains"), which implies the seasonal wind reversal, is the dominant feature of the climate. In fact, from the equatorial Maldives to the Mediterranean latitude regions of northern Kashmir, the climate of South Asia is dominated by the monsoon. The countries of South Asia include some of the wettest regions on earth as well as both hot and cold deserts.

For understanding the history, it is important to have a brief look at the climatic features of India. India's regional climates vary from the desert of Rajasthan to the maximum rainy area on earth, the Shillong Plateau. Despite its tropical latitude (Tropic of Cancer), India experiences huge contrasts both of rainfall and temperature from region to region. Though, the terms –winter, spring, summer and autumn, are often used to describe climatic transition in India, in strict sense, the seasons do not correspond to this progression of seasons. Factors such as humidity, aridity, etc. is also to be seen in relation to the hotness or coldness of the seasons. These vary from region to region and affect temperature. However, the climatic transition very much depends on the arrival of the monsoon. Although regional climates are very strongly affected by altitude and physiographical factors, both natural and man- made.

The seasonal and regional contrasts in rainfall are more striking than contrasts in temperature. Southwards from Mumbai, the coastal fringe of the Western Ghats intercepts the southwest monsoon winds from May to October, resulting in excess rainfall of 4000 mm. The Western Ghats running parallel to the west coast produce a marked rain shadow effect. As a result, the total rainfall in the interior peninsula measures to rarely exceeding 800 mm until the east coast is reached. The rainfall increases towards the northeast producing over 1600 mm in West Bengal. Assam records some of the highest rainfall totals in the world. The Shillong Plateau on an average receives over 20,000 mm of rainfall annually. Delhi in the north records 600 mm annual rainfall whereas the rainfall decreases southwards in Rajasthan measuring a total of less than 100 mm.

However, there are some exceptions to the climatic patterns discussed above. Tamilnadu in southeastern India forms a rainshadow area of the Western Ghats when the southwest monsoon brings rain to the west coast. This region receives most of its rain between October and December, when the northeast monsoon reasserts itself. On the contrary, a narrow strip of the Panjab, which lies on the foothills or lower slopes of the mountainous region, receives winter rain through depressions in the westerlies which prevail across northern India throughout the winter. Similarly, the climate of the entire Himalayan region is modified dramatically by altitude.

Regional Variation and Environmental Changes: Their Significance in History

In his struggle for existence man has influenced environment for his survival. To a great extent the environment influences the socio-cultural system growing in a particular habitat. Thus, it is important to study the environmental changes over the centuries in relation to the settlement

and subsistence pattern to understand our historical past. Not only this, it is also to be observed that how man related himself to the nature in different periods. But the regions, environment and people should not be studied in isolation from each other. So, our attempt should be to explain them in relation to one another.

To begin with the Stone Ages, we find that the hunter-gatherers depended very much on the natural resources. The nature offered them various kinds of edible items like roots, fruits, honey as well as animals, birds and fish, which could be killed for food. So, the way they acquired their food influenced the character of their relationship with nature and also how they viewed nature. Moreover, the type of tools such as the Palaeolithic, Mesolithic and Neolithic tools reflect the techniques employed to exploit the nature according to the needs. The study of animal remains gives an insight into the variations in the pattern of prehistoric faunal exploitation. For example, there was rise in temperature and the climate became warm and dry in the Mesolithic phase. This climatic change affected human life and brought about changes in fauna and flora. The technology of producing tools also underwent change and the small tools known as the 'microliths' were used. This was due to the fact that now there was a shift in the pattern of hunting from big animals to small animals and to fishing and fowling.

In Neolithic period the human communities started producing their own food by cultivating cereals like barley, wheat and rice, and started domesticating animals such as cattle, sheep and goats for milk and meat as well as beasts of burden. Scholars have argued that climatic changes at the time of the withdrawal of glaciers around 8000 B.C. led to the reduction in the forest cover, thus, leading to a food crisis. This prompted hunter-gatherer societies to domesticate animals and cultivate plants. This process, besides other regions of the world, provided the stimulus for the beginning of agriculture and animals husbandry in the Indian subcontinent. The earliest evidence of this comes from Mehrgarh in the Baluchistan region of Pakistan, around 6000 B.C. These changes transformed a nomadic hunter-gatherer into a sedentary farmer. This led to the beginning of village settlements and manufacturing of new types of tools (neoliths). However, the Neolithic cultures in different regions emerged at different points of time, and their duration were also different. Due to the ecological variations within the subcontinent, the crops grown also varied.

Here, it is important to note that the stone age sites in India are mostly found in the hilly regions or the areas drained by the rivers. This shows that the stone age people selected their abode depending on their requirements with regard to the subsistence pattern.

The middle of the third millennium B.C. saw the rise of an urban civilization, which came to be called as the Indus or Harappan Civilization (c. 2550-1990 B.C.). Though this civilization was widespread covering a large area of over 1,000,000 k.m², majority of the sites are located in the Indus and Ghaggar-Hakra (Saraswati) region. The main geographical features include the lower Indus Valley, Sindh, and Panjab (now in Pakistan) with four principal tributaries to the Indus namely-the Jhelum, Chenab, Ravi, and Sutlej rivers. The Saraswati river is now a dry riverine system and is called the Ghaggar-Hakra region. To the west of the Indus basin is the eastern edge of the great Iranian plateau and the Hindukush. Today this area is known as Baluchistan and the Northwest Frontier of Pakistan. To the east are the Indian Panjab, Haryana, northern Rajasthan, and the Ganga-Yamuna *doab* of Uttar Pradesh. In premodern times this area was also a dry cropping area. To the southeast is Gujarat, which comprises of diverse regions from the wasteland of the Rann of Kutch, the pasture and dry farming areas of the Saurashtra peninsula, the sandy plains of North Gujarat to the wet coastal area of South Gujarat.

This region is known for the maritime trade since ancient period. Moreover, the black soil of this region, with its dry cropping properties, facilitates the cultivation of cotton. The millets such as jawar, bajra and ragi are grown during the monsoon season.

Recent researches in ethnobiology and paleoclimatic studies have helped in the reconstruction of the environment during the second and third millennia. Most evidence suggests that there has been no significant change in climate or rainfall since around 9,000 years ago. Though some scholars suggest that a more humid climate existed between 3000 B.C. and 1800 B.C. Some have suggested that winter rainfall was more abundant in the Rajasthan area between 5800 B.C. and 1800 B.C. The lakes and other water bodies in Rajasthan dried up. This suggests greater aridity towards the end of the Harappan phase of the Indus Valley tradition.

However these studies are contradictory and the environmental changes observed may represent natural fluctuations in a localized physical environment or the outcome of human activities. In the light of the present state of research we can say that the rainfall pattern then was not very much different from now. But there would have been better grass and the cover. The greatest difference between the third millennium B.C. and today would have been with regard to the drainage system. The classic example can be that of the Ghaggar-Hakra system, which dried up in later periods. The Indus river also changed its course. The investigations in the course of the Indus river in the third millennium B.C. suggest that the course of this river then was to the west of Mohenjo-daro. But today it flows to the east of the city. Moreover, the volume of water carried by the Indus in those days would have been more as today it is distributed through canals and other man made structures.

On the basis of the above assumptions we can draw a picture of the rise, maturity, decline and subsistence strategies of the Harappan civilization. The river plains nurtured the first urban civilization of the subcontinent. The fertile soil benefited for the cultivation of crops like wheat, barley, etc. This enabled the civilization to achieve a high standard of living. The agricultural surplus produced led to the establishment of many towns where the surplus served to promote further processing and exchange of materials-artisanal and trade activities. The ports on the West Coast helped the Harappans to trade with distant lands like Mesopotamia and regions of Persian Gulf. Some scholars argue that over-utilisation of the natural resources leading to depletion of the natural vegetation cover and a drier climate led to the collapse of the civilization by adversely affecting its subsistence basis. Moreover, in around 1700 B.C. the river Sutlej advanced towards the western direction to join the Indus and the Yamuna eastwards to join the Ganges. This also affected the Harappan settlements resulting in their decline. Scholars have also considered various environmental factors such as the geomorphological occurrences, aridity, etc. leading to the natural calamities, migration of people, etc. as the causative factors for the decline of this great civilization. The sense of ecology is well reflected by the Harappan seals which bear the impressions of trees like peepal (*Ficus religiosa*), and animals like rhinos, tiger, elephant, deer etc.

So, we observe a two way process wherein the environment on one hand provides direction to the human efforts and on the other, the human efforts influence the environment. Therefore, the changes in environment and shifting of the course of rivers, in some instances, led to the migration of population to other regions, whereas the cutting of trees, in some instances, helped in the creation of cultivable lands. This further led to the emergence of large settlements which subsisted on agriculture.

The advent of the Aryans to the subcontinent too is linked with the environmental factors. According to the scholars, there was a very cold and dry climate in Central Asia during the 3rd - 2nd millennium B.C. However, from the beginning of the 2nd millennium the Central Asia experienced severe cold. As a result, the people from southern Central Asia, in around 1500 B.C. advanced in the direction of Indian subcontinent in search of a warmer region or a lesser cold region. These groups consisted of the people speaking the Indo-Aryan languages. The Vedic culture originated in the western region including Panjab and developed in the western Gangetic valley. This shift of the settlements from the earlier Indus Valley region to the eastward was also related to the environmental set up. In this context, it is important to note that moving from the west to east of the subcontinent we find a gradual increase in the average annual rainfall from 25 cm to 250 cm. The Indus region experienced the annual rainfall from 25 cm to 37 cm whereas the western Ganga valley experienced 37 cm to 60 cm of rainfall. This increased from 60 cm to 125 cm in mid-Gangetic valley and from 125 cm to 250 cm in the Bhahmaputra valley. So, in the western region with lesser amount of rainfall, it was possible to clear the forest with stone or bronze implements whereas the strong iron implements were required to clear the thick vegetation of mid Gangetic valley and Brahmaputra valley. Iron was introduced in India by about 1000 B.C. As the techniques of producing the iron implements were developed in later periods, it is very natural that the exploitation of natural resources first began in the western region with lesser rainfall and not so thick vegetation when compared with the eastern regions.

The Vedic people worshipped plants like *soma* and deities such as Indra (associated with rain and thunder), Varuna (with water), Agni (with fire), Pusan (with cattle), etc. This shows that they cared for the environment as well as of their requirements. For example, rain, rivers etc. were very useful for the agriculture and fire helped in the clearance of forests as well as for the domestic purposes. In the *Rig Veda*, the river Saraswati is referred to as a goddess. The agro-pastoral communities of the Vedic age also had immense use of cattle and hence worshipped deities for the protection of their cattle wealth.

The post-Vedic cultures flourished in the mid-Gangetic valley and further. One of the important factor for this was their dependence on the use of iron. The settled agrarian life and the agricultural surplus consequently led to the emergence of the idea of territory and territorial kingdoms (*rastra, janapada*) in the Vedic period. By the 6th c. B.C. the process of the emergence of *janapadas* tended to accelerate. The incorporation of smaller *janapadas* gave rise to the *mahajanapadas*. Of the 16 *mahajanapadas*, Magadha emerged as the most powerful. Here too, the environment played a very significant role. Firstly, the geographical location of Magadha and its capitals, first at Rajgir and later at Pataliputra, was favourable in many ways. Rajgir was surrounded by five hills and was called *girivraj*. This physical feature provided security from the enemies. In the 5th c. B.C. the capital was shifted to Patliputra, which was located on the confluence of the three rivers-the Ganges, the Gandak and the son. Not very far from here, the river Ghaghara joined the Ganges. So, surrounded by the rivers on different sides, Pataliaputra was like a water –fort (*jaladurga*). In those days it was not easy to capture Patliputra. Second, the alluvium carried by these rivers created fertile agricultural belt. Moreover, due to the heavy rain in this region and the forests having been cleared, the crops could be grown without much irrigation facilities. Third, the rich deposits of iron ore were not very far from the first capital Rajgir. Thus, the Magadhan rulers could make the effective iron weapons available to their armies, which except Avanti, were not easily accessible to their enemies. That is why, it took about 100 years for Magadh to capture Ujjain, the capital of Avanti. Fourth, the rivers were important means of communication and trade. Even the Magadhan army could move in all

directions following the river. Fifth, the forests in the Magadh region were important source of natural resources and especially elephants for its army.

Nevertheless, in this age of Gautam Buddha (6th – 5th c. B.C.) there were attempts to create ecological balance through the religious and philosophical teachings. This can be best seen in the concept of *ahimsa* (non-violence) in Buddhism and Jainism. They criticized the killing of animals in sacrificial rituals. Buddhism and Jainism promoted the traditions by which protection was given to various plants, animals species, and various elements of the landscape such as groves and ponds. In fact, the Buddha himself is said to have been born in sacred grove full of beautiful *Sal* trees dedicated to the goddess Lumbini. Looking at it from another point of view, we can imagine how important the cattle wealth was for the expanding agriculture and the day-to-day life. Buddhist literature emphatically criticised the slaughter of cattle. Later, in the 1st c. A.D. the Brahmanical literature also considered the killing of the cows as a sin and warned the killer of its serious ill consequences. These literary works also mention about the medicinal values of trees and plants such as *neem* (mango), *peepal*, banyan, *tulsi* (basil), etc. and advocate for their protection. This tradition has continued till today and can be observed in domestic and sacrificial rituals.

The mountain passes in the north-west provided passage to the various important groups such as the Iranians and Macedonians. The Khyber pass was the most important in this regard. In 326 B.C. Alexander of Macedonia (Greece) invaded India. After his conquest of Iran, he moved on to Kabul and marched to India through the Khyber pass. As a result of this, there developed cultural and commercial contacts between the merchants and craftsmen of both regions.

The Mauryan empire also benefited from its geographical spread and strategic location of its capital Pataliputra. The economic prosperity due to the rapid development in material culture enabled the Mauryan rulers to establish an elaborate system of administration with a large number of officials. Moreover, according to Kautilya's *Arthashastra*, endowed in the large texts of fertile and cultivated lands in the Gangetic plains, the Mauryan state was keenly interested in expanding the frontiers of cultivated tracts further, for example, by colonizing Kalinga. Nevertheless, the Mauryans also cared for ecological conservation. The best-known ancient state-sponsored conservation campaign was undertaken by emperor Ashoka after his conversion to Buddhism. The Asokan edicts advocating his policy of *dhamma* emphasize restraint in the killing of the animals and planting and protection of trees.

From about 200 B.C. when the Mauryan empire was on the verge of its decline, there developed widespread contacts between the Central Asia and India. The ruling dynasties like the Indo-Greeks, the Sakas, the Parthians and the most famous Kushanas ruled over different regions of the north-western India. The Kushanas extended their rule from the regions of Central Asia up to a large part of north India. In this period also the plains of the Indus and the Ganges were considered important on account of their rich fertile land.

The Mauryas were succeeded by the Satavahanas in the Deccan. The Satavahanas probably exploited the iron ores of Karimnagar and Warangal areas, which were being exploited since the megalithic phase. So, the Satavahanas could produce iron implements suitable for growth of agriculture. The Satavahanas and the Ikshvakus, who succeeded the Satavahanas, in the early 3rd c. A.D. in the eastern Deccan, exploited the mineral resources of the Deccan. The availability of Lead in Andhra region helped in the circulation of lead coins during the Satavahana rule. The Raichur *doab* between Krishna and Tungabhadra, for its resourceful potential, has been the bone of contention for the powers since the ages.

The thriving internal and external trade facilitated developments in various spheres during the post-Mauryan period. The ports on the east as well as west coasts promoted the growth of trading activities. The important ports on the west coast included Bharuch (Broach), Sopara, Kalyan, Chaul, Muziris, etc. and those on the east coast were Tamralipti, Salihundham, Kottapatnam, Arikamedu, Kaveripattinam, etc. This further resulted in interactions at various levels. The commodities of export and import also largely depended on the availability of specific resources in a particular region. Besides the coastal towns, the growing crafts and commerce promoted the prosperity of numerous inland centres such as Vaishali, Pataliputra, Varanasi, Kaushambi, Mathura, etc. in north India; Paithan, Dhanyakataka, Amaravati, Nagarjunakonda, etc. in Deccan, and Madurai, Uraiyur, Kanchipuram, Karur, etc. in the far south. Thus, the coastal regions had a significant role in shaping the history and culture of the people.

The Gupta empire was established in the beginning of the 4th c. A.D. The geographical factors also played a crucial role in the material developments during their rule. The centre of their operations lay in the fertile land of *madhyadesha* including the modern states of Bihar and Uttar Pradesh. They also enjoyed the advantage of possessing the mid-Gangetic basin under their control. Magadha region, being a part of their empire, provided all the benefits either in the form of iron ore deposits or other natural resources as in the earlier stages of history.

In the 7th c. A.D the Vardhanas, a feudatory of the Guptas, established their supremacy over other feudatories. This was all due to the efforts of the great Harshavardhana (A.D 606-647) who made Kannauj his capital. Kannauj, which is situated in Farrukhabad district of modern Uttar Pradesh, was located in the middle of the Ganga-Yamuna *doab*. Moreover, it was situated on an elevated area which was easily fortifiable as compared to those in plains where fortification was more difficult. Thus, the soldiers could move by both land and water routes to exercise control over the eastern and western regions.

Now, we shall turn our attention to the developments in eastern and southern India, and see how geographical factors added to the process of historical dynamism.

In eastern India the regions of Orissa, Bengal and Assam also witnessed developments. A strong state under the ruler Kharavela was founded in the 1st B.C. in coastal Orissa or Kalinga. The coastal region and the delta of the river Mahanadi promoted cultural developments. in the region from where it spread to other regions. Orissa, gifted with many coastal ports, also maintained maritime trade with Southeast Asia in ancient period. To revive the glory of the maritime activities of ancient Kalingans, in 1992 Kalinga-Bali yatra was organized by the Department of Tourism, Orissa and Government of India. The Bali Yatra Festival is still celebrated in Orissa on the *Kartik Purnima Day*.

Ancient Bengal also included the modern Bangladesh in the north. We have abundance of source materials for the study of Bengal region especially from the 4th c. A.D. The deltaic portion of Bengal formed by the river Brahmaputra was called Samata. This region was populated and attracted the attention of Samudragupta. Cultural contacts with the Gupta empire stimulated the spread of civilization in this region. This region too was able to develop an advanced food-producing economy. The economy based on iron ploughshare, agriculture, wet paddy cultivation and knowledge of various crafts was bound to prosper. Kalidasa mentions about the transplantation of paddy in Vanga (west to Samatata) and we also have references about production of good quality sugarcane in north Bengal. This resulted in sufficient agricultural production, which was able to sustain both people and government. This further led to the growth of numerous settlements.

The megalithic phase is a unique feature in the history of peninsular India. This was characterized by the use of iron. Though the megaliths have been discovered in various regions of southern India, their concentration is in eastern Andhra region and in Tamilnadu. Their origin can be traced to c. 1000 B.C. The last phase of the megalithic period coincides with the early historical period in South India. An interesting fact to note here is that the megalithic people depended partly for settlements and burials, on the hill-slopes. Although they were aware of the use of iron and produced crops like paddy and ragi, the use of cultivable land by them was very limited. They did not settle on the plains or the low lands due to the thick forest cover. So, the elevated regions provided shelter to the megalithic communities.

Later in around the beginning of the Christian era or a little earlier the megalithic people moved from the uplands into the fertile river basins and reclaimed marshy deltaic areas suitable for cultivation. This was due to their coming into contact with the traders, Jains, Buddhists and Brahmanas who came from the north. They started wet paddy cultivation in the region and formed various settlements. This interaction, however, became very prominent after the 4th c. A.D.

In the context of the Tamil region known as Tamilakam or Tamilaham, the spread of iron technology led to the formation of chiefdoms which later evolved into states. The fertile Kaveri delta was advantageous for the cultivation of rice. Natural resources like the spices from various parts, beryl from Kodumanal, pearl from Korkai, etc. were in great demand by the foreigners. This promoted trade with the distant lands.

The ports on the West Coast had been trading with the Roman empire since earlier period. But, the discovery of monsoon by Hippalus in the 1st c. A.D. made the circum-navigation of Cape Comorin easier. As a result the ports on the Coromandel coast also gained prominence. The Sangam texts mention a number of ports of the Tamil coast. The mountain passes, especially the Palghat gap connected the ports on the west coast and the Coromandel coast by the route passing through it. Gradually, there was a shift in the trade from the west to the east coast. Thus, these physical features helped the region in maintaining contacts with the Mediterranean world as well as China, Southeast Asia and Sri Lanka. It is well-known that in the early medieval period the Imperial Cholas emerged as a great maritime power and some of their rulers led naval expeditions to conquer distant lands.

An Overview

From our discussion on regions and environment in relation to the role of people in historical developments, it becomes clear that the study of these factors help us to unfold the historical process in different periods. The diversity of Indian subcontinent presents uneven patterns of historical developments. The survey of different regions reflect that these regions evolved their distinct socio-cultural traits, leading to the emergence of separate socio-political structures. Moreover, the developments in different regions were not uniform but uneven. The people of different regions have varied taste, food habits, dress sense, and unique historical experiences. The unevenness is to be seen in relation to the availability or non-availability of resources and the human potential to exploit it. The settlement pattern and mode of life, thus, depend to a great extent on the resource utilization which in turn is dependent on the technological know-how of the inhabitants of that region. Indeed, the plurality and diversity of cultures is influenced by the distinctiveness of regions and environment.

PALAEOLITHIC AND MESOLITHIC CULTURE

—*Dr. Rajni Nanda*

Robert Bruce Foote established the science of pre-history in India when in 1863 he discovered the first Palaeolithis. Subsequently, in the next two decades many prehistoric sites were reported in the southern peninsula. But it was only in the 1930s when H.de Terra and T.T. Paterson undertook a detailed survey of Kashmir, Potwar and Jammu areas, that the prehistoric research gained importance and a number of archaeologists began focusing their attention on the discovery of new prehistoric sites, construction of cultural sequences and reconstruction of palaeo environments. By the 1960s Indian prehistorians could confidently divide the Palaeolithic industries of the Pleistocene (Ice-Age), into Lower, Middle and Upper Palaeolithic on the basis of the shape, size and methods of manufacture of the principal artifact types.

Lower Palaeolithic: The Lower Palaeolithic is characterized by hand axes, cleavers, chopping tools, and related artefact forms. The tools were all made by removing flakes from a block or core of stone until it reached the required size and shape.

Bori in Maharashtra is considered to be the earliest Lower Palaeolithic site. Lower Palaeolithic stone tools have also been found in the Soan valley (now in Pakistan), and several sites in Kashmir and the Thar Desert. These were known as the Soanian industries (while the artifacts found over much of the rest of India were known as Acheulian or ‘Madrasian’) and were dominated by pebble or core tools and characterized as a predominantly chopper/chopping tools. The Acheulian industries was characterized by bifacially flaked artefacts – hand axes and cleavers – along with denticulates, scrapers, spheroids, and picks amongst other tools. The Acheulian artefacts were made principally on hard and durable quartzites. In the Hunsgi valley of Karnataka, limestone was used; at Lalitpur in Central India, pink granite was chosen while in parts of Maharashtra and Central India basalt was preferred. Belan valley in Uttar Pradesh, desert area of Didwana in Rajasthan, Chirki-Nevasa in Maharashtra, Nagarjunakonda in Andhra Pradesh are some of the important sites which have yielded Lower Palaeolithic tools. The caves and rock shelters of Bhimbetka near Bhopal also show features of the Lower Palaeolithic age. Majority of Lower Palaeolithic artefacts found in all parts of the subcontinent are made of quartzite.

The rivers – Tapti, Godavari, Bhima and Krishna have yielded a large number of Palaeolithic sites. The distribution of Palaeolithic sites is linked up with ecological variation like erosional features, nature of soils etc. The Tapti trough has deep regur (black soil), and the rest of the area is covered mostly by medium regur. There is scarcity of Palaeolithic sites in the upper reaches of Bhima and Krishna. From Malprabha, Ghatprabha and affluents of the Krishna a number of Palaeolithic sites have been reported. In Ghatprabha basin in Karnataka Acheulian handaxes have been found in large numbers. Anagawadi and Bagalkot are two most important sites on the Ghatprabha where both early and Middle Palaeolithic tools have been found. The rivers Palar, Penniyar and Kaveri in Tamil Nadu are rich in Palaeolithic tools. Attiranmpakkam and Gudiyam (in Tamilnadu) have yielded both Early and Middle Palaeolithic artefacts like handaxes, flakes, blades, scrapers etc.

Middle Palaeolithic: Middle Palaeolithic industries are characterized by smaller and lighter tools based upon flakes struck from cores, which in some cases are carefully shaped and prepared in advance. There was an increase in the Levallois and discoidal core techniques. In most region, quartzites continued to be used, and in such cases, Lower Palaeolithic elements

continued into the Middle Palaeolithic. However, fine-grained siliceous rocks such as chert and jasper, were now preferred for tool-making, and raw material was often transported over several kilometers. Middle Palaeolithic hominids largely continued to occupy areas inhabited during the Lower Palaeolithic. But, in some parts of India such as Tamil Nadu, rock shelters began to be occupied for the first time. The artefacts of Middle Palaeolithic age are found at several places on the river Narmada, and also at several sites, south of the Tungabhadra river. The Belan valley (UP), which lies at the foothills of the Vindhyas, is rich in stone tools and animal fossils including cattle and deer. These remains relate to both the Lower and Middle stone age.

The Wagon and Kadamali rivers in Mewar are rich in Middle Palaeolithic sites. A variety of scrapers, borers and points have been discovered in this area. Middle Palaeolithic artefacts have been reported from Chirki near Nevasa and Bhandarpur near Orsandi Valley. At Bhimbetka, the tools representing the Acheulian tradition were replaced at a later stage by the Middle Palaeolithic culture. By and large open-air sites along streams on hill slopes, stable dune surfaces and rock-shelters continued to be used as is evident from the finds from Sanghao cave in Modern Pakistan, Luni river basin in Rajasthan, the sand dunes of Didwana, the Chambal, Narmada, Son and Kortallayar river valleys, the plateaus of Eastern India and the Hunsgi valley in the south. Dates for this period range from around 1,50,000 to 30,000 before present (BP), a period characterized in general by aridity.

Perhaps the most remarkable group of Middle Palaeolithic sites in the subcontinent are those in the Rohri hills of upper Sind. The industry is based upon the large nodules of chert that cap this group of the flat topped limestone hills. These vast expanses of chert were extensively exploited in Middle and Upper Palaeolithic times and again in Chalcolithic period; but they appear to have been largely neglected during the Lower Palaeolithic and again during the Mesolithic, probably for climatic reasons. Extensive spreads of quartzite boulders, cobbles and pebbles in the Potwar region in the northern Punjab were used by Middle and Upper Palaeolithic tool makers.

Upper Palaeolithic: Towards the end of the Pleistocene, around 30,000 years ago, there was a distinct change in tool types and technology, which could be related to either changes in hunting methods, or to a more general shift in the utilization of resources, or a response to environmental change. The technique of making parallel-sided blades from a carefully prepared core, is an essential basic element of all Upper Palaeolithic industries of the subcontinent, which were contemporary with the final arid phase. Artefact types include a wide range of scrapers, backed blades, points, choppers and burins, and regional variability in blade technology and assemblage structure may now be clearly identified. For the first time, bone tools appear in limestone caves of Kurnool.

Although aridity restricted settlement in the interior dunes of Rajasthan, elsewhere Upper Palaeolithic sites are abundant. Tools were made on a wide range of raw materials and were for the most part on long thin blades. Evidence for long distance transport of fine grained chert and chalcedony is widespread, testifying to the vast distances traversed by, or interaction between Upper Palaeolithic communities. The Upper Palaeolithic industries are generally, characterized by parallel sided blades and burins and other lighter artefacts.

The presence of Upper Palaeolithic artefacts has been reported in the Thar regions (though they are more sparsely distributed than those of the Middle Palaeolithic), at Sanghao caves in the North West Frontier Province and in the Potwar plateau of the northern Punjab (both in Pakistan), from parts of South India, central Gujarat and north-western Kathiawar. An

Upper Palaeolithic blade and burin industry from a group of sites near Renigunta in Chittoor district, Andhra Pradesh was also found.

The faunal remains of the Palaeolithic period suggest that the people were primarily in a hunting and gathering stage. The Palaeolithic people subsisted on animals such as ox, bison, nilgai, chinkara, gazelle, black buck antelope, sambar, spotted deer, wild bear, a variety of birds, and tortoises and fishes and on honey and plant food like fruits, roots, seeds and leaves. Hunting is reflected as the main subsistence pursuit in the Rock paintings and carvings found at Bhimbetka. The earliest paintings at Bhimbetka belong to Upper Palaeolithic when people lived in small groups.

Mesolithic: The *Mesolithic* and other stone industries of the Holocene (c.9000 B.C.) in the subcontinent represent a further contribution of the developmental process of the Palaeolithic. Changes in climate (which became warm and rainy) resulted in changes in flora and fauna. The hunter-gatherer communities spread rapidly over India. Microlithic industries associated with what appear to be the cultures of hunting people, fishermen, pastoralists or people practicing some form of agriculture, have been found widely throughout the subcontinent.

Microlithic or small stone tools (their length ranging from 1 to 8 cm) comprised of tools made on blades and bladelets and include burins, lunettes, crescents, triangles, points, trapeze etc. which were subsequently hafted onto bone or wooden handles to form composite tools. Mesolithic sites abound in Rajasthan (Bagor, Tilwara, etc.), Uttar Pradesh (Sarai Nahar Rai, Morhana Pahar, Lekhahia etc.) Central India (Bimbetka, Adamgarh etc.) eastern India (Kuchai in Orissa, Birbhanpur in west Bengal, Sebalgiri-2 in Garo hills of Meghalaya etc.) and slo south of the river Krishna (Sangankallu, Renigunta etc.) There is a rich concentration of microlithic sites in the Narmada, Mahi and Sabarmati valley of Gujarat. The primary excavated site is Langhanaj which has revealed three cultural phases, the phase I producing microlithic, burials and animal bones. Pottery appears in later phases at the sites of Lekhahia and Baghai Khor. Faunal remains of cattle, sheep, goat, buffalo, pig, boar, bison, elephant, deer, jackal, wolf and a number of aquatic animals have been found. Since the Mesolithic age marked a transitional phase between the Palaeolithic age and the Neolithic age, the first tentative steps towards domestication occurred. At Bagor (Rajasthan), bones of domesticated sheep and goat, are dated to around the 5th Century B.C.

We can have an idea about the social life and economic activities of the Mesolithic people from the art and paintings found at sites like Bhimbetka, Adamgarh, Pratapgarh and Mirzapur. Mesolithic rock paintings depict people hunting game, gathering plant resources, trapping animals, eating together, dancing and playing instruments. Animals are the most frequent subjects. Other subjects include animal headed human figures; squares and oblongs partly filled in with hatched designs which may represent huts or enclosures and what appears to be pictures of unusual events, such as the chariots waylaid by men armed with spears and bows and arrows at Morhana Pahar group of rock shelters near Mirzapur. The colours and brown painted net traps for fishing, and for hunting small game, highlight the richness of material culture of which no trace survives in the archaeological record.

The Mesolithic culture paved the way for the Neolithic, where pastoralism and agriculture supplemented hunting-gathering as the prevalent mode of subsistence. In the Indian context, there emerges a broad overlap in the chronology of the so-called Mesolithic cultures and the earliest agricultural settlements now coming to light in the Indus basin. But, by and large the Mesolithic culture continued to be important roughly from 9000 to 4000 B.C.

ADVENT OF FOOD PRODUCTION

*-Nayanjot Lahiri
-Deeksha Bhardwaj*

- **SIGNIFICANCE OF FOOD PRODUCTION IN WORLD CONTEXT – CHARACTERISTIC TRAITS OF THE ‘NEOLITHIC’.**

The concluding phase of the Stone Age, the Neolithic Age, which followed the Mesolithic, heralded the beginning of food production. Scholars have long debated the onset of this fundamental, lifestyle altering development in human prehistory – what was the catalyst that moved humans in vastly separated parts of the world to adopt agriculture and animal domestication? While convincing hypothesis have been put forward for all three schools of thought, it is today generally agreed that it was a combination of the three i.e. climatic change at the beginning of the holocene, increasing population density and evolving cultural and technological strategies of human groups that ushered in this transformation.

So what is it about the neolithic that it is at once, the last leg of the Stone Age and also the link or platform on which all subsequent civilizations arose? That it is a Stone Age culture can be established by the use of stone tools. But unlike the lighter and sharper tools of the palaeolithic or mesolithic, the neolithic tool kit was composed of heavy ground tools – pestles, mortars, grinders and pounders – as also axes and sickles which have a characteristic sheen on them, the result of harvesting wild or domesticated plants and grasses.

But besides the use of stone tools, the neolithic people had little in common with their predecessors. The palaeolithic and Mesolithic humans were mobile hunter-gatherers who travelled long distances to procure their food. On the other hand, neolithic populations all over the world have relied on agriculture or food production and the domestication of animals for their dietary needs. Interestingly, all of the largest and most complex civilizations throughout history have been based on the cultivation of one or more of just six plant genera – wheat, barley, millet, rice, maize and potatoes and these have thus been called the main ‘engines of civilizations’. Sedentism is another feature that distinguishes the neolithic period. Somewhere between 10,000 and 3,500 years ago, people all over the world, without any apparent connection, began settling down in agricultural communities and gave rise to villages, towns and then cities.

The use of pottery and the wheel and the subsequent invention of crafts like spinning, weaving and bead-making also serve to demonstrate the uniqueness of the neolithic phase. Most neolithic cultures start as aceramic or pre-pottery neolithic. However, soon enough, sherds of hand-made pottery are found, often followed by wheel-thrown pottery. The technological breakthrough of the wheel enabled developments like spinning and by the time of the bronze age civilizations, the use of the wheel in carts.

It was a consideration of all these developments that made the prehistorian Gordon V. Childe designate this phase as the ‘Neolithic Revolution’. However, his critics were quick to point out that the term ‘revolution’ is synonymous with sudden or abrupt change, often accompanied by bloodshed and that the neolithic was a gradual unfolding of developments, the culmination of the Stone Age. While the significant socio-economic impact of the Neolithic

cannot be denied, it is today generally viewed as a ‘transformation’ or ‘evolution’ rather than a ‘revolution’.

The second point in Child’s hypothesis, which has direct bearing on the advent of the neolithic in the Indian subcontinent, is the presumption that farming was first invented in a single ‘nuclear region’ – the Fertile Crescent in Mesopotamia or the Near-East from where it spread or was diffused to other parts of the world. This diffusionist paradigm propounded that the ‘idea’ of agriculture arose here and then spread to other regions depending on their proximity to this core region.

- **REVIEW OF ONSET OF AGRICULTURE IN INDIA – SHIFT FROM DIFFUSIONIST PARADIGM TO INDEPENDENT DEVELOPMENTS LEADING TO FOOD PRODUCTION IN DIFFERENT PARTS OF THE COUNTRY.**

India was thus, for a long time seen as having borrowed the idea of food production from its western neighbour, Mesopotamia, via the Iranian plateau. Modern research on the subject, especially since the 1970s, has discredited this viewpoint. It is now generally believed that agriculture in India was an independent, indigenous development rather than an import from outside. A remarkable coincidence, it has been proved for three of the main staples of the subcontinent – the discovery of wheat and barley in Mehrgarh, Pakistan grown almost contemporaneously with the Fertile Crescent sites cancels the possibility of diffusion into India. Similarly, the discovery of rice from Koldihwa in Uttar Pradesh and millet from sites in South India have put a question mark on the diffusion of these two crops from South China and South Africa respectively.

The occurrence of food production in India was spread over a few millennia – from the 8th millennium BC to c.1000 BC. A neolithic celt was discovered as early as 1842 by Le Mesurier in the Raichur district of Karnataka, and later by John Lubbock in 1867 in the Brahmaputra valley of Upper Assam. Today, as a result of vast explorations and excavations, the distribution and nature of the neolithic in the subcontinent has been brought to light. Some scholars, like R.S.Sharma, divide the neolithic settlements into three groups – northwestern, northeastern and southern, based on the types of axes used by the Neolithic settlers (Sharma 2005:59). Others, for e.g., V.K.Jain, argue for as many as six different geographical regions, each with its own distinctive features and chronological time-span. These regions are, (i) Northwestern i.e. Baluchistan and its adjoining area in Pakistan (7th to mid 4th millennium BC), (ii) Northern i.e. Kashmir Valley (2500-1500 BC), (iii) Central India, i.e., Vindhyan region, south of Allahabad (4000 BC-1200 BC), (iv) Mid-Gangetic basin, i.e., eastern U.P. and Bihar (2000 BC–1500 BC), (v) Eastern India, i.e., Bengal, Orissa and Assam, (vi) Peninsular or South India, i.e., Andhra Pradesh, Karnataka and Tamil Nadu (2500 BC–1500 BC).

An overview of the above time frame will indicate that the Neolithic phase in India did not develop everywhere at the same time nor did it end simultaneously. In fact, there were many neolithic cultures which were coexisting with the copper using, urban Harappan Civilization (2600-1900 BC). These cultures, besides having different time frames, exhibit some regional variations too. For example, in the northeast region, neolithic tools have been found but there is no evidence so far of plant cultivation. Similarly, while most of the neolithic cultures evolved out of the preceding mesolithic cultures, no such evidence is reported from the Kashmir Valley.

Bone tools have only been recovered from sites in Kashmir and from Chirand in Bihar and in terms of cereal consumption, while wheat and barley predominate in Mehrgarh in Pakistan, it is rice from Central India and millet and ragi cultivation from the South Indian neolithic sites (Jain 2006: 78-79).

The corpus of evidence gathered so far suggests that while each region responded to its specific geographical setting, the tapestry that finally emerged had distinct parallels. This was the rise and growth of agriculture and the beginning of settled village life. In the next part, we shall try to understand the dynamics and nature of this massive change in human lifeway across the length and breadth of the country.

REGIONAL DISTRIBUTION OF NEOLITHIC CULTURES

NORTH-WEST INDIA

Comprising the province of Baluchistan and the Indus plains in Pakistan, this area represents the earliest evidence of the Neolithic Culture in the subcontinent, indicated by the growth of farming and animal husbandry. Basically, an inhospitable mountainous region, with a climate of extremes, Baluchistan has nevertheless revealed many traces of early settlements in its valley pockets. The important sites are Mehrgarh in the Kachhi plain, Kili Gul Muhammad in the Quetta Valley, Rana Ghundai in the Loralai valley and Anjira in the Surab valley.

The Indus plains provide a sharp contrast in the archaeological setting from that of Baluchistan. The lifeline of the area, the Indus is a highly unstable river, which flows through a wide alluvial flood plain. Neolithic sites start appearing in the North-West Frontier Province – Gumla, Rehman Dheri, Tarakai Qila and Sarai Khola; Jalilpur in Punjab.

- **Mehrgarh**

The earliest evidence of agricultural life based on wheat, barley, cattle, sheep and goat in the subcontinent comes from the site of Mehrgarh on the bank of the Bolan river in the Kachhi plain of Baluchistan. Its convenient chronological point is c. 7000 BC. For the next two to three millennia the evidence of this type of agriculture seems to be limited to Baluchistan, although by the end of this period it is found spread all over its major areas (Chakrabarti 1999: 117).

Mehrgarh is essential for any discussion on the neolithic, not only because it has yielded the earliest evidence for this phenomenon but also because the inter-disciplinary and scientific approach to the excavations and the regular publication of the results have provided us with a very clear picture of the neolithic way of life there.

Excavations at the site began in 1974 under the leadership of J.F. Jarrige and continued into the 1980s and later. These have revealed an uninterrupted continuity in the growth and consolidation of village life in the area. Spread over about 200 hectares of land, this imposing site bears evidence of occupation in different periods, having been given separate numbers, such as MR 1, MR 2, MR 3 etc. In all, there are seven periods of which only the first three, I-III, are regarded as neolithic. The time frame for each of these is as follows: Period I from 7000-5500 BC; Period II, from 5500-4500 BC; and Period III, from 4500-3500 BC.

The earliest level of occupation, Period I, marks the transition from nomadic pastoralism to agriculture. It was an aceramic level with stone tools consisting of polished axes, chisels, querns and microliths and bone tools comprising awls, needles etc. The neolithic character of the site is reflected in bones of cattle, sheep and goat, indicating their domestication as also the bones of water buffalo, which is the earliest instance of the domestication of this animal in the subcontinent. Evidence of plant domestication comes from the charred seeds of wheat and barley as also Indian jujube (ber) and dates. The beginning of sedentism can be gleaned from foundations of mud-brick houses and small cell-like compartments which might have been used for storage of grains. But perhaps the most surprising piece of information concerns long distance trade and craft production. As part of grave goods were found, turquoise beads, probably from the Nishapur mines of Iran; shell bangles, with the seashell being from the Arabian Sea coast and beads of lapis lazuli, procured from the Badakshan region of Afghanistan. This clearly demonstrates that the neolithic people of Mehrgarh, Period I, were not an isolated community but engaged in exchange activities with other contemporary cultures.

Period II is characterized by an intensification and diversification of the economic base. Some coarse handmade pottery is found in the lower levels which becomes plentiful in the later part of the period. Towards the end, wheelmade and painted, as well as basket marked sherds are found having parallels with Kili Gul Muhammad I in the Quetta Valley. Houses became larger and one structure on the site has been termed a 'granary'. The stone industry continued, with the addition of 'sickle' like tools, substantiating the agricultural basis of the economy. Charred cottonseeds indicating cotton plantation and perhaps, spinning and weaving; ivory-making, presumed from an elephant tusk bearing groove marks; terracotta human figurines; a steatite workshop and beads of lapis lazuli and turquoise, all testify craft production, trade and the co-Neolithic stage of human evolution.

Period III at Mehrgarh, spanning from c. 4500 to 3500 BC, represents the final stage of the neolithic phase. Surplus production was achieved through a consolidation of agriculture and animal rearing activities. Vast quantities of pottery have been found, many of which bear painted motifs, which particularly in the later stages of this period, resemble those of Kili Gul Muhammad II and III. A continuity in the long distance trading pattern can be assessed from the beads of lapis lazuli, turquoise and fragments of conch shell. Copper objects found on the surface and traces of the metal found in crucibles suggest that the neolithic people of Mehrgarh were familiar with copper smelting. A picture of continuous growth of village life also emerges from a number of collective graves that appear in this period and indicate an increase in population.

- **Kili Gul Muhammad**

The site of Kili Gul Muhammad in the Quetta Valley was excavated from 1949-51 by the American Archaeological Mission headed by W.A.Fairservis, Jr. The first three levels of occupation are ascribed to the neolithic period. Beginning as an aceramic site around 5500 BC or earlier, its inhabitants lived in wattle-and-daub and/or mud houses. Animal remains of cattle, sheep, goat, and horse/wild ass have been found and the tool kit comprises microliths, a few ground tools, bone points and spatula. The transition from Period II to Period III can be discerned from the evolution of a crude, handmade and basket-marked pottery to a fine wheelmade black-on-red ware with simple geometric designs.

- **Rana Ghundai**

Situated in the Anambar valley, Rana Ghundai lies in the ecological transitional zone between the Baluchi hills and the Indus plains. The Rana Ghundai sequence was established, after brief excavations, by Brigadier E.J.Ross in 1946. Periods I-III belong to the neolithic phase and lasted from 4500 to 3100 BC. The remains of Period I attest the presence of 'a semi-nomadic community' and consist of handmade plain pottery, bones of domesticated animals like ox, sheep, goat and maybe a wild ass. A mixed tool kit, of stone and bone, comprised of microlithic chips and blades and bone points and eyed needles. Developments in pottery fabric, shapes and designs continued as the neolithic became a well-established phenomenon here, a way of life.

- **Gumla**

The site of Gumla in the Gomal valley began as a small, one-acre encampment. Period I is aceramic and shows microliths, domesticated cattle bone, and large shallow pits used for cooking/roasting. Period II has a wide range of painted wheelmade pottery, microlithic tools, a limited amount of copper and bronze and terracotta bangles, gamesmen, toy carts and cattle and female figurines (Chakrabarti 1999: 138).

- **Rehman Dheri**

A large site, spread over more than 20 hectares, Rehman Dheri shows a clear transition from the neolithic to the Kot Dijian and finally the Indus civilization phase. The site is fortified right from the beginning, with a 1.2 m wide mud and mud brick wall. Remains of wheat, barley, fish and domesticated cattle, sheep and goat give us clues as regards their diet. Pottery was used from the very first settlement at the site and most of the pottery specimens are of Kot Dijian forms and designs. The calibrated date range of Rehman Dheri is c. 3400-2100 BC.

- **Amri**

A prominent pre-Harappan site in Sind, Amri is located at the edge of a cultivated alluvial plain, 2 km of the right bank of the Indus. Period I begins with a typical handmade red/beige pottery with geometrical designs painted in black and often with red fillings. People lived in mud-brick houses and domesticated remains of cattle, sheep, goat and donkey have been found. Pieces of copper, shell, terracotta bangles, sling stone and parallel-sided blades are other archaeological remnants collected from the site. The neolithic period of occupation, starting in the early to mid fourth millennium BC was followed by an intermediate phase and finally the Indus civilization phase.

NORTH INDIA

Evidence for the north Indian neolithic cultures comes mainly from the Kashmir Valley and is represented by a large number of sites above the flood plains of River Jhelum. The three principal sites of the area are: Burzahom, northeast of Srinagar; Gufkral, southeast of Srinagar and Kanishkapura or modern Kanispur, in the Baramulla district. All three are multi-cultural sites, where prolific neolithic remains are followed by evidence of megalithic and historical periods. An important feature of the northern Neolithic is the absence of a preceding microlithic/mesolithic phase and the development of this phenomenon occurred between 3500-1500 BC.

- **Gufkral**

Literally meaning, the 'cave of the potter', the site of Gufkral, started as an aceramic neolithic site, probably around 3000 BC. From Period IA were discovered large dwelling pits surrounded by storage pits and hearths and with post-holes around the mouths of the pits and

hearths. Remains of domesticated sheep and goat as well as barley, wheat and lentil along with wild sheep, goat and cattle, deer, ibex, wolf and bear indicate the transition from a hunting to a food producing economy. Polished stone tools, including a large quern, bone/horn tools, steatite beads and a terracotta ball make up the rest of the archaeological repertoire. Periods IB and IC witnessed an intensification of the neolithic – handmade crude grey ware followed by wheelmade pottery, abundance of stone querns, pounders, double-holed harvesters etc along with domesticated sheep, goat, cattle, dog and pig.

- **Burzahom**

The neolithic people of Burzahom, beginning with Period I around 2700 BC, lived in circular or oval-shaped lakeside pit dwellings and subsisted on a hunting and fishing economy, being familiar also with agriculture. The sides of the dwelling pits were plastered with mud and both ladders and steps were used to get inside the large pits. Storage pits containing animal bones, stone and bone tools have been found close to the dwelling pits. The site has yielded mostly coarse and handmade grey, buff and red pottery. The bone industry at Burzahom is most developed of all the neolithic cultures of India and comprises harpoons, needles, arrowheads, spear-joints, daggers etc. Another distinctive feature is the burials – graves, both of humans and animals, especially dogs, have been found. Sketchy evidence for ritual practice can be gathered from stone slabs depicting hunting scenes, or another representation of the sun and a dog. Two finds from Period II, dated around second millennium BC show contact with the Indus plains – a pot with carnelian and agate beads and another pot which bears the Kot Dijian ‘horned deity’ motif.

- **Kanishkapura**

Kanishkapura or modern Kanisapur, a prolific neolithic and historical site in the Baramulla district of Kashmir, was excavated by B.R. Mani in 1988-89. The neolithic remains were excavated in KNP-1 and KNP-2 areas and begin with an aceramic neolithic layer from which a polished stone celt was found. The consolidation of neolithic activities can be inferred from the ceramic neolithic level or Period II. Four successive floor levels along with post-holes were excavated at KNP-1 and are part of rectangular houses, which probably had thatched roofs. The tool kit comprises five bone points and six polished stone celts. Pottery, both handmade as well as wheel-turned has been found and fine grey ware of medium to thick fabric, coarse grey ware, red ware and plain and burnished black ware are the important types. Consumption of emmer wheat mingled with barley has been recorded as also domesticated sheep and goat. The new evidence of radiocarbon dates puts Period I around the middle of the fourth millennium BC and Period II to the late fourth millennium BC.

CENTRAL INDIA

The focus of the Central Indian neolithic is, broadly speaking, the Vindhyan and Kaimur hill ranges of Uttar Pradesh and Madhya Pradesh i.e. the area, having as its periphery River Ganges in the north and River Son in the south. The important neolithic sites are Koldihawa and Mahagara in Allahabad district, Sinduria in Mirzapur district and Kunjun in the Sidhi district of Madhya Pradesh. The dating of the neolithic horizon for this area remains problematic – some suggesting the beginning of the neolithic culture at Koldihawa to c. 6000 BC, while others assign it to a time range of 4000 –2500 BC or 3500-1250 BC.

- **Koldihawa**

Situated in the Belan valley of Uttar Pradesh, Koldihawa has a rich prehistoric sequence down to the mesolithic phase. The site's claim to fame is the earliest evidence of rice – 'Domesticated rice comes from the earliest, metal-free level of Koldihawa and occurs in a context of wattle-and-daub houses, polished stone celts, microliths and three types of handmade pottery – cord marked and incised ware, plain red ware with ochre slip on both sides and a crude black-and-red ware. Rice occurs as husks embedded in the clay of the pottery' (Chakrabarti 1999: 205-207). The overlap of the microlithic and the neolithic is testified by the presence of blades, flakes, lunates as well as polished and ground axes, celts, querns and pestles. Evidence of animal husbandry comes from the bones of cattle, sheep, goat and deer and fishing can be gleaned from the bones of turtles and fish. G.R.Sharma has dated rice cultivation at Koldihawa to around 5500 BC. Other scholars like F.R.Allchin and D.K.Chakrabarti feel that these dates need to be re-examined on the basis of fresh evidence. But consensus seems to be growing that rice cultivation was an indigenous, post – "Ice-Age" phenomenon that occurred independently in Central India and in Koldihawa can be dated to the fifth millennium BC.

- **Mahagara**

Almost contemporaneous with Koldihawa, the site of Mahagara has yielded some bone implements along with a tool kit of mesolithic and neolithic tools made of materials such as chalcedony, agate, quartz and basalt. This site has also reported a cattle pen, which indicates the domestication of cattle. The pottery used by the neolithic folk was handmade and poorly fired; with straw and rice husk being used as tempering agents. The principal pottery type is the corded or cord-impressed ware though sometimes incised designs are also seen.

MID-GANGETIC BASIN

Covering the areas of eastern Uttar Pradesh and Bihar, the mid-Gangetic basin encapsulates the Ganges in its expansive, midstream flow, carrying along with it, the drainage of its tributaries like the Saryu and the Ghaghra. Predictably then, most of the neolithic sites dotting the area are found on banks of rivers and streams – Narhan, on the banks of River Saryu; Imlidih, on Kuwana stream; Sohagaura, on the banks of River Rapti; Chirand, on the banks of River Ghaghra; besides other sites like Teradih and Senuwar. Chirand, considered to be the representative site of the area has revealed a cultural assemblage going back to the neolithic phase, dated from 2100 to 1400 BC.

- **Chirand**

The 1 km long mound of Chirand lies at the confluence of the Sarayu and the Ganga and according to D.K.Chakrabarti, the beginning of occupation at the site may even be earlier than the middle of the third millennium BC. From Period I or the neolithic deposit of Chirand have been recovered coarse earthenware, comprising red, grey and black handmade wares, some with post-firing painting and graffiti. Terracotta objects including figurines of humped bull, birds, snakes and bangles, beads, sling balls etc. have been found.

People lived in circular and semi-circular wattle-and-daub huts with post-holes and hearths. For subsistence, they relied on plant cultivation and animal domestication. Among the crops are rice, wheat, barley, moong and lentil – which may indicate the raising of two crops a year, winter and autumn. Animal remains include a wide range from domesticated cattle to elephants and rhinoceros.

Chirand is the only other site in the country, besides Burzahom in Kashmir that has given a substantial range of bone and antler objects such as needles, scrapers, borers and arrowheads. Bone ornaments like pendants, bangles and earrings have also been discovered. Stone tools consist of microliths, neolithic axes and other implements, such as stone pestles and querns. Evidence of beads made of agate, carnelian, jasper, steatite, faience etc. and also the rich terracotta, bone and antler assemblage mentioned above suggest a movement towards craft production and possibly, exchange of commodities.

EASTERN INDIA

Eastern India comprises the states of Jharkhand, West Bengal and Orissa and the Neolithic here caps a rich prehistoric past. Important sites include Kuchai and Golbai Sasan in Orissa; Pandu Rajar Dhibi, Bharatpur and Mahisdal in West Bengal; and Barudih in Jharkhand. Since no rigorous excavations have been undertaken, only a tentative picture of the Neolithic way of life can be hinted at and dating too remains a problem.

- **Kuchai**

The existence of a neolithic level at Kuchai near Mayurbhanj in Orissa was established on the basis of polished stone tools like celts and axes.

- **Golbai Sasan**

The site of Golbai Sasan situated on the left bank of River Mandakini was excavated between 1990-92. Period I at the site is neolithic and shows a range of dull red and grey handmade pottery with cord or tortoise shell impressions in association with a few worked pieces of bone and traces of floors and post-holes (Chakrabarti 1999: 239).

- **Pandu Rajar Dhibi**

Pandu Rajar Dhibi in the Ajay Valley was the first site to clearly demonstrate the Neolithic base of later developments like the chalcolithic. Excavations at the site link Period I of occupation to the Neolithic phase. This is characterized by a handmade grey ware with rice husk impressions, painted red pottery, some sherds of black-and-red ware, ground stone tools, microliths and bone tools. The coexistence of microliths and ground stone tools and bone tools reveals the emergence of the Neolithic from an underlying Mesolithic matrix.

- **Barudih**

The state of Jharkhand basically lies furlled in the contours of the Chhotanagpur plateau. The first archaeologically identifiable village level in the plateau is represented at Barudih in Singhbhum district. Archaeologists have obtained from the same level, microliths, neolithic celts, iron slag and implements and a range of wheelmade pottery among which black-and-red ware seems to be prominent. The earliest calibrated time range for the site is 1401-837 BC (Chakrabarti 1999: 243).

NORTH EASTERN INDIA

The entire northeastern region has yielded a rich haul of polished neolithic tools but no consolidated picture of a neolithic level has yet emerged. The spread of the neolithic is considered by some to be an import from South East Asia on account of the use of shouldered axes and also cord-impressed pottery, which has close affinity with the pottery from China and South East Asia. On the basis of this link, D. P Agrawal has dated the neolithic cultures of northeastern India between 2500-1500 BC (Agrawal 2002:201).

The important sites of the region are Daojali Hading and Sarutaru in Assam, Napchik in Manipur & Pynthorlangtein in Meghalaya.

- **Daojali Hading**

Situated in the North Kachhar hills of Assam, Daojali Hading revealed a 45 cm thick occupation deposit. The site has yielded neolithic stone and fossil wood axes, adzes, hoes, chisels, grinding slabs, querns, mullers, hand made grey to dull red cord marked pottery as well as dull red stamped pottery and plain red pottery. No domesticated cereals have been recovered but the presence of mullers and querns in the artifactual repertoire establishes the practice of agricultural activity.

SOUTH INDIA

The South Indian neolithic culture, spread over the states of Karnataka, Andhra Pradesh and Tamil Nadu, has given us the largest number of neolithic settlements, because of the easy availability of stone. The geographical terrain of this culture is that part of the Deccan plateau bound by River Bhima in the north and River Kavery in the south, with a major concentration of sites being in the Raichur and Shorapur Doabs. Besides the profusion of sites, what makes the South Indian neolithic remarkable is the issue of ashmounds and the location of settlements on the flat-topped or castellated granite hills or plateaux of the region. Ash mounds are vast mounds of burnt cattle dung ash accumulated as a result of periodical burnings and F.R Allchin in 1960 suggested a West Asian origin for these (Jain 2006:92-94).

However today, their growth and development is viewed in the context of earlier indigenous stone age traditions.

Some of the important neolithic sites of the region are: Sangankallu, Hallur, Tekkalakota, Brahmagiri, Maski, T.Narsipur and Piklihal in Karnataka; Utnur, Palavoy, Kodekal and Budihal in Andhra Pradesh; and Paiyampalli in Tamil Nadu. The chronological bracket for these sites ranges from about 2400 to 1000 BC.

The location of neolithic settlements near hills or plateaux seems to have been motivated by access to perennial water in the form of streams or rivers, plentiful game, pasture for grazing animals and raw materials like stone and wood. Both campsites and habitation sites have been discovered where people lived in circular wattle-and-daub huts. Hearths and storage areas have been found in practically all the huts. Subsistence was primarily on a mixed economy – rudimentary farming and animal husbandry. Charred grains of millet, barley, horse gram, black gram and green gram have been found and scholars were earlier of the opinion that millet might have been introduced in south India from South Africa. But recent research negates this hypothesis and favours an indigenous growth of these crops. Fish bones and charred and split animal bones show that fishing and hunting contributed substantially to dietary requirements.

- **Sangankallu**

Sangankallu presents a picture of a long occupation, beginning with the palaeolithic phase. Palaeoliths are followed by a microlithic industry of quartz flakes, cores and lunates. The classic neolithic industry of polished stone tools features next in the sequence but not before a sterile dark brown soil was formed at the site suggesting a time-gap between the neolithic and the earlier microlithic levels (Chakrabarti 1999: 236). Coarse grey, red pottery was discovered which was either handmade or produced on a slow wheel. Storage pits have given remains of charred grains and bones of domesticated animals like cattle, sheep and goat.

- **Piklihal**

The site of Piklihal is essentially an ashmound situated in District Raichur in Karnataka. The neolithic people who occupied the site were cattle herders who had domesticated animals like cattle, sheep, goat etc. A mobile group, they set up seasonal camps surrounded by cowpens made with wooden posts and stakes in which they gathered dung. When it was time to move, the entire camping ground was set afire and cleared for the next session of camping.

Conclusion

An overview of the expanse and variety of neolithic cultures in the subcontinent helps us to understand the larger and local dynamics, which shaped this phenomenon. While profuse microlithic remains precede the neolithic at some sites, others give a silent testimony and reveal only a full-blown neolithic phase. Yet, all across the country between the fifth and first millennium BC, people were moving towards a 'neolithic' way of life – settled hutments, practice of agriculture and animal husbandry, pottery and beginning of craft production. But the story of human cultural evolution didn't stop here, for this was just the base on which, the next chapter i.e. of large-scale civilizations was to arise.

LESSON 5

THE HARAPPAN CIVILIZATION

*-Nayanjot Lahiri
-Deeksha Bhardwaj*

The name 'Indus civilization' evokes the urban, literate culture of the 3rd and early 2nd millennia BC that flourished in the area around the Indus river and its tributaries. Its first known cities, Harappa on the banks of a dried up bed of the Ravi river, an Indus tributary, and Mohenjodaro, 570 kilometres downstream, in the vicinity of the Indus river itself. Geographically, however, this civilization (also called the Harappa, its first known site) included much more than the Indus zone; it was a combination of riverine lowlands that stretched to the east and southeast, highland areas to the north, and the coastal belt towards the southwest and southeast of the Indus system.

Character of the Indus civilization. Before looking at its various features, it is necessary to be clear about the character of the Indus civilization in order to understand what set it apart from other contemporaneous cultures in the Indian subcontinent and from the Bronze Age civilizations of West Asia and Egypt. The Indus phenomenon is called a civilization because it incorporated within itself the social configurations and organizational devices that characterize such a cultural form. It was the only literate subcontinental segment of its time. More than 4000 Indus inscriptions have been found, and even though they remain undeciphered, the script was used for mercantile purposes (as suggested by the seals and sealings), personal identification (in the form of shallow inscriptions on bangles, bronze implements etc.) and possibly for civic purposes (underlined by the remains of a massive inscribed board at Dholavira). The civilization's essence was a settlement pattern in which cities and towns were particularly prominent. That such urban centres contained monumental structures whose construction required large outlays of labour and resources, and were marked by heterogeneous economic activities, are other conspicuous indicators. Earlier, Mohenjodaro and Harappa had alone stood out as the civilization's large cities today we know of many more whose dimensions qualify them for a similar status. These are fairly spread out – Ganweriwala in Cholistan, Dholavira in Kutch and Rakhigarhi in Haryana are such centres – and symbolize the creation of aggregates of population on a scale previously unknown. The largest variety and quantity of jewellery, statuary and seals, are found in urban centres and indicate that craft production was, in the main, geared to the demands of city dwellers. Further, the characters of planning, the necessity of written transactions, and the existence of a settlement hierarchy in which urban and rural settlements of various sizes and types were functionally connected in important ways all indicate administrative organization on a scale that was unprecedented in relation to other protohistoric subcontinental cultures. Many of these are archaeological indicators of a state society as well. Whether there were several states or a unified empire in Harappan times remains unclear. Urban settlements may have functioned as city-states since their layout and character suggests the presence of local aristocracies, merchants and craftspeople.

The Indus civilization, while sharing many general features with the contemporary Bronze Age cultures such as the Sumerian civilization of Mesopotamia and Old Kingdom Egypt, had its own distinct identity. For one thing, with a geographical spread of more than a million square kilometers, this was the largest urban culture of its time. Unlike Mesopotamia and Egypt, there were no grand religious shrines nor were magnificent palaces and funerary complexes

constructed for the rulers. Instead, its hallmark was a system of civic amenities for its citizens rarely seen in other parts of the then civilized world – roomy houses with bathrooms, a network of serviceable roads and lanes, an elaborate system of drainage and a unique water supply system. Dholavira's network of dams, water reservoirs and underground drains and Mohenjodaro's cylindrical wells, one for every third house, epitomize the degree of comfort that townspeople enjoyed in relation to contemporary Mesopotamians and Egyptians who had to make do with fetching water, bucket by bucket, from the nearby rivers.

Background and Origin. Indus settlements mainly, though not exclusively, flourished in the part of the Indian subcontinent, which lies west of the Delhi-Aravalli-Cambay geographical axis. Several segments of that zone had seen the birth and development of agricultural communities, between c. 7000 BC and the genesis of urban centres in the first part of the third millennium BC. The subsistence pattern that is widely seen at Harappan sites – a combination of wheat and barley cultivation and domesticated animal species in which cattle was most preferred – goes back to Mehrgarh in the Kachhi plain of Baluchistan which has also yielded the earliest evidence of agricultural life in South Asia (c. 7000 BC). From the 5th millennium BC onwards, this pattern is found spread all over the major areas of Baluchistan, from the Zhob-Loralai region in the northeast to Las Bela towards the south.

At the same time, a majority of classic Indus sites are in riverine lowlands and the manner in which settlements and subsistence patterns had evolved in those areas, over a span of more than a thousand years prior to the efflorescence of the Harappan civilization, is central to understanding its evolution. In several lowland areas, there was a long period of antecendence. At the beginning of the fourth millennium BC, the Cholistan tract saw a well-defined phase of occupation, known as the 'Hakra ware' culture, named after the river around which its distinctive ceramic assemblage was first discovered. Although the largest concentration of sites is around the Hakra river, its spread included Jalipur in Multan and Kunal in Haryana. Most of the sites seem to be small camps with a few permanently established settlements of substantial size (such as Lathwala in Cholistan, with an area of 26.3 hectares). The Hakra horizon is the first culture of the lowlands, which utilized both the desert and the riverine environments, using a variety of stone and copper tools. There are also occasional manufactured goods in raw materials that were not locally available, as is indicated by Jalilpur's repertoire of semi-precious stone, coral and gold beads. Towards the western fringe of the Indus lowlands, the fourth millennium BC witnessed the birth of another culture, known as the Amri culture (after the type site of Amri) which dominated the Kirthar piedmont and Kohistan. What is most significant is that some Amri sites are marked by an 'acro-sanctum/lower town' division, a settlement plan that can be witnessed subsequently, in a highly developed and sophisticated form, in the layout of Indus cites. The spatial exclusiveness of the 'acro-sanctum' is emphasized by a highly elevated, conically shaped hill with encircling, terraced stone walls and remnants of ramps/stairways. The general habitation area, which was lower town, possibly contained domestic structures.

The immediate backdrop to the Indus civilization is formed by the next phase, known as the Kot Diji culture, when elements of a common culture ethos can be seen across the Indus-Hakra plains and the Indo-Gangetic divide. There are several planned and fortified settlements; the construction of habitational areas aligned around a grid of north-south and east-west streets at Harappa, and the use of mud bricks in the Indus ratio of 1:2:4, along with a drainage system based on soakage pits in streets at Kunal are especially noteworthy. There is also an extensive but partly standardized repertoire of ceramic designs and forms (some of which are carried over

into the Indus civilization), miscellaneous crafts and a sophisticated metallurgy that includes the manufacture of silver tiaras and ‘armlets’ as also disc-shaped gold beads (typical of the Indus civilization), wide transport and exchange of raw materials, square stamp seals with designs, the presence of at least two signs of Indus writing at Padri and Dholavira (both in Gujarat) and ritual beliefs embodied in a range of terracotta cattle and female figurines. Considered in totality, the term ‘early Harappan’ is appropriate for this phase since a number of features related to the mature Harappan period (a designation used for the classic urban, civilizational form) are already present. Several of these features also evoke the presence of commercial and other elite social groups. When one considers the intensification of craft specialization, dependent on extensive networks through which the required raw materials were procured, or the necessity of irrigation for agriculture in the Indus flood plain, without the risk of crop failure, for which a degree of planning and management was essential, the emergence and the character of the controlling or ruling elites becomes clear.

On the whole, there is little doubt that the Indus civilization had indigenous roots and that its cultural precursors were the chalcolithic cultures of the northwest that flourished in the fourth and third millennia BC. Contrary to the views of some early scholars, Indus cities were not created either through the dissemination of the ‘idea’ of civilization or by migration of population groups from West Asia.

Chronology. It is unlikely that civilizational efflorescence was a simultaneous process in all parts of the Harappan distribution area. By 2600 BC, this civilization was in existence, as it had clear contacts, at that point of time, with Mesopotamia. It appears increasingly probable that it matured first in lower Sind, Cholistan and presumably, the Kutch region, which was linked by a river to the Cholistan area. Cities like Harappa, Kalibangan and Banawali came up a little later. The end was also staggered in time. Urban decline at Mohenjodaro had set by 2200 BC and by c. 2100 BC, it had ceased to exist as a city. However, the civilization continued after c. 2000 BC in other areas and at some sites survived till c. 1800 BC.

Geographical Distribution. Indus settlements (between 500 and 600 in number) are spread over a wide swathe of northwest India and Pakistan and their distribution illuminates the various ways in which this varied geographical area was exploited. In the lower Indus basin of Larkana, Mohenjodaro dominated the flood plain, agriculturally the richest part of Sind. Larkana is also marked by lake depressions, such as the Manchhar, where fishing settlements existed. Towards the west, there were clusters of sites in the foothills of the Kirthar mountain range and the Kohistan. There, agriculture must have depended on spring water and rains. Routes linking up with Baluchistan also passed through this area. In upper Sind, the Sukkur-Rorhi hills saw settlements of workmen in and around flint quarries, the raw material from which Harappan blades were manufactured. The course of the Indus river in the third millennium BC was more southeasterly and it flowed into the Arabian sea in the vicinity of the Rann of Kutch. The Indus river adopted its present course only between the tenth and the thirteenth centuries AD.

As one moves west, Baluchistan is reached where Harappan settlements are found in a variety of terrain – across the northern, mountain rim, on the flat Kacchi plain, in the district of Las Bela towards the south and along the coastal country known as the Makran. In the latter area, the fortified sites of Sutkagendor and Sotka-koh were important in terms of the Indus civilization’s sea trade with the Persian Gulf and Mesopotamia. Both were suitable landing places for maritime traffic and from these points, convenient routes linked up with the interior. In other parts of Baluchistan, Indus sites are found in areas that are still agriculturally viable and lie

on arterial routes. Pathani Damb, for instance, was near the Mula pass, from where a route went across the Kirthar range while Naushahro was in the general vicinity of the Bolan, through which a major route led to Afghanistan. Such routes were important because through them, Baluchistan's metalliferous ores (copper and lead) and semi-precious stone (lapis lazuli and turquoise) could be procured by the resource-poor Indus valley. The northernmost site of the Indus civilization, Shortughai, is in northeast Afghanistan. Shortughai provided access to Badakshan's lapis lazuli and possibly to the tin and gold resources of Central Asia.

To the northeast of Sind is the Pakistan province of Punjab. A large part of the province is comprised of *doabs* or tracts lying between two rivers. Of these, the Bari *doab* (or land between the Ravi and an old bed of the Beas) sites are noteworthy, especially the sprawling city of Harappa. There are no settlements in the interfluves of the Jhelum and the Indus or that of the Jhelum and Chenab. South of the Sutlej river, is Bahawalpur. Part of it is made up of the desert trace of Cholistan, through which the Hakra river flowed. The largest cluster (9174) of Indus settlements is found here. Geographically, this tract connects the Indus plains with Rajasthan, which was vast copper deposits. There were several exclusive, industrial sites (79 of them) in Cholistan, marked by kilns, devoted to large-scale craft production that included the melting and smelting of copper.

East of the Sutlej is the alluvial terrain of the Indo-Gangetic divide, a transitional area between the Indus and the Ganga river systems, made up of the Indian states of Punjab, Haryana, Delhi and Ghaggar river course in Rajasthan. A large part of the riverine and stream drainage from the Siwalik ridge between the Sutlej and Yamuna used to converge into the Ghaggar, the Indian name for the river known as the Hakra in Pakistan. There were several provincial urban centres in this region such as Kalibangan and Banawali although Rakhigarhi (in the Hissar district of Haryana) was the largest city and is said to be as large as Harappa. Classic Indus sites are also found in the Yamuna-Ganga *doab*, with a preponderance in its most northerly portion around Saharanpur.

Finally, the spread of the Indus civilization included the quadrilateral of roughly 119,000 square kilometers between the Rann of Kutch and the Gulf of Cambay. Dholavira was the city *par excellence* of the Rann, with its vast expanse of tidal mud flats and dead creeks. Further east, the great mass of Kathiawad, now known as Saurashtra, is formed of Deccan lava and on its eastern edge flourished the port town of Lothal. The mainland of Gujarat is alluvial, formed by the Sabarmati, Mahi and minor parallel streams, actively prograding into the Gulf of Cambay. Here, Bhagatrav, on the estuary of the Kim river, forms the southernmost extension of the Indus civilization.

Settlement pattern. The settlement pattern was a multi-tiered one with urban and rural sites that were markedly varied in terms of size and function. There were cities of monumental dimensions like Mohenjodaro, Harappa, Dholavira and Rakhigarhi that stand out on account of their size (more than 100 hectares each) and the character of their excavated remains. While the older premise that such cities were based on a gridiron system of planning has been shown by recent research to be invalid, there is impressive evidence of centralized planning. City space was divided into public and residential sectors. At Harappa and Mohenjodaro, the separation of the largely (though not exclusively) public administrative sector from the residential part of the city took the form of two separate mounds. Dholavira's city plan was more intricate. At its fully developed stage, it had three parts made up of the citadel which was divided into a 'castle' and a

'bailey' area, the idle town and the lower town, all interlinked and within an elaborate system of fortification.

The character of some of the structure is also worth considering. Mohenjodaro's citadel, for instance, was constructed on a gigantic artificial platform (400 x 100m) made of a mud brick retaining wall (over 6m thick) enclosing a filling of sand and silt. This platform, after being enlarged twice, attained a final height of 7 metres and provided a foundation on which further platforms were built in order to elevate important structures such as the Great Bath and the granary, so that the highest buildings were about 20 metres above the surrounding plains and could be seen on the horizons for miles around. Another architectural marvel is Dholavira's system of water management, crucial in an area, which is prone to frequent droughts. Rain water in the catchment areas of the two seasonal streams – Manhar and Mansar – was dammed and diverted to the large reservoirs within the city walls. Apparently, there were 16 water reservoirs within the city walls, covering as much as 36 percent of the walled area. Brick masonry walls protected them, although reservoirs were also made by cutting into the bedrock. Furthermore, drains in the 'castle-bailey' area carried rainwater to a receptacle for later use.

The intermediate tier of the urban hierarchy was made up of sites that in several features recall the layout of the monumental cities of the civilization but are smaller in size. Kalibangan, Lothal, Kot Diji, Banawali and Amri are some of them and they can be considered as provincial centres. Kalibangan, like Mohenjodaro and Harappa, comprised of two fortified mounds – the smaller western one contained several mud brick platforms with fire altars on one of them. Most of the houses on the eastern mound had fire-altars of a similar type. Lothal was also a fortified town with its entire eastern sector being taken up by a dockyard (219x13m in size) which was connected with the river through an inlet channel. In its vicinity was the 'acropolis' where the remains of a storehouse, in which clay sealings, some with impressions of cords and other materials on them, were discovered. Lothal's urban morphology also suggests that there is no necessary relationship between the size of a city and its overall planning. Mohenjodaro was at least 25 times the size of Lothal but the latter shares with it the presence of two separate areas, burnt brick houses, and regularly aligned streets and drains. In fact, its paved streets and lanes are unrivalled in the Indus context. The third tier of the Indus settlement hierarchy is made up of small, urban sites. These show some evidence of planning but no internal sub-divisions. Notwithstanding their size and structurally unprepossessing character, they had urban functions. Allahadino in Sind is one such site, which had a diameter of only 100 metres but was an important metalcrafting centre. Similarly, Kuntasi in Gujarat is a small Harappan fortified settlement where semi-precious stones and copper were processed.

Finally, urban centres were supported by and functionally connected with rural hinterlands of sedentary villages and temporary / semi-nomadic settlements. While the latter are generally small with thin occupational deposits, in the case of villages, outlines of huts and relatively thick deposits have been encountered. Kanewal in Gujarat, for instance, is 300 square metres and its cultural deposit (of 1.5 metre thickness) is suggestive of a secure village settlement. Similarly, the archaeological deposits of the Harappan phase in the Yamuna-Ganga *doab* – 1.8 metres at Alamgirpur and 1.4 metres at Hulas – indicates that the pioneer colonizers of that area lived there for a long period of time. What is worth remembering is that, on the basis of size, it is not wise to distinguish rural and urban sites of the Indus civilization. In Cholistan, there are a few large sites, one of which covers 25 hectares (and, thus, is large than Kalibangan), which have been described as nomadic settlements, not urban ones. On the other hand, Kuntasi

was only 2 hectares in size but has been rightly classified as an urban settlement because of its functional role as a provider of craft objects.

Subsistence: A stable system of agriculture, supplemented by animal husbandry, hunting and plant gathering, provided economic sustenance to urban networks. In view of the widely differing ecological conditions of the distribution area of this civilization, the subsistence strategy is not likely to have been a single or uniform one. The Harappans were familiar with the plough. Terracotta ploughs have been found at Indus sites in Cholistan and at Banawali and a ploughed field was revealed through excavation at Kalibangan. Though it belonged to the early Harappan period, there is no reason to doubt that the pattern continued during the mature Harappan period. The Kalibangan field contained two sets of furrows crossing each other at right angles, thus forming a grid pattern, and it is likely that two crops were raised in the same field. In modern fields in that zone, mustard is grown in one set of furrows and horse gram in the other. Mixed cropping is suggested by other evidence as well as, for instance, in the mixture of wheat and barley at Indus sites. Such mixed cropping is practiced even today in many parts of north India as an insurance against weather hazards so that wheat fails to ripen, the hardier barley is sure to yield a crop.

Earlier, a broad division of cultivated crops among those areas in and around the Indus valley on the one hand and Gujarat on the other hand, used to be recognized. In the Indus area, the cereal component was considered to be exclusively of wheat and barley while in Gujarat, rice and millets were more important. However, both rice and finger millet have now been discovered in Harappa. There is a range of other cultivated crops including peas, lentils, chickpeas, sesame, flax, legumes and cotton. The range suggests cotton. In Sind, cotton is usually a summer crop and such crops have generally been cultivated with the help of irrigation. This is because rainfall is extremely scanty, at about 8 inches. In any part of the Indian subcontinent which has less than 10 or 12 inches of rainfall, if agriculture on any scale has to be carried out with a substantial reduction of the risk factor, it can only be done with irrigation.

Cattle meat was the favourite animal food of the Indus people and cattle bones have been found in large quantities at all sites that have yielded bones. In addition to their meat, cattle and buffaloes must have supported agricultural operations and served as draught animals. Among other things, this is suggested by their age of slaughter. At Shikarpur in Gujarat, a majority of the cattle and buffaloes lived up to the age of maturity (approximately three years) and were then killed at various stages till they reached eight years of age. Mutton was also popular and bones of sheep/goat have been found at almost all Indus sites. Hunting of animals was not a negligible activity; the ratio of the bones of wild animals in relation to domesticated varieties is 1:4. The animals include wild buffalo, various species of deer, wild pig, ass, jackal, rodents and hare. The remains of fish and marine molluscs are frequently found as well as. As for food gathering, wild rice was certainly consumed in the Yamuna-Ganga *doab* although the most striking evidence comes from Surkotada in Gujarat where the overwhelming majority of identified seeds are of wild nuts, grasses and weeds. In general, the Indus food economy was a broad-based, risk-mitigating system – a pragmatic strategy, considering the large and concentrated population groups that had to be supported.

Artisanal Production and Trade: A spectacular range of artisanal production is encountered at Indus cities. On the one hand, specialized crafts that had roots in the preceding period became more complex in terms of technological processes, and on the other hand, the combinations of raw materials being used, expanded. Along with the widespread urban demand

for shell artefacts, semi-precious stone and steatite beads, faience objects, and implements as also jewellery in base and precious metals. It is now reasonably clear that the Indus civilization was not, in the main, a bronze using culture. Pure copper was the dominant tradition. Additionally, there was a variety of alloys ranging from low and high grade bronzes to copper-lead and copper-nickel alloys.

Some of the crafted objects are quintessentially Indus, in the sense that they are neither found prior to the advent of the urban civilization nor after its collapse. Indus seals (inscribed, square or rectangular in shape, with representations of animals, most notably the 'unicorn') for example, are rarely found in the late Harappan and post-Harappan contexts since the commercial transactions for which they were used had dramatically shrunk. This is also true for the series of Indus stone statues of animals and men, of which the most famous is that of the 'Priest King'. These appear to have had a politico-religious significance and are in a sculptural idiom that is very much within the realm of 'High Art'. The disappearance of this stone carving tradition can be linked to the abandonment of urban centres, along with the migration and transformation of elite groups. Similarly, long barrel carnelian beads are a typical Indus luxury product, which were primarily manufactured at Chanhundaro. Their crafting demanded both skill and time; the perforation in a 6 to 13 cm length bead required between three to eight days. Evidently, the largely deurbanized scenario that followed the collapse of cities could not sustain such a specialized production.

One of the most striking features of the Indus craft traditions is that they are not region-specific. Shell objects were manufactured at Nagwada and Nageshwar in Gujarat and at Chanhundaro and Mohenjodaro in Sind. Similarly, metal artefacts were produced at Lothal in Gujarat, at Harappa in the Bari *doab* of Punjab and at Allahadino and Mohenjodaro in Sind. While craft objects were manufactured at many places, the manufacturing technology could be surprisingly standardized. In the case of shell bangles, at practically all sites they had a uniform width of between 5 mm and 7 mm and they were almost everywhere sawn by a saw that had a blade thickness of between 0.4 mm and 0.6mm. What is equally striking about the wide distribution of craft production is that, in a number of cases, manufacture depended on raw materials that were not locally available. At Mohenjodaro, shell artifacts were manufactured from the marine mollusc, *Turbinella pyrum*, found along the Sind and Baluchistan coast which was brought in a raw state from there. Similarly, there is impressive evidence of manufacture of copper based craft items at Harappa ranging from furnaces to slag and unfinished objects, even though the city was located in a minerally poor area.

Such craft production could survive and prosper because of a highly organized trading system. Indus people had the capacity to mobilize resources from various areas ranging from Rajasthan to Afghanistan and, considering the scale of manufacture, it is likely that there were full-time traders that helped in providing the necessary raw materials. Most of these resource-rich areas also show evidence of contact with the Indus civilization. For example, at Chalcolithic Kulli culture sites, Harappan unicorn seals and pottery have been found. Similarly, the exploitation of Rajasthan's raw materials is underlined by Harappan pottery at some sites of the Ganeshwar-Jodhpura chalcolithic complex and by the strong stylistic similarities in the copper arrowheads, spearheads and fish hooks of the two cultures.

In addition to raw materials, other types of objects were traded. On the one hand, there was trade in food items as is underlined by the presence of marine cat fish at Harappa, a city that was hundreds of kilometers away from the sea. Craft items were also traded. Small

manufacturing centres like Nageshwar were providing shell ladles to Mohenjodaro which also received chert blades from the Rorhi hills of Sind. It is now possible to visualize the exchange of finished objects between the monumental cities of the Indus civilization as well. For instance, stoneware bangles – a highly siliceous, partially sintered ceramic body with low porosity – manufactured at Mohenjodaro have been found 570 kilometres north, at Harappa. The nature of the social process involved in this exchange is unknown but is unlikely to be a case of satisfying an economic demand, since Harappa was also producing such bangles. Possibly, the unidirectional movement of some bangles from Mohenjodaro to Harappa is related to social transactions among related status or kin groups in the two cities.

The Indus civilization had wide ranging contacts with cultures and civilizations to the northwest and west of its distribution area. Indus and Indus-related objects have been found in north Afghanistan, Turkmenistan, north and south Iran, Bahrain, Failaka and the Oman Peninsula in the Persian Gulf, and north and south Mesopotamia. The objects include etched carnelian and long barrel-cylinder carnelian beads, square/ rectangular Indus seals, pottery with the Indus script, 'Indus' motifs on local seals, ivory objects, and various terracottas such as ithyphallic specimens that have strong Indus analogues. Externally derived objects and traits have been found at Indus sites such as seals with Mesopotamian and Persian Gulf affinities, externally derived motifs on seals and steatite/ chlorite vessels.

At the same time, the importance that has been attached in Indus studies to the regions west of Baluchistan as the main areas from which the Indus civilization procured its raw materials, whether it is copper from Oman or carnelian of Persian Gulf origin is somewhat misplaced. There is an abundance of raw materials on the peripheries and within the area where Indus cities and settlements flourished. Before the advent of Indus urbanism, these raw materials were being used by the various culture that were antecedent to the Indus civilization and subsequently as well, they continued to be a part of the repertoires of late/post-Harappan horizons, albeit on a reduced scale as compared to the situation during the civilizational phase. While, there may have been some raw materials involved in long distance trade, there is no reason to argue that the Indus civilization was in any way either solely or significantly dependent on the regions to the west for such resources.

Religious Beliefs: One of the most complex issues concerning ancient history is to determine past ways of thought and beliefs, especially in the case of the Indus civilization where these must be inferred from material remains, since its writing has not been satisfactorily deciphered. The archaeological indicators here are mainly portable objects of various kinds, figural representations and a few areas within settlements which seem to have been set apart for sacred purposes. There are no structures at Indus sites that can be described as temples nor are these any statues, which can be considered as images that were worshipped. A few structures reflect a connection between concepts of cleansing through water relation to ritual functions. The sunken, rectangular basin known as the 'Great Bath' at Mohenjodaro is one such instance. The cult connection of this water using structure is evident from its method of construction which had three concentric zones around it, including streets on all four sides (making it the only free standing structure of the city), for the purpose of a ritual procession leading into it. The bathing pavements and well in the vicinity of the offering pits on Kalibangan's citable also underline this connection. As for beliefs connected with fertility, it is possible that some terracotta Mohenjodaro and Harappa. At towns like Kalibangan and Surkotada, female figurines are practically absent. Even at Mohenjodaro, the fact that only 475 of the total number of terracotta

figurines and fragments represented the female form means that this was not as common a practice as it has been made out to be. Several of the female figurines were utilized as lamps or for the burning of incense. Fertility in relation to the male principle has also been evoked not merely in the context on the 'Siva-Pasupati' seal but also with reference to the phallic stones that have been found at Mohenjodaro, Harappa and Dholavira as also with regard to a miniature terracotta representation of a phallic emblem set in a ovular shaped flat receptacle from Kalibangan. Religious sancity was associated with particular trees and animals as well. The presence of part human-part animal characters on Indus seals and a human personage on a pipal (*ficus religiosa*) tree, in fact, suggest a shamanistic component in Harappan religion. None of these features, however suggest a transregional Indus religion with cult centres and state dominated rituals, of the kind that is writ large on the architectural landscape of Bronze Age West Asia and Egypt.

Decline and Devolution: The process of urban decline appears to have unfolded in various ways. At Mohenjodaro there was a steady deterioration, apparent in the fact that the walls of the terminal level structures are frequently thin walled, haphazardly laid out, made of unstandardized bricks. This is also true of Dholavira whose progressive impoverishment was hastened by two spells when the city was deserted. As urbanism crumbled, rickety, jerry-built structures and the reused stones robbed from older structures came to be commonly encountered on the other hand, Kalibangan was abandoned relatively suddenly and the same is true for Banawali. In other words, it is not one even but different kinds of events that must have led to the disappearance of urban life. There is, however, no unanimity about these events or about their relative importance. In fact, the collapse of the Indus civilization continues to be a focus of large historical speculation and debate.

The earliest formulations for urban collapse revolved around the hypothetical Aryans and the allusions in the *Rigveda* to the destruction wreaked on forts/cities by them. This idea continued to remain a popular one till the 1940s when archaeological 'proof' of Aryan invasions was claimed to have been discovered at Mohenjodaro, on the one hand, in the assortment of scattered skeletons (apparently sings of a 'massacre') and at Harappa, on the other hand, in the form of deliberate blocking of entrances and a culture (Cemetery H) overlying the mature Harappan phase which was supposed to represent the conquerors. Since the 1950s, however serious doubts have been raised about the historicity of an Aryan invasion. Among other things, it has been demonstrated that the massacre evidence was based on very few skeletons that cannot be dated to the same stratum.

Increasingly, greater attention has been paid to the question of the environment in the Indus distribution area and the role of rivers and climate in the decline of an urban culture. At several Indus cities such as Mohenjodaro, Chanhudaro and Lothal, there are silt debris intervening between phases of occupation and these underline the possibility of damage being caused by the inundations of swollen rivers. It has been suggested that the excess river water was a product of earthquakes, although this has not been consequence not of excessive but insufficient river water. The river in question is the Ghaggar-Hakra, often been identified with the Vedic Saraswati, which was drying up number of sites dramatically shrank in the phase that post-dates the urban one. The reduction in the flow of the Ghaggar-Hakra was a consequence of river diversion and, according to one group of scholars it was the Sutlej that abandoned its channel and began to flow westwards, while others have contended that the Yamuna was diverted from the Indus into the Ganges system.

The impact of the Harappans on their environment is also a factor that has been considered as contributing to the collapse of the Indus civilization. A possible disequilibrium between urban demand and the carrying capacity of the land, leading to a fodder requirements and fuel for firing bricks are among the explanations that have been offered. However, the archaeological scaffolding for supporting such arguments remains to be systematically worked out. In the stretch that lies roughly east of Cholistan, the absence of long-term cultural roots has been highlighted. It has been suggested that since the Indus phenomenon there did not evolve through a long process but was imposed on a hunting-gathering economic context, its presence over time came to be thinly stretched and eventually, could not be sustained. The question of the absence of a long antecedence for the civilization in the Indo-Gangetic divide and Gujarat may require modification in the context of the discovery of cultures antedating the mature Harappan phase in Kutch and Saurashtra on the one hand, and in the Hissar area of Haryana on the other. At the same time, in the period following the demise of the urban form, chalcolithic village cultures as also microlithic hunter-gatherers are encountered, an indicator that such cultures were economically sustainable in those regions. However, the highly complex system of an urban civilization, which delicately balanced different social and economic sub-system, was no longer viable.

What followed the collapse of Indus urbanism was a variety of late/post Harappan cultures – the Cemetery H culture in Punjab and Cholistan, the Jhukar culture of Sind, the Rangpur IIB and Lustrous Red Ware phases of Gujarat. In this latter phase, a few elements of the Harappan tradition, by which one means features whose genealogy can be located in the mature harappan period, persisted to a greater or lesser degree, mediated by other cultural elements. However, the *civilization* had ended and even though aspects of this *tradition* continued, it was in a landscape whose cultural diversity contrasts sharply with that of the preceding, mature Harappan period.

What does the end of the Indus civilization mean in relation to the character of the cultural developments that followed? Urban settlements, for example, did not disappear completely – Kudwala in Cholistan, Beyt Dwaraka off the coast of Gujarat and Daimabad in the upper Godavari basin are three of them. But they are relatively few, and certainly there is not city that matches the grandeur and monumentality of Mohenjodaro and Harappan cities, these are now few and far between, although baked bricks and drains are present in the Cemetery H occupation at Harappa while at Sanghol there was a solid mud platform on which mud houses stood. Writing is occasionally encountered but remains generally confined to a few potsherds. The same holds true for seals, which became rare, and at Daimabad and Jhukar are circular, not rectangular like the typical Indus specimens. The Dholavira specimens, on the other hand, are rectangular but without figures. The other indicator of a reduction in the scale of trade is the relatively sparse evidence of interregional procurement of raw materials. On the whole, one would say that elements emblematic of the urban tradition of the Indus civilization dramatically shrank and finally disappeared.

Not everything that is associated with the Indus civilization disappeared, as it were, without a trace. A few craft traditions survived urban collapse and are found in the makeup of the late/post-Harappan mosaic. Faience was one such craft and ornaments fashioned out of this synthetic stone are commonly found in the post-Harappan period. A similar continuity can be seen in the character of metal technology, although there was a general decrease in the use of copper. The bronzes from Daimabad in Maharashtra made by the “lost wax” process and the

replication of a marine shell in copper at Rojdi in Gujarat are evidence of this and underline the continuation of the technical excellence of the Indus copper and copper alloy traditions. There was also an extension of multi-exponential expansion in agriculture, settlements of late/post-Harappan lineage in the aftermath of the Indus phenomenon there was no cultural cohesion or artefactual uniformity of the kind that was a hallmark of that civilization. Instead of a civilization, there were cultures, each with its own distinct regional identity.

THE NEOLITHIC-CHALCOLITHIC CULTURES OUTSIDE THE INDUS SYSTEM

-Dr. Rajni Nanda

The Harappan culture is generally supposed to have been followed by non-urban Chalcolithic culture characterized by the use of copper and stone. The differences between these cultures were not fundamental but were primarily confined to pottery. These cultures which are marked by the use of a limited amount of copper and an abundance of lithic blades, are said to have their first appearance at the turn of the second millennium B.C.

The Ochre Colour Pottery (OCP) Culture

Most ochre-coloured pottery sites are found in the Gangetic doab which is an alluvial plain. Two broad categories of the OCP have been suggested: Zone A, (Western) type and Zone B (Eastern) type. The Zone A OCP which is said to be evidently influenced by the Harappan, has been reported from Jodhpura, Siswal, Mitathal, Bara, Ambkheri and Bargaon. The main shapes are bowls, dishes, vases, knobbed lids, dish-on-stand and vases with flared rims. The Zone B OCP, marked by the absence of the basin with beaded rim, the dish-on stand and the flask has been reported from Lal Qila, Atranjikhhera and Saipali.

At several places in the upper Gangetic basin (Nasirpur, Jhinhana, Bahadurabad etc.) Copper Hoards were discovered and at all these sites the OCP was also found thereby suggesting an association between the two. But according to D.P. Aggarwal such association needs further confirmation and should be, for the time being, treated as provisional.

The Copper hoard Culture

A number of Copper Hoards comprising rings, flat and shouldered celts, harpoons, antennae swords, axes, anthropomorphic figures, double-edged axes, socketed axes, etc. have been found in a wide area ranging from the Chotanagpur plateau to the upper Gangetic basin. As most of the discoveries were chance finds, no other associated artefacts were reported, Bhagrapir, Bahadurabad, Sarthavli. Fatehgarh, Niori, nasirpur, Bisauli and Mindapore are some of the important sites at which the Copper Hoards have been reported. No C-14 dates are available for the Copper Hoard culture.

The Ahar or the Banas Culture

Ahar and Gilund are the main sites which have been properly excavated, though more than fifty sites of the culture are known in the valley of Rivers Banas and Berach in South-east Rajasthan.

Both Ahar and Gilund are fairly large settlements. The mound at Ahar measures 500 X 270 X 13m and has several building phases. Excavations have revealed that the plinth of the houses at Ahar was built with roughly dressed slabs of schist. The walls were made with mud or mud-bricks. Timber was used, but sparingly, for the central upright pillars, and probably for the long, horizontal beams, which supported the roof. The roof was sloping and thatched with bamboos, and additionally covered with grass and leaves, but not tiles. Houses were both kind large and small. The floors of the houses were made either of burnt clay or clay mixed with the river gravel.

Bigger houses had partitioned walls and chulahs (hearths) were an invariable feature of the kitchen. Some of the chulahs are quite big suggesting that some houses had large families and two or three dishes were cooked together in equally large vessels. More frequent than

chulahs were saddle querries and clay baking pans. These clearly indicate that the grinding and baking of bread were practiced by the people.

Jawari (a millet) is known from the potery matrix of Period II. There are also impression of long grained rice. No other grains, charred or otherwise, have been found. Animal bones, however, are in plenty; turtle, fish, goat; sheep, deer, pig and cattle were eaten. Bovines dominate the animal remains.

Out of the seven main wares associated with the Banas culture, the black-and-red ware, painted in white on the exterior, is the characteristic pottery. The common shapes are bowls and dishes and the pottery is wheelmade. Bowls, lotas and ribbed vessels constitute the main shapes in the Red slipped ware. This pottery is also wheelmade and the colours of the slip range from tan, orange to chocolate.

The terracotta art was well developed. Another important aspect of the Ahar culture is that while at Ahar stone axes or blades are completely absent, in Gilund and Kayatha, we find a developed blade industry. At Ahar only copper was used and five axes, one knife blade, one sheet, a bangle and two rings of copper have been found.

The available C-14 dates suggest a c.2000-1400 B.C. bracket for the Banas culture.

The Kayatha Culture

Among the Chalcolithic culture in central India, the earliest seems to be the Kayatha culture which is bracketed between c.2000 and 1800 B.C., as indicated by the C-14 dates. Kayatha is the only site which has been properly excavated, although forty others sites representing this culture are known.

Kayatha culture has been divided into mainly three period-Period I is marked by 3 distinct pottery types, a number of copper axes and microliths including blades and points, and beads of crystal, agate, carnelian and steatite. Period II is characterized by Ahar type Black-and Red ware Period III represents a culture, typified not merely at Kayatha but also at Navdatoli, Nagda, Eran, Tripuri, Besnagar and Avra. This phase is better known as Malwa Chalcolithic.

The Kayatha culture is characterized by three distinct ceramic industries, a thick, sturdy Brown slipped ware painted in violet or deep red being the most predominant. The designs are generally linear, painted on the rim. Main shapes of this ware are bowls, basins and globular jar with concave necks. Some storage jars have also been found.

Another important ceramaic is the Buff Painted Red Ware. It is thin walled and of extremely fine fabric. The pots of this ware have a buff surface because of the wash of that colour over which geometric design— like loops festoons, latticed diamonds, oblique lines— are expected in red pigment. Concave necked jars, basins and lotas are the main shapes, the last one deserving special attention. It is a small vessel with a carinated body, bulbous bottom and a flaring rim. M.K. Dhavalikar traces the origin of the Malwa ware from the Buff Painted red ware of Kayatha since the shape and even the fabric are common between the two cultures.

The third main ware is the Combed Ware. It is a pottery of fine fabric, usually without a slip or a wash of any kind. It is decorated with incised patterns such as chevrons, Zigzags, etc. These incised decorations seem to have been executed with a comb-like instrument.

No complete house plan is available. The post-holes indicate the use of circular and rectangular huts made of perhaps slit bamboo screens. No burials have been reported.

The Kayathans, it seems, had mastered the copper technology as is apparaent from the find of two copper axes. These have a sharp cutting edge and alenticular section; the other edge has been hammered and thickened obviously for making it convient for hafting. The axes are cast

in a mould unlike the later chalcolithic specimens which were just hammered to shape in central India and Deccan. A chisel is also reported from here.

Associated with the copper tools was a specialized blade flake industry comprising parallel-sided blades, pen knife blades, points, lunates with blunted black etc. The stone used is mostly chalcidony which was available in the form of veins in the nearby rocks.

Other objects of common occurrence are beads, bangles, wristlets and anklets: vessels, daggers, spears and swords are rare. Two necklaces of long barrel, short bicone, and oblate beads of carnelian and agate were found in a pot. Each necklace was made of 160-170 beads. Another necklace of 40,000 microbeads of steatite was also discovered from a pot.

A similar discovery of copper bangles and semi-precious bead necklaces from pots had also been made at Mohenjodaro. This further supports the claim of a Harappan affinity. The basis for similarities with the Sothi or the pre-Harappan culture, however, seems to be firmer. The Combed ware and the Red Slipped ware of Sothi and Kayatha have quite specific affinities. Sankalia has therefore surmised that when the Harappan pushed out the pre-Harappans from Rajasthan, they colonized Malwa. This eastward migration might explain the term 'Kalisindh' and the presence of a pottery which has some resemblance to the pre-Harappan or Indus pottery from Amri, Kot Diji and Kalibangan.

The Malwa Culture

The Malwa Culture succeeds the Kayatha and the Banas cultures. The Plateau of Malwa in Central India has been described as a vast stretch of undulating plains, interspersed with curiously shaped flat topped hills and covered with tenacious black soil a very rich, loamy earth, possessing an unusual power to retain moisture and renowned for its fertility (O.H.K. Spade).

Sites of the Malwa culture have been reported both from Madhya Pradesh and Maharashtra. The best known excavated sites are Eran, Nagda and Navdatoli in Madhya Pradesh and Inamgaon in Maharashtra.

Navdatoli is one of which we have good idea because this site was extensively dug by the Baroda University and the Deccan college for three seasons and full reports, are available.

The Chalcolithic period of the site is divisible into four phases. Phase I is marked by Banasian type of black-and-red Ware; Phase II by the Cream-slipped Ware; in Phase III appears the Black-on-Red Ware; Phase IV is characterized by a coarse red ware in association with the Lustrous Red Ware. But all through these four phases, the Malwa Ware continues; nor is there any other significant change in the material culture of the people.

The people of Navdatoli had occupied the highest terrace formed during one of the phenomenal rise of the Narmada and on this were built simple, round or rectangular mud-walled huts, for which no foundation was needed. Walls generally were made of split-bamboo screens plastered with mud. Cobbles or gravels were rammed with hard compact clay for making floors which were finally given a lime coating. Wooden posts were used to support perhaps a conical roof. The houses were provided with chulhaas for cooking purposes. The available plan suggests that the chalcolithic village of Navdatoli was a nucleated settlement and on Sankalia's estimate, could possess in its earlier phase about 200 inhabitants. Unlike Eran and Nagda, the Chalcolithic settlement at Navdatoli does not appear to have been fortified.

The pre-historic Navdatolians used varied, beautiful and in fact a highly sophisticated pottery. The dominant pottery type was the Malwa Ware which accounts for one third of the total pottery yield at the site. It is a painted pottery in black or brown over a buff or orange

slip, but the fabric is thick to the use of chopped husk. Main shapes of the Malwa Ware are lota, channelled spouts and pedestalled goblets. The Cream-slipped Ware has some new shapes like the medium sized storage vessels and bowls, but lotas and goblets are common with the Malwa Ware. The pottery was beautifully decorated with geometric (lozenges and triangles) and naturalistic (human and animal) motifs.

A large number of stone tools consisting of pen knife blunted backed, serrated and parallel-sided blades, trapezes and lunates were discovered. The evidence of copper is somewhat limited. But none the less flat copper celts with convex cutting edges, bangles, fish hooks, chisels, spearhead, arrowheads and a sword with traces of a mid-rib were founded at Navdatoli. Except for the mid-ribbed sword which must have been cast, other object appear to have been hammered to shape.

Beads occurred profusely and were of diverse material. A Navadatoli alone, they were of agate, camelian, chalcedony, glass, jasper, lapis-lazuli, steatite, shell and terracotta. Terracotta spindle whorls, animal figurines etc. were also a part of the cultural assemblage. Some figurines, such as the terracotta females figurines (mother goddess) appear ritualistic. Shrines and animal motifs painted on jars can also provide some evidence on the religious beliefs of the Navdatolians.

There is also evidence regarding the food habits of the people. Besides the vegetable products such as black gram, green gram, lentil, grass pea, linseed, ber and amla, the people ate beef, venison and pork. Charred grains of wheat, barley and rice were found but only in phase II and IV.

It seems that the offshoots of the Malwa culture crossed the Tapi and reached the Bhima and one of the tributaries the Ghod. In Chandoli, Songaon and Inamgoan it seems to have preceded the Jorwe culture. In period III at Navadatoli, a new fabric called 'Jorwe' is found. It is a grayish black ware. It has a well-backed core with a metallic ring, and a mat red surface. The occurrence of Jorwe pottery at Navdaroli and the Malwa ware of some sites in Maharashtra suggests interprovincial cultural contacts which might have been on ethnic and political relations as well.

Sankalia suggests that the origin of the Malwa culture can be traced to a cultural influence from West Asia. His attention was drawn to a large variety of bowls, with or without stand with a flat base, which he compares with the champagne and brandy cups of the European society. Nothing like these appear in the Harappan sites, though one sole specimen has so far been found from the pre-Harappan levels of Kalibangan, after which this type disappears completely and emerges only after the Iranian contacts. Since they are a characteristic feature of the early Iranians and West Asiatic cultures to which those from Navdatoli show a great resemblance in shape and design. Sankalia thinks that Navdatoli cultures was in part atleast, derived from or inspired by Iranian cultures. However, Dhavalikar Associates the authors of the Malwa culture with the Vedic Aryans.

The C-14 dates assign a date bracket of c 1700-1400 B.C. for the Malwa culture.

The Jorwe culture

After the Harappan culture this is the best known pre-historic culture of India. The Jorwe culture is named after the type-site Jorwe. The other sites representing this culture are Nevasa, Daimabad, Inamgaon, Chandoli, Nasik, Songaon, etc.

The Jorwe culture was not the first of the earliest in Maharashtra but by about 1200 B.C. it had spread over Krishna-Godavari valleys ousting or incorporating within it the earlier cultural manifestations from Andhra-Karnataka in the south and Malwa in the North.

Extensive excavations have been carried out at Nevasa and Inamgaon. The houses there were square or rectangular with a mud wall supported by wooden posts inserted at regular intervals into the floor. The roofing material was possibly bomboo matting, dry leaves etc. covered with mud. These early Jorwe houses were fairly large. Some had possibly an open courtyard where grinding of grain was done. The early Jorwe settlements at Inamgaon has all the signs of a prosperous village with a mud and stone fortification.

Coming to Jorwe pottery, it has a fine fabric and well baked. It has a red or orange matt surface painted with geometric designs in black. However the shapes are rather limited the main ones being the spouted jar with a flaring mouth, the carinated bowl and the high-necked jar with a globular profile. There were other ceramic type as well. Bowls, lotas and globular vessels representing the Pale Grey Ware with white painted designs have been found at Prakash and Nevasa. Similarly, Daimabad, Chandoli, Sonagaon, Prakash and Inamgaon yielded many form and fabrics of the Malwa Ware.

For food, the inhabitants of these chalcolithic settlements cultivated barley, wheat, lentil, kulith, grass pea and occasionally rice. Fruits like ber, Jamun and beheda were also grown. The domesticated animal remains of dog, elephant, horse, pig, cattle and goat, camel bones were also recovered. Amongst the wild species were black, wild buffalo, chital, sambbar and barasingha.

The lithic assemblage was comprised of a few polished dolerite axes and a prolific blades industry of chalcedony. The copper objects include bangles, beads, blades, chisels, roads axes, a dagger or a spear-head with a faint mid-rib and an antennae, a small pot and a few miscellaneous objects. A boatshaped kiln to smelt copper lies has been identified at Inamgaon.

Ornamental beads of agate, carnelian, jasper and chalcedony, gold, copper and ivory were used Bangles and anklets of copper and spiral ear ornaments of gold have also been found at Inamgaon.

Several burials have been reported. Both adults and children were buried with the head facing north; the adults in extended positions and the children in coarse handmade red/grey ware urns placed mouth to mouth. The presence of spouted jars and bowls indicate that the dead were provided with food and drink for the afterlife.

The C-14 dates suggest that the Jorwe culture is confined to c 1400-1100 B.C. though at Inamgaon its late phase continues much later.

Eastern Chalcolithic cultures

The eastern Chalcolithic cultures start c 1600 B.C. and continue until c 800 B.C. Chirand, Rajar Dhibl, Mahisdal, and Bharatpur are some of the important sites that have been excavated.

The deposits at Chirand have been divided into 3 periods. Period I is Neolithic, Period II is Chalcolithic and Period III is marked by the appearance of iron.

A number of bone artifacts have been found associated with Period I. They include celts, scrapers, chisels, hammers, needles, points, borers, awls, shaft-straightners, styli and arrow heads. Pendants, earrings, bangles, discs and combs were also made of bone.

Besides querns, balls and pestles, four ground stone axes were also found from Periods I and II. Stone tools are of quartzite, basalt and granite. A developed microlithic industry is reported. It comprised parallel sided blades, scrapers, arrowheads, serrated points, lunates, borers, etc. The raw materials were chalcedony, chert, agate and jasper.

The dominant pottery types is the Red ware though grey, black and black-and-red wares also occur. The main shapes are spouted vase with a narrow neck, different types of bowls, bowl-with-stand, footed cup, channel spout, spoon etc. Linear designs of criss-cross lines and concentric circles were painted in red ochre after the firing of the pots, especially on grey ware.

People cultivated wheat, rice masoor and moong. River shells and snails were also eaten. Animal remains of elephant, rhino, buffalo, ox, stag and deer have been found.

Period II is marked by the occurrence of red and black-and red wares. The main types are the spouted lota, lipped bowls and narrow-necked goblets. Other industries are similar to Period II, except for the appearance of copper. Period II B marks the advents to iron.

Of the four periods that the deposits at Rajar Dhibi have been divided into, the first two are Chalcolithic and are characterized by the occurrence of a handmade thick grey ware, a wheel thrown red ware and a black-and-red ware. The lustrous red ware and channel-spouted bowls have been recovered from Period II only. The main shapes are storage jars, dishes-on stand, spouted vases, bowls-on stand, lotas, high necked jars and basins.

Tanged arrowheads, a ring, bangles, and an antimony rod are some of the copper objects that have been found. The occurrence of lithic-flakes, scrapers, etc. is rare in period I but they occur in large numbers in Period II.

A large quantity of charred rice, lunates and blades in stone, a flat copper celt, beads of stone and steatite, bone combs and tetrahedral stone weights have been found at Mahisdal. The ceramic traditions of Period I at Mahisdal are similar to Rajar Dhibi. Period I is marked by the appearance of iron.

In the end it would be worth while to briefly discuss the Neolithic-Chalcolithic cultures of the South and the Neolithic settlements of North-Western Frontier and Kashmir.

In the North-Western Frontier the sequence is built up on the basis of excavations at Ghaligai cave and a number of grave sites such as Timargarha, Aligrama, etc. all in Swat. In the Ghaligai cave the lowest levels produced coarse handmade pottery. According to the Allchins 'in Swat there is clear evidence that in period IV of Ghaligai cave, a new element entered the valley, associated with, the Gandharan graves and bringing a marked increase in the use of copper and bronze, distinctive burial rites and a cult of fire, inferred by the presence of some cremations, etc. The parallels for the material culture are in the Caucasus, north Iran and southern central Asia.

The best known Neolithic site in Kashmir is at Burzahom. The deposits at Burzhom hve been divided into four periods, out of which the first two are Neolithic, the third Megalithic and the last, early historic.

The most distinctive trait of Period I is pit dwelling. Both circular/oval and rectangular/squarish pits were used. Charcoal ash, potsherds etc. were found from these pits. Polished axes, harvesters pounders polishers, chisels and maceheads were the main stone tool types in use. The bone tool industry comprised harpoons, needles, awls, spearpoints, arrowheads, daggers and scrapers. No burials were found in Period I. Pots of various colours ranging from steel grey to brown were found. These were made over mats and were occasionally decorated with incised and notched designs.

Period II is marked by the occurrence of mud and mud-brick houses and some new shapes of pottery. These new shapes comprised dishes with hollow stand, globular pots, jars, stems, with triangular perforation and a funnel shaped vase. The pottery was still handmade and it is only towards the close of this period that a wheelmade red-ware pot containing 950 beads of

agate and carnelian was found. In stone and bone industries there is a continuity from Period I, though now the tools are better finished and larger in number.

A general bracket of c.2400-1500 B.C. is given to the Burzahom Neolithic culture.

Excavations carried out at sites like Brahmagiri, Maski, Piklihal, Sangankallu, Tekkalakota, Hallur, Utnur, T. Narsipur and Kuggal give an idea of the Neolithic chalcolithic culture of the South.

As known from the excavations at Hallpur, Tekkalakota and Sangankullu, the huts were generally circular, of one room, with a low mud plinth, fortified by a split bamboo screen and a conical thatched roof. The floors were occasionally white-washed with lime. Storage jars and chulahs (hearths) were common finds in such houses.

Bowls of various shapes; shallow dishes, lipped, lugged, spouted, channel spouted handled and hollow-footed bowls; jars; dishes on stand; and perforated pots are the main shapes of Neolithic Phase I pottery. All pottery of this phase was handmade. The unburnished grey and brown wares of phase I disappear in the second phase and even the burnished grey ware occurs rarely. Phase II is marked by the appearance of a dull red ware with painting in black or violet and a black-and-red ware, occasionally painted.

Among the tools, the axes are the most common. Other stone tool types are adzes, scrapers, chisels, wedges, picks, borers, hammerstones, sling stones, querns, etc.

The available C-14 dates show that the Southern Neolithic time-spread is confined to c 2500-1000 B.C.

SOCIETY, POLITY, ECONOMY & RELIGION AS REFLECTED IN THE VEDIC LITERATURE, THE ARYAN PROBLEM.

-Sheo Dutt

The Aryan Problem and the Rig Vedic Period

There are more than a dozen theories about the original home of the Aryans or the Indo-Europeans and many views about the routes they followed out of their homeland. Initially the term 'Arya' was especially associated with the people who spoke Vedic and Avestan languages, but gradually speakers of entire Indo-European languages came to be recognized as Aryan. Historians have determined the main traits of the Aryan culture on the basis of Vedic, Iranian and Greek literary texts and cognate terms found in the Proto-Indo-European languages. Even Homer's great Greek epics Iliad and Odyssey have been consulted, although their period is attributed to 900-800 B.C.

The horse, its domestication and diffusion, the war chariot (spoked wheels) pit dwelling, birch, cremation, the fire cult, animal sacrifice (especially horse sacrifice), the cult of soma, the swastika, language and inscriptional evidence and fauna and flora have been investigated as markers of the Aryan culture and its geographical distribution. Some historians regard horse as an indispensable marker or indicator of the early Aryan culture. The Sanskrit term *asva* and its cognates are frequently found in Avestan, Greek, Latin and other Indo-European languages. The horse is praised in the family books of Rig Veda. Almost all the Vedic gods are associated with this animal. The sun is often described as swift-horsed or one possessing swift horses. The adjective 'swift-horsed' is also applied in the Avesta to another divinity called Apam-Napat. Archaeologically the horse first appears in the South Ural region around 600 B.C. In the fourth millennium BC the horse appears in Anatolia (modern Turkey region) south of the Black sea. But the effective advent of the horse is ascribed to the Kassite invasion of Babylonia in 1595 B.C. This archaeological evidence emphatically indicates that the epicenter of domestication of horse was outside Indian sub-continent. Its diffusion was from the west to east. The other markers or indicators which have been associated with the early Aryan culture also show that originally the Aryans lived somewhere in the steppes stretching from southern Russia to central Asia. The study of trees, plants and animals etc. reflected in the Vedic, Avestan and Greek texts indicate the fauna and flora of Eurasia.

The common view (based on linguistic studies, archaeological, palaeobotanical, palaeological, sociological and anthropological) that the Indo-Aryan came to India from outside is strongly refuted by the Hindu fundamentalists and the western champions of the continuity of the local cultural tradition. In an attempt to legitimize the indigenous origin of Indian culture and civilization it has been propagated, though vacuously, that the people who composed the Vedas called themselves Aryans and were the original inhabitants of India. They are further credited as the makers of Harappa culture. Such views have received support from some archaeologists. But some other archaeologists and historians allege that "their writings are abound in paralogisms and their followers" works are dotted with fakes and academic frauds, a notable instance being

the attempt to convert a Harappan “unicorn bull” into a vedic horse so as to push the clock back on the date of the Vedas and thereby identify the Vedic people with the authors of the Harappan civilization”. The historians and archaeologists who believe that India was the original home of the Aryans have propagated the theory of Harappan culture as Rig Vedic and Sarasvati based. According to S.P. Gupta “the Indus-sarasvati civilization represents one very important aspect of the developed vedic civilization”. He argues that the Harappan culture was the gift of both the rivers and perhaps more of the latter (sarasvati). Thus fundamentalists wish to prove the superiority of the Sarasvati over the Indus because of communal consideration. There is not an iota of doubt that the Sarasvati is referred to as river par-excellence (Naditama) in the Rig Veda and several suktas are devoted to it. But it seems that there are several Sarasvatis, and the earliest Sarasvati cannot be identified with the Hakra and the Ghaggar. The earliest Sarasvati is considered identical with the Helmand in Afghanistan which is called Harakhwati in the Avesta. It seems that when the vedic people expanded or migrated they took the name sarasvati to Punjab, Haryana, Rajasthan and Prayag etc. This happened even in the case of river Sarayu which is mentioned in the fourth, fifth and tenth mandalas of the Rig. Veda. As the Aryan settlers migrated eastward from the bank of Hariud they carried the river name along with them. The river Gomati earlier Gomal of Baluchistan is another such example. R.S. Sharma an eminent historian believes that ‘the archaeological counterpart of the early vedic culture appears not in the Harappa but in the border land cultures of the Swat valley, Gomal valley and the Pirak complex and perhaps in Periano Ghundai. It emerges clearly in South central Asia in the Bactaria-Marigiana Archaeological complex and in the culture of South Tajkistan. Though the Post-Harappan cultures in north India may have adopted indigenous elements, they were fundamentally different from the Harappan culture”. Thus obsession with pushing back the chronology of Indian cultural traits and with denying the elements of change in them has taken the form of frenzied hunt for antiquity. But this ‘frenzied hunt’ remains only the figments of imagination of adventurist cultural nationalists unless supported by solid historical facts and evidence.

The Rig Veda is considered as the earliest specimen of the Indo-European languages. It is a collection of prayers offered to Agni, Indra, Mitra, Varuna, Soma and other gods by several families of poets or sages. It consists of ten mandalas or books, of which Books II to VII form its earliest portions and are called family books. Books I and X seems to have been the latest additions. Book X which is known as the Purusa Sukta is the latest addition and infact, does not form the portion of the original Rig Veda. The family books do not contain purely vedic or Aryan traditions. Even in these Books vedic and non-vedic traditions are mixed up. Book III, which is supposed to have been composed by Visvamitra is such good example of this mixing up of cultural traits.

The Rig Veda has several things in common with the Zind Avesta, which is the oldest text in the Iranian language. The two texts use the same names for several gods and for social classes. The geographical distribution of the early portion of the Rig Veda has been assigned to the land of the seven rivers (Sapt saindhava pradesh). This area mostly covers Punjab, but its dating is not so easy. Several theories discuss the sites and antiquities attributable to the Aryans. As Aryans built their houses of timber or mud it makes it difficult to identify their remains in a tropical area. It is said that the Aryans used horses and war chariots fitted with copper or bronze. But the archaeological excavations have not revealed their vehicles. Sturart Piggot mentions five bronze age graves in the urals containing lightly built wooden vehicles of cart or chariot type. Their dates have been assigned to a date around 1500 B.C. A.H. Dani refers to the use of horse

drawn chariots used in western Asia around 1800 B.C. In the Indian subcontinent we have noticed the remains of the horse in some Gandhara graves belonging to 2000 B.C. Some Aryan names mentioned in the Kassite inscription of about 1600 B.C. and the Mitanni inscriptions of about 1400 B.C. discovered in Iraq have been used as the chief means of dating the Rig Veda. The much talked of excavations at four sites at Bhagwanpura (Kurukshetra distt.) Dadheri (Ludhiana district), Katpalan and Nagar (Jullunder district) have also been considered to fix the chronology of the Rig Veda. The dates assigned to these four sites range from 1500 B.C. to 1300 B.C. which more or less corresponds to the date assigned to the Rig Veda.

Some historians are of the opinion that Aryans came to India in several waves. The earliest wave is represented by the Rig vedic people, who appeared in the subcontinent in about 1500 B.C. They came into conflict with the original inhabitants called the *dasas*, *dasyus*, etc. The *dasas* are also referred to in the earliest Iranian literature. They seem to have been a branch of the early Aryans. The war lord of Rig vedic Aryan i.e. Indra led many battles against *dasas*, *dasyus* and *panis*. The *dasyus* seem to have been original inhabitants of India and an Aryan chief who conquered them was hailed as *trasadasyu*. But *dasyu* corresponds to *dahyu* in the Iranian language. Emile Benveniste believes that although the term *dasyu-hatya* occurs frequently and they seem to have been bitter enemy of the Rig Vedic people, Iranian evidence suggests otherwise. Perhaps *dasyu* or *dahyus* were one of the earliest waves to cross the Hindukush. It is a well known fact that inter and intra-tribal conflicts rocked the Aryan communities for quite a considerable time. The case of the Battle of ten kings or *dasarajna* fought on the river Ravi, mentioned in Book VII, is too well known. The Bharata ruling clan was opposed by a host of ten kings, five of whom were heads of Aryan tribals and the remaining five of Non-Aryan peoples. This famous battle gave victory of *sudas* and established the supremacy of the *Bharatas*. Amongst the defeated Aryan tribes, the most important was the *Purus*. Gradually the *Bharatas* joined hands with the *Purus* and they together formed a new famous ruling tribe known as *Kurus*. During the later vedic times *Kurus* combined with the *Panchalas* and they together ruled in the upper Ganga valley. In addition to this story we hear of numerous other conflicts between vedic tribes and non-vedic tribes. But R.S. Sharma suggest that the overtones of racial conflict between the Aryans and the non-Aryans given to these conflicts by some Indian and foreign scholars is unwarranted. He further states that in spite of diligent diggings for the last three decades it has not been possible to adduce proof of mass scale confrontation between the Rig vedic people and the original inhabitants of north-western India.

The careful study of Rig Veda clearly indicates that the Rigvedic economy was predominantly pastoral. But it does not mean that in the sequence of social evolution nomadism and pastoralism preceded agricultural society. Archaeological evidence related to north western part of the sub-continent suggest different story. However, the family books show the Rigvedic people to be primarily pastoral people. The wild animals (*mrga*) is differentiated from the domesticated animals (*pasu*), mainly cattle which were evidently valued for food as well as for dairy products. The cow is most favourite animal of the Rigvedic people. This animal is a par-excellence amongst all the cattle. The early Aryans' every sphere of life is overshadowed by this animal. The term for cow (*gau*) occurs 176 times in the family books of the Rig Veda. Cattle were considered to be synonymous with wealth (*rayi*) and a wealthy person was known as *gomat*. The terms *gavisti*, *gosu*, *gavyat*, *gavyu*, *gavesana*, *gavyuti*, *gojat* and *gotra* etc., which cover several aspects of cattle rearing and social organization of the Rigvedic people are frequently mentioned in the original portions of the Rig Veda. Even buffalo is described as *gauri*

gavala. In the Aryan life of the family the significance of cow is shown by the use of the term *duhitri* (one who milks), for daughter.

The horse is another important animal reared by the early Aryan. As we have discussed earlier it is considered as an indispensable marker of the Aryan culture. The popular term for horse *asva* and its cognates are frequently referred to in Sanskrit, Avestan, Greek, Latin and other European languages. Morton Smith in his famous article. 'What is in a name (in Ancient India)?' states that in ancient texts, particularly in vedic and Avestan, several personal names are horse-based. He has enumerated such 50 horse names and 20 chariot names referred to in the above texts. The term *asva* and its various terms occurs 215 times in the Rig veda, Even the term *go* occurs 176 times and *Vrsbha* 170 times. It is suggested that the Rig vedic cattle-rearing society was dominated by the horse-riding cheifancy. The horse is praised in two detailed hymns of the Rig Veda. No God could afford to be without the association of this powerful and shining animal. Indra and his companions Maruts are often shown riding horses in battles as well as in sports.

It is interesting to notice common terms for cattle and pasture in several Indo European languages. Special mention may be made of the term *pasti* found in Slavic, and its cognates in Serbo-Croatian, Bahemian, Russian and Polish. The terms *pasti* or *paste* have been referred to in the Rumanian and Rig Vedic texts. R.S. Sharma has enumerated the term *pastya* 18 times in the Rig Veda. Several forms of this term include *pastya*, *pastya-sad*, *pastya-vat*, *pastya-vati* and *pastya-van*. The frequent use of the term *vraj* in the early portion of the Rig veda also indicate the pastoral life of the people. *Vraj* means cow-pen. In its different forms this term occurs 45 times in the Rig Veda.

Unfortunately, archaeological evidence regarding dominant pastoral life of the Rig vedic people are scanty. If we accept four important archaeological sites, namely, Bhagwanpura, Dadheri, Katpalan and Nagar as reflecting Rig vedic material culture, then we may have some glimpses of pastoral life indicated by the findings of cattle-bones. A good amount of animal bones has been discovered at Bhagwanpura and Dadheri.

These include charred bones of cattle, sheep and goats, which were evidently used for food. Sharp cut marks on their bones corroborates this assumption. Textural evidence clearly show that cattle, sheep and goats were domesticated for purposes both of dairy products and meat.

It seems that the Rigvedic people possessed knowledge of agriculture. There are 21 references to agricultural activities in the Rig Veda, but only a few occur in its family books the term *krs* (to cultivate) occurs rarely in its kernel. The term *Krsti* is referred to 33 times in the Rig Veda but it is used in the sense of people, and five peoples (*pancakrstyah*) are mentioned two times. This reminds us of later use of *panca janah* and *pancacarsaniyah*. The popular term *hala* does not find place in the Rig Veda, but two other terms for plough, *langala* and *sira*, occur in the earliest books. The terms *phala* or ploughshare and furrows (*Sita*) is mentioned in Book IV, where a complete hymn is devoted to agricultural operations. But this book is considered late portion of the Rig Veda. Marks of furrows belonging to pre-Harappan period have been discovered in Kalibanga and the pre-Aryan practice may have been adopted by the vedic people. It is said that the ploughshare mentioned in the Rig Veda were probably wooden ploughshare used in cultivating lands which were rendered fertile on accounts of floods in the seven rivers of Punjab although early Aryans seem to have been acquainted with sowing, harvesting, threshing

and possessed the knowledge about different seasons, yet, their primitive means of production could not allow them to support a large number of people. In the age of the Rig Veda, *yava* or barley was produced. Barley ripens quickly and does not require much rain. It was perhaps, used for both the purposes of food as well as fodder Rig. Vedic people also grew some other coarse grains but they were definitely not aware of growing rice (*vrhi*). Thus, the lack of knowledge of growing a variety of crops and primitive agricultural technology prevented them to become essentially an agricultural society.

The terms *vra*, *vrata*, *vraj*, *sardha* and *grama* mentioned in the early portion of the Rig Veda have been explained as suggesting the existence of 'band' system in the age of Rig Veda. It is argued that these terms seem to be connected with two important sources of the livelihood of the Rigvedic people, namely fighting, which meant 'booty production' and cattle rearing which supplied them with dairy products and food. Perhaps such a host was formed for fighting for livelihood, and once it assumed a permanent character it probably came to be considered as a kinship group. R.S. Sharma is of the view that 'although some references from the Rig Veda may indicate survivals of 'band' system, by and large the tribal element was strong in the Rigvedic society. He further argues that frequent occurrence of various terms such as *jana*, *vis*, *gana*, *gram*, *grha*, *kula*, *vrata* etc., which stand for kin-based units, suggest strong tribal elements in the early vedic society. The terms *jana* occurs 275 times, *vis* 171 times and *grama* 13 times in the Rig Veda. Romila Thapar also agrees with this kind of interpretations of these terms. But she emphasizes on kin-based, lineage-based or segmentary form of society in the Rigvedic Age. According to social anthropologists tribe is the largest unit of lineage-based or segmentary society and kinship is the unifying bond between them.

Some social anthropologists such as Emmanuel Terray and Marcel Mauss etc., have discovered the practice of redistribution or popularly known as potlatch system in the tribal society. Romila Thapar has examined in detail the prevalence of this system in the vedic period. She states that the system of *dana* and *dakshina* functioned as economic exchange during the tribal phase of the vedic society. Some other Indian scholars have also investigated the practice of distribution and redistribution at one point of time in the age of the Rig Veda. Spoils of war, or gifts and occasional tributes were certainly redistributed. They largely consisted of cattle, sheep, goats, horses, weapons and most importantly women slaves. Women who were called the producers of producers in tribal context, were of course an important item of spoils of wars.

The nomadic or migratory nature of the early Aryan is indicated by the use of term *vis* in the sense of entering or settling in the Rig Veda. Several prefixes such as *a vis*, *upavis*, *nivis*, *punarvis*, *pravis*, etc., added to the term *vis* to form verbs also suggest migratory nature of the Rig Vedic tribes. These habits of people in a predominantly pastoral or cattle-rearing society constitute a natural phenomenon.

What was the status of women in the Rig Vedic society? While there has been constant attempt to eulogize their position, it is likely that reality may have not been so simple. The term *duhitri* indicates some kind of role of women in the productive process. The frequent references to the role of women in weaving activities also strengthen this argument. A women distributor namely Sanugi is also mentioned in the Rigveda. Further we have references to women seers of vedic hymns and child-marriage was unknown. The term *damptis* has been explained as the equal sharing of the house hold property by wife and husband. It seems that women were given due regards during the early times of the Rig Vedic society. This was due to their larger involvement in the productive system of the society. But at later stage, when they were deprived

of their productive role, their position started gradually declining. At later stage society began to organize patrilineally. While there are prayers for birth of brave sons in particular, or *praja* or offspring in general, there are none for daughters. On divine plane male divinity dominated the horizon. The masculinity of Indra is highly praised. The rape and humiliation of use by this god of plunder, strong masculinity and a leader of booty capture society obviously indicate the male dominated society of the Rig Veda. We have some indication of polyandry. For example, the Maruts are stated to have enjoyed Rodasi, and the two Ashvins brothers are represented as living with surya, the daughter of the sun god. Perhaps these instances indicate matrilineal traces, and we have a few examples of sons being named after their mother, as in the case of *Mamateya*. The early Aryans seem to have adopted this practice from the non-Aryans.

Unfortunately we do not get clear picture of administrative machinery in the Rig vedic period. It seems that the king or *Rajanya* was the epicenter of the administrative or political power. This was primarily due to his major role in the success of his clan in the war. Some early portions of the Rig Veda show that the king was elected on the merit of his role in the war and other virtues. But later on his post had become hereditary. However, the king was not allowed to exercise unlimited power. The popular tribal assembly *samiti* successfully controlled his activities. His major duties were to protect his tribe, protect its cattle, fight its wars and offer prayers to gods on behalf of his whole tribal community.

We get references to some tribal or clan based assemblies such as the *sabha*, *samiti*, *vidatha*, *gana* etc., in the Rig. Veda. They exercised deliberative, military and religious functions. The vidatha functioned as an excellent tribal politico-economic organization for the distribution and redistribution activities. Sometimes women played an important role in the functioning of this organization. But the two most important assemblies were the *sabha* and *samiti*. Sometimes women also attended the *sabha*. These two assemblies were so powerful and prestigious that the chiefs or the kings always showed eagerness to win over the support of the members of these assemblies. It seems that the sabha was represented by few respected and wise elders and it looked after mainly social and religious problems. *Samiti* was most powerful tribal assembly which dealt with administrative and political activities. Its members elected the king and controlled his other activities. When the post of king or *rajanya* became hereditary the power of this assembly began to decline.

In routine administrative work, the king was assisted by a few functionaries. The *purohita* seems to have been most important functionary amongst all. We hear of the two famous purohitas Vasistha and Vishvamitra in the Rigvedic period. Their main duty was to inspire the tribal chief to action in wars and lauded their exploits in return for handsome rewards in cattle, metals, clothes and most importantly women slaves. *Senani* seems to have been another important functionary, who used spears, axes, swords, etc. in the wars. But we do not come across any administrative functionary for collecting the tax, probably the *rajanya* or chiefs received from the people voluntary gifts called *bali*. *Bali* was evidently received both from vis of one's own *gana* as well as from hostile people who were subjugated. It is said that the gods when pleased with offerings or *bali*, grant the sacrificer his desires for cattle, horses sons, victory in raids etc. The Rig. Veda does not refer to any functionary for administering justice. But it does not mean that the Rigvedic society was free of theft, burglary and other petty crimes. We often hear of theft. The king did not maintain any regular army, but in times of war he mustered a militia whose military functions were performed by different tribal groups such as *vrata*, *gana*, *grama*, *sardha* etc. It is rightly argued that the Rigvedic society had a tribal system of

government in which the military element was dominant feature. The lack of civil system or territorial administration was due to constant migratory or nomadic nature of the Rig vedic people.

The Rigvedic society which was predominantly a pastoral and tribal in nature and which could not to produce surplus did not create conditions for class differentiation. There could be differentiation of rank, as can be inferred from the titles of tribal chiefs such as *vishpati*, *vishampati*, *jansya gopa*, *ganashya raja*, *gananam ganpati* etc. It is correct to postulate on the basis of famous dansuti mandala of the Rig Veda that the society represented atleast in that stratum was not completely egalitarian, but the phenomenon of the upper classes living on the labour of tribesmen was just beginning to emerge. The ritualistic and ideological ratification mentioned in the Purusasukta in the tenth mandala came at a much later stage. There is no denial that the division based on occupations had started. But this division was in its rudimentary form. We hear of a famous statement of a family member wherein he asserts that he is a poet, his father is a physician, and his mother is grinder. Earning livelihood through different means he lives together. The Brahmana is mentioned 14 times and kshatriya 9 times in the Rig Veda. But most of these references are found in the later portions of the Rig Veda. The sudra is mentioned for the first and last time in the Purusasukta (tenth mandala) of the Rig Veda. Thus later notion of varna system based on exploitative mode of production is not to be found in the Rig vedic society. We find domestic slaves, but not the wage earner or even beggars. Tribal traits in society was predominant and stronger. Social stratification based on collection of taxes or accumulation of landed property were completely absent. Because of serious constraints in productive mechanism society still remained tribal and largely egalitarian.

Rig vedic religion was evolved from its overwhelming tribal surroundings. The early Aryans found it difficult to explain the advent of rains, the appearance of the sun and the moon, and the existence of the rivers and mountains etc. So these natural forces were personified and given human or animal attributes. The poets of various families offered prayers in their honour. Indra is most important divinity in the Rig Veda. He is also called *purandara* or literally breaker of forts. According to D.D. Kosambi, a leading Marxist historian, Rig vedic Aryans demolished the forts of Harappan cities under the divine leadership of this war-lord. He led the Aryan soldiers to victory against panis and other demons. Two hundred and fifty hymns are devoted to him. He is also considered as the rain god and to be responsible for causing rainfall. The later story of krisna protecting the people of Mathura from excessive rain havoc created by angry Indra seems to have its earlier origin. But by this time he had lost his past glory and only his status of rain god remained intact. Agni (fire-god) is the second most important god mentioned in the Rig veda. Fire played a vital role in the life of primitive people because of its use in burning forests, cooking etc. The cult of fire occupied a central place not only in India but also in Iran. About 200 hymns are devoted to this god in the Rig Veda. In the vedic period Agni acted as a kind of intermediary between the gods on the one hand and the people on the other. The oblation offered to Agni were supposed to be carried in the form of smoke to the sky, and thus conveyed to the gods. Agni is butter-backed, butter-faced and beautiful tongued. He is the eagle of the sky and a divine bird. His flames are like the roaring waves of the sea. More generally Agni is spoken of as born in wood as the embryo of plants or as distributed in plants. The terrestrial existence of Agni is further indicated by his being called the navel of the earth, Agni is celebrated and worshipped by Varuna, Mitra, the Maruts, and all the gods.

Varuna as has been shown is by the side of Indra, the greatest of the gods of the Rig Veda. Two dozen hymns have been devoted to this god. It seems that this god occupied third important position in the Rig Veda. Varuna personified water. He was supposed to uphold the natural order, and whatever happened in the universe was thought to be the reflection of his desires. Soma was regarded to be the god of plants, and an intoxicating drink is named after him. 114 hymns have been devoted to this god. The soma sacrifice forms the main feature of the ritual of the Rig Veda, when drunk by Indra soma caused the sun to rise in heaven. Etymologically Soma-Haoma means 'pressed juice', being derived from the root su-hu 'to press'.

The Maruts personify the storm. 33 hymns have been dedicated to this god. Maruts are closely associated with the goddess Rodasi. She has been regarded as their beautiful bride. Thus Rig Veda refers to a large number of gods, who represent the different forces of nature in one form or another, but are also attributed human activities.

The Rig Veda refers to several female divinities such as Usas, Aditi, Surya etc. Usas, goddess of dawn, is celebrated in about 20 hymns of the Rig Veda and mentioned more than 300 times. But these female divinities were not so prominent in the Rig vedic period. The male gods overshadowed the religious horizon of the Rig vedic society.

The popular mode of worshipping the gods was through the recitation of prayers and offering of sacrifices. Both collective and individual prayers were made. It seems that prayers were offered to gods in chorus by members of a whole tribe. The Rig Vedic tribal society did not worship gods for their spiritual uplift or for ending the miseries of life. They wanted to enjoy every bit of their life. For this enjoyment they needed *praja* (children), *pasu* (cattle), food, wealth (*rayi*) and health. The complex rituals and magical power of the words were required in the stratified society of the later vedic age.

THE LATER VEDIC PHASE

The history of the later vedic times is based on the vedic texts which were compiled after the age of the Rig Veda and the study of materials revealed from the archaeology of Painted Grey Ware phase. The Samhitas which are collections of the vedic hymns are the main literary source of this period. The Rig Veda is the oldest vedic text. The Sama Veda, the Yajur Veda, the Atharva Veda, the Brahmanas the Aranyakas and the Upanisads constitute the later vedic Samhitas. Sama Veda is perhaps the oldest Aryan poetical treatise based on musical tunes. For purposes of signing, the prayers of the Rig Veda were set to tune in this veda. The Yajur Veda contains hymns as well as detail and complicated formulae for conducting numerous rituals. These rituals not only throw light on religious practices but also reflect the social and political background which helped them to emerge and grow. The Atharva Veda reflects the horizon of composite culture the vedic and non-vedic. It contains charms and spells to ward off evils and diseases. The famous Prithvi Sukta of this Veda reveals the non-vedic practices of fertility-cult and matrilineal traits. The vedic Samhitas were followed by the composition of a series of text known as Brahmanas. These Brahmanas are the invaluable literary source of the later vedic period. The ritualistic formulae contained in them not only explain socio-religious functions but also throw light on economic activities of their times. The Aranyakas were perhaps composed by the vedic seers living in the fourth stage of their life in the forests. They contain the bitter and sweet experiences of their life witnessed in the earlier three stages. The Upanishads deal with the metaphysical aspects of the life of the later vedic Aryans. The sophisticated and complex philosophical debates and discussions are the main theme of these texts. All these vedic texts

were compiled in the Indo-Gangetic divide and the upper Gangetic basin in circa 1000-600 B.C. The geographical distribution forms the major portion of western UP, almost the whole of Haryana, and the neighbouring parts of the Punjab and Rajasthan. It is postulated that from the climatic point of view this whole area constitutes one unit having the same kinds of plants and trees.

It has been argued that the material background of the social evolution in the first half of the first millennium BC in the Indo-Gangetic divide and the upper Ganga valley is provided by the Painted Grey Ware culture and specially by the first phase of iron using culture. The PGW sites are spread from northern most site at Mandu in Jammu. Ujjain in south and Bikaner in west to the Vaisali (Bihar) in east. But its main centers of production seem to be the basins of Sutlej and upper Ganga valley. More than 750 sites of the PGW culture have been excavated in this area.

It seems that there had been a change and re-grouping of tribes of the Rig Veda, and many new tribes. Aryan and non-Aryan emerged during this period. The Bharatas and the Purus, the two prominent tribes, combined and thus formed the Kurus, who with their allies, the Panchalas, became the formidable tribe group. It seems that in the beginning the Kurus settled themselves between the Sarasvati and Drisadvati just on the fringe of the doab. Soon the Kurus occupied Delhi and the upper portion of the Gangetic plains the area called Kurukshetra or the land of the Kurus. The centre of culture gradually shifted eastwards and became localized in the upper and middle portions of the doab, covering the modern districts of Bareilly, Badaun and Farukhabad that produced the most learned brahmanas and philosopher kings of the later vedic times. It is interesting to note that it is precisely this area which has yielded the maximum number of iron-weapons and tools. Thus it is the land of the *Kuru-pancalas* which has archaeologically shown a denser population living on assured and continuous means of subsistence. The average distance between the one Painted Grey Ware site and another is nearly 8 kms., which is an indication of greater density of population in comparison to other-areas where PGW layers have been unearthed. The distance is still less between the sites on the bank of the river Yamuna. Further easterly direction shows concentration of the more PGW sites with the solitary exception of the Ghaziabad district, where there are nearly 7 sites within the radius of ten miles. The PGW iron phase deposits in this area, which are said to have been 3 to 4 metres deep at several places, makes our point more clear that these settlements lasted for at least three to four centuries. Their relative stableness and richer material content indicating an increase in population suggest that they were inhabited by agrarian society.

It seems quite plausible that when the later vedic people migrated towards more fertile and monsoon-fed easterly direction the north and west (particularly Punjab) not only declined in importance, but the inhabitants of this area were looked down upon with disapproval. The one time most reputed *Sarsvatas* and *drasadvatas* (settlers on the bank of the river Sarasvati and Drsad-vati) started losing their ritualistic importance. The unrestrained romance between the Urvashi and Pururava in the lake of Kurukshetra (Haryana) mentioned in the Satapatha Brahmana was perhaps nothing more than an extension of free-sex culture of the uttara madras and uttara-kurus of the Punjab. These and other tribal customs certainly seemed obscene to the eyes of the eastern brahmanas. This was perhaps due to change in the means of production in easterly region which laid the foundation of a more stratified society i.e. Varna-divided society.

The PGW archaeology clearly shows that iron weapons such as arrow-heads and spear heads came to be commonly used in western UP from about 800 BC onwards. These iron-weapons may have helped the *Kurucanals* to establish their political supremacy over their

adversaries living in this area. The iron axe may have been used to clear the forests in the upper gangetic basin. Towards the end of the later Vedic period knowledge of iron spread in eastern UP and Videha region of Bihar. The earliest iron implements unearthed in this area belong to the 7th century BC. It is interesting to note that reference to this black metal in the later-vedic texts belonging to this period increased many-folds. The most important Brhmanas i.e. the Satapatha Brahmana emphatically asserts that the iron is the back-bone of the peasantry. It shows that iron began to play an important role even in agricultural operations. The Atharva Veda and Aitareya Brahmana refer to this metal as *syam ayas* or *Krishna ayas*. Although few agricultural tools made of iron have been found, undoubtedly agriculture became the chief source of livelihood of the later vedic people. The Satapatha Brahmana gives a detailed account of agricultural operations. It refers to six, eight, twelve and even twenty four oxen yoked to the plough. The other Brahmanas have also mentioned ploughing rituals. The study of the later vedic texts show that people produced not only barley, which is frequently mentioned in the Rig Veda, but also wheat, several kinds of pulses and above all, many kinds of rice as well. The Aitaraya Brahmana refers to atleast six kinds of rice. Besides barley rice and wheat have been found in the PGW levels at Atranjikhhera. Bean pulse (*masa*) and seasmum (*tila*), millet (*syamaka*) etc. are also mentioned in the later vedic text. The cultivation of rice in the upper Gangetic basin suggests that in ancient times this area had a heavier rainfall and much waterlogging. It is interesting to note that wheat has no significant place in the vedic ritual. It has rather been condemned as the food of mlechha (non-Aryan). The Panchavimsa Brahmana refers to barley and rice as the source of life (*pransaya pranah*). The later vedic texts state that the use of rice immortalize the *yajman* (the person who performs the yajna). It is known as *akshat* – meaning indestructible. The cultivation of variety of crops suggest more than subsistence economy. Peasants started producing a little more than what they needed to support themselves. Now they could maintain non-producing section such as priests and princesses and even some other professional groups which had just started to emerge during this period. R.S. Sharma is of the opinion that although the practice of agriculture has increased many folds it was still in primitive stage. Ploughing was done with the help of the wooden shares possibly having iron tips on them. This could possibly work in the light soil of the upper Gangetic plains. Thus according to Sharma the later vedic society was a small scale non-monetary peasant society and not a full-fledged class society. He further states that the limited availability of agricultural surplus on account of wooden ploughshare based agriculture and indeterminate killing of cattle in sacrifices, could not sharpen class antagonism. But it is beyond doubt that the body capture, cattle rearing and semi-nomadic tribal society of the Rig Veda was transformed into a sedentary peasant society in this period.

The later vedic period also witnessed the emergence of some professional groups. The arts and crafts have been mentioned in the later vedic texts. Archaeological findings also support this argument. We hear of smith and smelters, who had certainly to do some thing with iron – working from about 1000 BC. A larger number of copper – hoards (consisting of copper tools) have been discovered in western UP and even in Bihar. These hoards belong to the phase of OCP ware. The OCP ware phase has been assigned prior to 1000 BC. These copper tools might suggest the existence of copper – smiths in both vedic and non-vedic societies. In any case copper was one of the first metals to be used by the vedic people. The pottery made out of this metal was praised highly in the vedic rituals. A large number of copper objects have been found in PGW sites. They were used mainly for war, hunting and also for ornaments.

Leather-work, pottery-making, carpenter's work and above all weaving made great advance in this period. It seem that the later vedic people were acquainted with four types of

pottery- Black and Red ware, Black slipped ware, Painted grey ware and Red ware. However, the most distinctive pottery of the period is known as Painted Grey Ware. Glass hoards and bangles have also been found in the PGW phase. These findings suggest some arts and crafts in them as well. Jewel workers are also mentioned in the later vedic texts. They might have catered to the needs of the affluent sections of the later vedic society.

Mortimer Wheeler believes that the PGW phase culture witnessed a full fledged urban life. The term *nagara* occurs in an Aranyaka and *Nagrin* in two Brahmanas. But these texts belong to a period not earlier than 600 BC. The study of PGW settlements clearly indicates that the PGW phase of culture does not warrant its characterization as urban. The excavations at Hastinapur and Kausambi show the faint beginnings of towns towards the end of the later vedic period. They have rightly been called as proto urban sites. Some later vedic texts refer to the seas and sea-voyages. This shows that the rise of new-arts and crafts resulting in petty – commodity production stimulated some kinds of trading and commercial activities. But the barter – based and backward agrarian economy could not provide congenial atmosphere for the growth of full fledged urbanization during this period.

On the political horizon we witness some vital transformation during this period. The popular tribal assembles lost their significance. The monarchial power increased at their cost. The *Vidatha*, which functioned as distributive tribal organization, disappeared during this period. Even the *Sabha* and the *Samiti* lost their egalitarian and participative character. They were now being dominated by rising chiefs and ritualistically powerful Brahmanas. Women were no longer allowed to sit on the Sabha or function as distributive officials. The pastoral, booty capture, semi-nomadic and tribal society of the Rig Veda was transformed into a peasant (although small scale) and territorial society. Though princes still ruled over the tribes, but their dominant tribes became identical with territories, which might be inhabited by tribes other than their own. Initially Pancala was the name of a people, and then it became the name of a region. Thus the tribal name became the name of a territory. The earlier practice of electing the chief or king gradually relegated to the background. The Rig Vedic voluntary gift popularly called *bali*, which the tribal chief used to receive from the *vis*. Now had been transformed into a mandatory tax. Thus the beginnings of tax collection are found in this period. The powerful rising class of priestly ideologues namely Brahmanas developed mechanism of complex rituals to establish the fiscal and administrative control over the common peasantry. The Satapatha and the Aitareya Brahmanas state that ‘royal’ power presses hard on the people, and king is apt to strike down the people. The Vaishyas, who are identical with the peasants, are considered fit to be conquered. The priest played an important role in making the peasantry subservient to the nobility. These texts strongly condemn the *vis* or the peasants who looked down upon the ruler, disobeyed and revolted against him. The Satapatha Brahmana suggest that the *vis* or the peasants should not be placed above the nobility and that those who made the peasantry equal to the nobility and thus made them refractory caused confusion between those who were better and those who were worse. The Aitareya Brahmana says that the *vis* or the peasantry are grasses and the nobility is the deer. The grasses are always meant to be eaten by deer. The Satapatha Brahmana suggests that the peasantry must be surrounded by the brahmanas from the one side and the Kshatriya from the other. It is clear from the several vedic references that vaisyas were for more numerically stronger than the brahmanas and Ksatriyas. Thus, the need arose to control them and forced them to pay periodical tithes or taxes to the ruling classes. But it is surprising to notice that the later vedic texts do not refer to any established administrative mechanism for collecting taxes. The term *bhagdugha* is interpreted not in the sense of tax collector but distributor. Thus

we have no clear idea about the nature of the taxes collected from the peasants. In spite of the use of precious metals such as gold and silver the later vedic society was a non-monetary society in which taxes had to be collected only in kind. This was due to the limited availability of agricultural surplus on account of pre-field wooden ploughshare based agriculture in this period. Thus, it was a small scale non-monetary peasant society.

The *Varna* hierarchy emerged as one of the salient features of social formations in the later vedic times. During the Rig vedic period the *Varna* description was probably initially primarily between the Aryan and non Aryan original inhabitants. But in the later vedic period the system expanded and clearly divided into four fold varna groups wherein the brahmana claimed the first rank and the Sudra was pushed to the fourth and last rank. The brahmanas, which claimed the highest rank, were earlier merely one of the seventeen kinds of priests. The origin of this dynamic priestly rank is shrouded in mystery. D.D. Kosambi has argued that it may have included representations of the practitioners of Harappan culture as well as other indigenous tribal priestly class. The birth of two most important vedic *risis* such as Vasistha and Agastya being regarded as 'born' from jar also testifies to this kind of argument. Whatever may have been the reason of the emergence of this class it is beyond doubt to state that the Brahmanas not only overshadowed the other priestly groups but other categories of varnas as well. It seems quite possible that with the advance of the agriculture surplus produce became available to support non-producing classes such as the Brahmanas, rajanyas and some other fast emerging professional social groups. The Brahmanas invented numerous complicated rituals which provided ideological legitimization for the rajanyas or ksatriyas to rule over the vaisyas and Sudras. In reward to this ideological support Brahmanas claimed substantial shares in the available social surplus. The study of the later vedic texts and particularly the Brahmanas texts clearly indicates that this priestly class performed several ritual ceremonies not only for the rajanyas or ksatriyas but for the huge mass of peasantry as well. By performing ritual ceremonies for vaisya class (the main producing class) they earned substantial amount of *dakshina*. The royal ceremonies and rituals such as *rajsuya*, *asvamedha*, *vajapeya* etc., fetched them huge amount of gifts. These gifts include hundred thousand of cows (their horns covered with gold) the horses, clothes, maid servants and even in some cases grains as well. Thus, the brahmanas established themselves economically in an advantageous position. They had easy and direct access to the kings and at the same time maintained ritualistic relations with the Vaisyas. In the back drop of rising power of monarchy with its territorial identify and advance in field-agriculture (though restrained by some technological constraint) created atmosphere for the conflict between these two dominant classes of the later vedic periods. Several echoes of these conflicts are mentioned in the later vedic texts. The Atharavaveda warns the rajanyas or Ksatriyas even about the touching of the cows and wives of the brahmanas. It refers to horrific consequences of such acts committed by earlier Ksatriyas. So they are suggested not to even imagine to injure the property of the brahmanas. Nevertheless, we find references to real conflicts between these classes. Possibly the priestly claim to highest social and ritualistic status wounded the vanity of the fast emerging powerful monarchical class i.e. rajnyas or kshatriyas. But the most important factor seems to be economic i.e. the sharing of the surplus grain and cattle made available by the Vaisyas or peasantry. As the conflict became serious towards the end of the later vedic period, the latest vedic texts, particularly the Satapatha Brahmana found it necessary to emphasize unity and cooperation between the ksatriyas and brahmanas. The Aitareya Brahmana even warns them of being overwhelmed or over powered by the huge mass of peasantry if they are not united. It says that the Brahmanas and ksatriyas are the two vital

pillars of the society and they must be united to uphold the social order. It indicates (if not the traces of class conflict) at least the class consciousness between the two ruling classes. It seems that the perpetual need of collecting tributes and sacrificial fees from the peasantry supplemented by the demand for the services of the sudras kept the two upper social classes together. But the focus of social conflict seems to be limited to the relation between ksatriyas and the vaisyas.

The vaisyas constituted the bulk of the population and they were assigned the producing functions such as agriculture, cattle breeding and even limited trading activities. It seems that the sudras at this point of time were numerically not so significant. They helped vaisyas in their producing functions and served Brahmanas and ksatriyas as domestic servants. But the latest later vedic texts particularly the Brahmana texts refer to their worst status in the society. The Aitareya Brahmana states that he is the servant of another to be compelled to work at will by another and above all to be beaten at will.

Some significant transformations or changes took place in the religious spheres during this period. The later vedic times witness the inventions and practices of complicated series of sacrifices involving a large number of rituals associated with them. In the changed socio-economic scenario two outstanding Rig vedic gods, Indra and Agni, lost their former glory and were relegated to the background. Now, the Prajapati the creator, came to occupy the unchallenged supreme position in the later vedic religious horizon. Some of the insignificant gods of the Rig vedic period now became powerful. Rudra, the god of animals, became important during this period. The nomadic god Vishnu was now transformed into a prominent preserver, protector and sedentary god in the later vedic times. Some gods were even categorized on the basis of varna, hierarchy. For instance, the Maruts were referred to as the gods of peasantry and the Pusan was associated with the sudras. The mode of worship changed considerably during this period. Sacrifices occupied the epicenter of religion. They assumed public as well as private character. Sacrifices involved the killings of animals on a large scale and, especially the destruction of cattle wealth. We hear some protests against this practice in the Upanishads. But this happened towards the fag-end of the later vedic period.

THE MEGALITHIC CULTURES OF THE SOUTH INDIA

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The Term ‘Megalith’

The term ‘megalith’ is derived from Greek ‘*megas*’, which means great and ‘*lithos*’ meaning stone. As the nomenclature suggests, the ‘megaliths’ refer to the monuments built of large stones. But all monuments constructed of big stones are not megaliths. The term has a restricted usage and is applied only to a particular class of monuments or structures, which are built of large stones and have some sepulchral, commemorative or ritualistic association except the hero stones or memorial stones. In other words, the megaliths usually refer to the burials made of large stones in graveyards away from the habitation area.

Chronology

Megalithic cultures in India (including North India) have been roughly assigned to a prehistoric period or to a great antiquity by different scholars like M.H. Krishna, R.S. Pancharukhi, G.S. Ghurye, Pancharanan Mitra and others. But their dating lacks the merit of being based on well observed archaeological context. So, this dating is generally countered by the archaeologists.

The problem of chronology of these cultures has evaded a clear solution. R.E.M. Wheeler, for the first time, on the basis of excavations at Brahmagiri provided a firm archaeological setting for megalithic cultures in South India. Based on archaeological evidence, he places these cultures between the 3rd c. B.C and the 1st c. A.D. But the limits prescribed by Wheeler on the basis of Brahmagiri evidence are unconvincing. Megalithic culture of South India had a much larger chronological span than what Wheeler could visualise over five decades ago. Similarly, B.K. Thapar, on the basis of his excavations at Maski, assigned the megalithic culture in South India from *circa* 200 B.C to the middle of the 1st c. A.D with a reasonable margin of a century on either side.

The problem in ascertaining the chronological span of the megalithic cultures in South India lies in the fact that only a few radiocarbon dates are so far available from megalithic habitations. The habitations site at Hallur gave a 14_C date of 1000 B.C for the earliest phase of these cultures. Nagaraja Rao correlated this phase with the graves at Tadakanahalli, 4 kms. away from this site. S.B. Deo gives two radiocarbon dates for the sites at Naikund and Takalghat and places Vidarbha megaliths in *circa* 600 B.C. In Tamilnadu, Paiyampalli recorded a 14_C date of *circa* 4th c. B.C. A. Sundara, on the basis of his explorations and excavations, pushed the date of the megaliths in North Karnataka region as early as 1200 B.C.

As the megalithic culture overlapped with the end phases of neolithic-chalcolithic culture, it is found in association with neolithic-chalcolithic wares at the lower end and with the rouletted ware at the upper end. In other words, the late phase of these cultures merges with the early historical period. On this basis the time bracket of the megalithic cultures in South India may be placed between 1000 B.C and A.D 100. This view is supported by many scholars like K. Rajan.

However, the available archeological data suggests that the period of their maximum popularity lies somewhere between 600 B.C and A.D 100.

It is interesting to note that in other parts of the world, for example England, France, Iran and Seistan, such sepulchral monuments of the dead were constructed through this period and are not identical in all the countries.

Origin and Spread of Megalithic Cultures

The megalithic monuments are among the most widespread remains of man both in time and space. The origin of the most megalithic monuments is placed in the Mediterranean region in the early neolithic period. From here this culture is said to have been carried by traders who went in search of metals along the Atlantic coast to western Europe, and from the Aegean coast into Southern Europe through Greece. Its spread was in criss-cross pattern, carrying different cross currents across the whole of Europe. In the context of India this culture arrived with the Dravidian speakers who came to South India from west Asia by sea.

The fieldwork undertaken by various scholars since the last century has opened a new era in the study of South Indian megaliths. However, understanding the origin, diffusion, authorship, chronology and material culture of the megalithic period is a complex problem. These megaliths have been found in different chronological context practically all over India, from the plains of Panjab, Indo-Gangetic basin, the desert of Rajasthan northern part of Gujarat and especially all regions south of Nagpur in the Peninsular India. It survives as a living tradition in the north-eastern part of India and in the Nilgiris.

Different theories have been put forward regarding the origin and diffusion of the megalithic cultures. Scholars, by and large, unanimously look forward to a West Asian origin. According to C. von F. Heimendorf, the megalithic folk of South India were the Dravidian speakers who came to South India from the West by sea. But we find that the typical West Asian megaliths yielded the bronze objects and this culture came to an end in the last phase of their Bronze Age around 1500 B.C. The Indian megaliths, on the other hand, belong to the Iron Age generally dated to 1000 B.C onwards. It is yet not certain when and how iron technology developed and became an integral part of the megalithic culture. It appears that even the advent of this metal into Indian subcontinent was through two routes and also with two groups. The material and chronological differences between the megalithic culture of northern India and southern India suggest that the coming of this culture into the Indian subcontinent would have taken place by two routes by the two different groups – one following the sea route from the Gulf of Oman to the West coast of India and the other following the land route from Iran. Asko Parpola in his book *The South Indian Megaliths* connects the megaliths with the *Vrtyas* of the Aryan origin who are referred to in the Vedic literature. But it can be observed that the complex pattern of widely different burial practices that are all lumped together and comprised in the term 'megaliths' is the result of mingling of various traditions and developments during a long period. Moreover, the limited explorations and excavations conducted so far generally concentrated in some geographical zones do not provide tangible conclusions about the origin of the megalithic traditions.

The early part of the 19th century witnessed the studies on the megaliths of Kerala with the discovery and excavation of a few burials in the Kannur district by J. Babington in 1823.

Subsequently, several British administrators and many other individuals explored and excavated a large number of megaliths, and brought their findings to the notice of people. But they were mainly interested in the grave goods found in the megaliths and some of them even related the monuments with the local legends and folk tales. Later on, in 1887 scholars like W. Logan carried the study of the megaliths further. Since the publication of J.W. Brecks in 1837 on the megalithic monuments of the Nilgiris, the megalithic monuments of Tamilnadu have attracted the attention of many antiquarians, archaeologists and the institutions alike on account of their curious and imposing structures. But the systematic investigations of the South Indian megaliths began only in 1940s. Scholars like R.E.M Wheeler (1947), B.K. Thapar (mid-1940s) and V.D. Krishnaswami (1949) studied the megaliths at Brahmagiri (Karnataka), Porkalam (Kerala) and Cochin (Kerala) regions respectively and enriched our knowledge about megalithic phase. As mentioned earlier R.E.M. Wheeler, for the first time, on the basis of excavations at Brahmagiri, provided a firm archaeological setting for megalithic cultures in South India. He dated the megaliths on the basis of a characteristic ceramic (pottery) type – the Black and Red Ware (BRW), which is available in all types of megaliths in South India. V.D. Krishnaswami studied the unknown megaliths of the Cochin region systematically for the first time in India and classified them into distinct types and also defined them in unambiguous term. He also standardized the terminology for megaliths. Thus, the confusion in the nomenclature of the megaliths was brought to an end. In recent years, scholars like B.K. Gururaja Rao, A. Sundara, K. Rajan, Rajan Gurukkal, P. Rajendran, C.S.P Iyer and others have illuminated us through their researches on the megaliths of different regions in South India.

The main concentration of the megalithic cultures in India was the Deccan, especially south of the river Godavari. However, large-stone structures resembling some of the usual megalith types have also been reported from some places in North India, Central India and Western India. These include – Seraikala in Bihar; Deodhoora in Almora district and Khera near Fatehpur Sikri in Agra district of Uttar Pradesh; Nagpur; Chanda and Bhandra districts of Madhya Pradesh; Deosa, 32 miles east of Jaipur in Rajasthan. But since neither the excavation nor a reliable surface-examination of these monuments has so far been carried out, it is difficult to say if and how far they are connected with the megaliths of the Deccan. Similar monuments or structures are also found near Karachi in Pakistan, near Leh in the Himalayas and at Burzahom in Jammu and Kashmir. However, their wide distribution in the southern region of India suggests that it was essentially a South Indian feature which flourished at least for a thousand years, resulting in a variety within the underlying megalithic unity of common origin.

Megalithic Culture – The Iron Age Culture of South India

In the present state of research these megalithic monuments, whatever their external shape and contents be, seem to herald the Iron Age in South India. The megalithic culture in South India was a full fledged iron age culture when the great benefits of the use of this metal were fully realised by the people. Hence, normally the stone dropped out of use as a material for the weapons and tools to a large extent. The megalithic people of South India, or, for that matter, the iron age people of the subcontinent in general, found out new uses of stones in their daily life. Most of the information about the iron age in South India comes from the excavations of the megalithic burials. Iron objects have been found universally in all the megalithic sites right from Junapani near Nagpur in Vidharba region (Central India) down to Adichanallur in Tamilnadu in the far south.

With the introduction of iron there was a gradual change in almost everything except perhaps the house plans. But, of all these changes the most remarkable was the elaborate method of disposing the dead. This became a characteristic feature of the South Indian regions. Instead of laying the dead accompanied by four or five pots in a pit in the house, now the dead were buried in a separate place – a cemetery or a graveyard away from the house. The remains of the dead were collected perhaps after exposing the body for sometime and then the bones were placed underground in specially prepared stone box called a cist. The cists were elaborate structures and must have necessitated an amount of planning and cooperation among the community and the existence of masons and other craftsmen capable of manufacturing the required size of stones, large and small. It is probable that like Egyptian cellars, these megaliths must have been planned and kept ready before the death of an individual.

Classification of the Megaliths

It is not easy to prepare a typology of the megaliths of South India in general because the megalithic burials show a variety of methods for the disposal of the dead. Moreover, there are megaliths which are internally different but exhibit the same external features. Nevertheless, on the basis of the explorations and excavations carried out on different sites of South India, the megaliths can be classified under different categories depending upon their outstanding features. These are:

- I. Rock Cut Caves,
- II. Hood Stones and Hat Stones / Cap Stones,
- III. Menhirs, Alignments and Avenues,
- IV. Dolmenoid Cists,
- V. Cairn Circles,
- VI. Stone Circles,
- VII. Pit Burials, and
- VIII. Barrows

I. Rock Cut Caves

These are *scooped out on soft laterite*, as found in the southern part of the West Coast. These rock cut cave tombs are peculiar to this region and *occur* in the Cochin and Malabar regions of Kerala. They also occur in other regions. On the East Coast of South India, they are present in *Mamallapuram (Mahabalipuram) near Madras. In the Deccan and western India they are observed at Elephanta, Ajanta, Ellora, Karle, Bhaja etc.* But these belong to a later date and were used for entirely different purposes while those in Kerala are purely megalithic and funerary ones, the others being of different tradition.

The Kerala funerary rock cut caves consist of an open well, roughly rectangular or square, cut vertically down the rock and provided with a flight of steps for descending to the floor. Such caves are found at many sites like Chovvannur, Kakkad, Porkalam, etc. More elaborate specimens of such caves occur at sites like Eyyal, Kattakampal, etc.

On the basis of his detailed study of these rock cut burial caves in Cochin region, Y.D. Sharma (1956) recognises four types of caves – (i) Caves with Central pillar, (ii) Caves without central pillar, (iii) Caves with a deep opening and (iv) Multi-chambered caves.

II. Hood Stones (*Kudaikallu*) and Hat Stones / Cap Stones (*Toppikkals*)

Allied with the rock cut caves but of a simpler form are the Hood stones or *Kudaikallu*. These consists of a dome-shaped dressed laterite block which cover the underground circular pit cut into a natural rock and provided with a stairway. In some cases the hood stone gives place to a hat stone or *toppikkal*, which is a plano-convex slab resting on three or four quadrilateral clinostatic boulders, forming a square base and a truncated top on which rests the *toppikkal* or the hat stone. This also covers an underground burial pit containing the funerary urn and other grave furnishings. Unlike as in the rock cut caves, there is no chamber apart from this open pit in which itself the burial is made. Usually, it contains a burial urn covered with a convex or dome-shaped pottery lid or a stone slab and contains skeletal remains, small pots and, sometimes ashes. Similar monuments are commonly encountered in Cochin and Malabar regions extending along the Western Ghats into the Coimbatore region upto the Noyyal river valley in Tamilnadu.

III. Menhirs, Alignments and Avenues

Menhirs are *monolithic pillars planted vertically into the ground*. These may be small or gigantic in height, ranging from 14 to 16 ft. down to a mere 3ft. Their common heights range between 3 to 6 ft. They are often rudely dressed or not dressed at all. These are essentially commemorative stone pillars set up at or near a burial spot. These menhirs are mentioned in ancient Tamil literature as *nadukal* and are often called *Pandukkal* or *Pandil*. In some cases, the menhirs are not planted in ground but rest on the original ground propped up with a mass of rubble as at Maski. These occur in a number of sites in close vicinity of other type of megalithic burials, mostly in different regions of Kerala and Bellary, Raichur and Gulbarga regions of Karnataka in large numbers, but less frequently at other places of South India.

Alignments are closely associated to the menhirs. These consists of a series of standing stones, oriented to the cardinal directions. Some of these stones are 14 to 16 ft. high and one monolith at a certain place measured 25 ft. long. But the normal heights range between 3 and 6 ft. These stones are sometimes dressed. The alignments are found at Komalaparathala in Kerala and at a number of sites in Gulbarga, Raichur, Nalgonda and Mahboobnagar districts of Karnataka.

Avenues consists of two or more parallel rows of the alignments and hence many of the sites in the Deccan, mentioned above under alignments, may be considered as examples of this category of monuments when they are in parallel lines.

IV. Dolmenoid Cists

Dolmenoid cists consists of square or rectangular box-like graves built of several orthostats, one or more for each side, supporting the superincumbent capstone consisting of one or more stones, often with the floor also paved with the stone slabs. The orthostats and the capstones might be formed either of undressed rough blocks of stone or partly dressed flattish stones. The dolmenoid cists occur at large number at Sanur near Chingleput and many other sites in this region. The cists built of dressed slabs or the slab cists are the normal type of cists, occurring all over South India, as also in some parts of the north. There are many sub-types of this in Tamilnadu – (i) Dolmenoid cist with multiple orthostats, (ii) Dolmenoid cist with four orthostats planned contra-clockwise with U-shaped port-hole in the east or west, (iii) Dolmenoid cist with four orthostats kept contra-clock-wise with U-shaped port-hole on the top corner of the eastern orthostat, and (iv) Dolemnoic cist with four orthostats arranged contra-clockwise and with slab-circles.

V. Cairn Circles

The Cairn circles are one the most popular type of megalithic monuments occurring all over south India in association with other types. They consist of a heap of stone rubble enclosed within a circle of boulders. On the basis of the form of the underground burial, they may be divided into three sub-types – (i) Pit burials, (ii) Sarcophagi burials, and (iii) Pyriform or other types of urn burials.

The pit burials under the cairn circles consist of deep pits dug into the natural soil, roughly circular, square or oblong on plan. The skeletal remains and the grave furniture were placed on the floors of these pits. The pits were then filled up with earth, either the earth dug up in the pit or that which was brought from elsewhere, upto the original ground level. Above this earth filling was placed the cairn heap which might be just a thin layer or may rise upto 3 to 4 ft. above the ground level and bounded by a circle of stones. Such pit burials have been found at many sites in the Chingleput (Tamilnadu), Chitradurg and Gulbarga (Karnataka) districts.

A sarcophagus is literally a legged coffin made of terracotta. The cairn circles containing sarcophagi entombments are comparatively more widespread than the pit burials. They are similar to the pit burials described above but the skeletal remains and the primary deposits of the grave furniture are placed in an oblong terracotta sarcophagus. This sarcophagus is generally provided with a convex terracotta lid, rows of legs at the bottom and often with a capstone at a higher level. Rarely, these sarcophagi are not provided with legs, but are supported on pottery stands and vessels or placed on the floor directly. Such megalithic structures are found from South Arcot, Chingleput and North Arcot districts of Tamilnadu and Kolar district of Karnataka. They are also found in the southern districts of Andhra Pradesh, though they are comparatively rare in these regions.

The urn burials under the cairn circles are a variant form of the sarcophagi burials described above and occur in large number in most parts of South India. The urns, in which the burials are made, are deposited in pits dug into the soil. The pits are filled up with the soil upto the ground level and are frequently provided with a capstone. Then, the heap of cairns on the surface, which marks the burial, is surrounded by a circle of stones. They are predominant in Kerala and have been known to occur in Madurai, Tiruchirapalli, Coimbatore, Nilgiris, Salem, Chingleput and South Arcot district of Tamilnadu; Kolar, Bangalore, Hassan, Chitradurg, Bellary, Raichur and Gulbarga districts of Karnataka; various districts of Andhra Pradesh and the region around Nagpur in Maharashtra.

VI. Stone Circles

They are the most commonly encountered megalithic monuments in India. They reflect the features of various forms of megalithic monuments such as the *Kudaikallu*, *Topikkal*, different types of pit burials, menhirs, dolmenoid cists of different types, cairns, etc. These occur from the southern tip of the peninsula upto Nagpur region and in different parts of North India, where the megalithic monuments are known to occur. But in this category under consideration, only stone circles without any considerable cairn filling within the circle, containing burial pits with or without pyriform urns or sarcophagi, are included. The monuments under this category are distinguished from the cairn circles only in that the cairn heaps occur or do not occur in these circles. Otherwise, all the three sub-types discussed above under the cairn circles are found to occur in this category also. It may appear that there is not much justification in making this

distinction between cairn circles and stone circles. But at some sites like Sanur near Chingleput, both the kinds exist side by side, but in separate groups. Therefore, on the basis of some distinctions they are placed under different categories under our considerations.

VII. Pit Burials

Burials in pyriform or fuciform urns a large conical jars or *handi-shaped* jars containing the funerary deposits, are buried in the underground pits specially dug for the purpose into the hard natural soil and sometimes into the basal rock and the pits are filled up. In these kinds of burials we do not find any surface indication of the burial in the form of a stone circle, cairn heap, hood stone or hat (cap) stone, or even a menhir. These urn burials are without any megalithic appendage. But in some sites like Amritamangalam in Chingleput district some small heaps of earth mixed with quartz chips would make out the place of the burial. Strictly speaking, this class of megalithic burials cannot be included under the megalithic burial monuments, because no megalithic or, for that matter, any lithic appendage in the form of stone circle or capstone is observed in relation to them. But they exhibit the general traits of the megalithic culture of South India, characterized by the use of the typically megalithic Black-and-red ware (BRW) and associated wares with iron objects. These grave goods are identical typologically with their counterparts found in the regular megalithic burials. Moreover, these occur in the general areas where the typical megalithic burials exist. In fact, these urn burials do not differ in any detail from the urn burials under a stone or cairn circle of the megalithic order, except for the surface features. These urn burials without megalithic appendage are found in many sites of Tamilnadu like Adichanallur, Gopalamparambu and scores of other sites, practically in almost every village in Madurai, Tiruchirapalli, Coimbatore, Salem, and South Arcot districts. However, these occur less abundantly in Karnataka and Andhra regions. Even in North India, these urn burials are frequently observed at a number of Harappan and the Later Chalcolithic sites in Western, Central and North-western India, but their context is completely different from the South Indian urn burials. But the latter might have had some phylogenetic (racial affinity) connection with the former.

VIII. Barrows

The barrows or earthen mounds mark off the underground burials. They may be either a circular or a round barrow, oblong or oval on plan, a long barrow. They have or may not have the surrounding stone circles or ditches. Monuments of this kind have not been found in large numbers in India. However, such monuments have been observed in the Hassan district of Karnataka.

Grave Goods in Megalithic Burials

The megalithic burials have yielded a variety of objects, which prove to be very important for us in the study of megalithic culture. It is observed that right from the Later Palaeolithic period, an intentional burial was accorded to the dead for manifold motives. The megalithic people were no exception to the age-old custom and, therefore took pains to construct elaborate and much labour-consuming tombs. They furnished them with as many essential objects as they could afford. They thought this practice to be necessary as they believed in after-life of the dead. And so, the dead were suitably provided for a place to live in with goods of their essential needs.

In the Indian megalithic especially those in South India, the grave furniture consisted of a large variety of pottery; weapons and implements mostly of iron but often of stone or copper;

ornaments like beads of terracotta, semi-precious stones, gold or copper, shell, etc., strung into necklaces or rarely the ear or nose ornaments, armlets or bracelets and diadems; often food as indicated by the presence of paddy husk and chaff, and some other cereals; skeletal remains of animals, sometimes complete in these graves.

Subsistence Pattern

A detailed analysis of the available archaeological, archaeobotanical and archaeozoological data recently by U.S. Moorti (1993), and their correlation with certain environmental factors indicates an agro-pastoral base for the megalithic period of South India, with other crafts coming to the fore and all plausibly intertwined in a symbiotic relationship with each other. Now let us discuss the sector-wise developments illuminating the subsistence pattern during the period.

(i) Agriculture

The basis of their economy was agriculture. In fact, the megalith builders were responsible for the introduction of the advance methods of agriculture on a large scale, based on irrigation. Scholars like E.H. Hunt and N.R. Banerjee have observed that the megalithic builders introduced the 'tank-irrigation' in South India and thus brought a revolutionary change in the agricultural system. Their statement is based on the circumstantial evidence that the megaliths are concentrated invariably on the slopes of the hills or on elevated ground, which are not suitable for irrigation as they do not encroach upon arable lands. Some of the megaliths which seem to be on the edge of the tanks in the summer season, are virtually submerged in water during the rainy season. However, one can argue that the embankment, if at all it was man-made? Was the water stored in it sufficient for cultivation? Some of the sites are on the river banks. Does this mean that megalithic people were harnessing the river water for cultivation? Further, some of the sites are in thick forest. Neither is there any land for irrigation nor any tanks in these regions. There are many sites where there are no tanks.

On the basis of the above evidence B. Narasimhaiah opines that the megalithic builders were not the people who introduced 'tank-irrigation' in South India. Of course, it is a well-known fact that even from the prehistoric times man settled where there was perennial water source for his sustenance. The tanks therefore might have been natural ponds, which supplied water for their daily needs, but not for irrigation. However, most of the scholars believe that these tanks supplied water for their household life and to their crops. The tank-irrigation system, according to them, was definitely introduced into South India by the megalithic builders and it has lasted for more than 2500 years, till the present day.

These highly intelligent and pragmatic communities were to see that the fertile arable lands were not wasted from encroachments by their graves. Unproductive foot-hills, rocky and gravelly lands were used for the location of their graves, while lower down, the plains were reserved for agricultural purposes. But they seem to have considered that the spirit of their dead ancestors would not only guard but also bestow prosperity on their fields and hence, located massive though empty dolmens in the midst of their fields at Uttaramerur in Chingleput district of Tamilnadu.

Rice, an essentially irrigational crop, served, no doubt as their staple food. Paddy husks and rarely paddy grains are reported from a number of excavated graves from all over the region. Rice as attested by the Sangam literature, is the staple food of the people of South India since very early

times and remains till today. The archaeobotanical evidence indicates the cultivation of other crops too such as Ragi, Navane, Wheat, Kodo millet, Barley, Hyacinth bean, Horse gram, Black gram, Green gram, Common pea, Pigeon pea, Grass pea, Jobs tears, Indian jujube, Goosefoot (Fathen), Lentil, Cotton, etc. in the megalithic period of South India.

(ii) Pastoralism

Scores of megalithic sites have yielded evidence of the remains of the domesticated animals like cattle, sheep/goat, dog, pig, horse, buffalo, fowl, ass, etc. On the basis of the analysis of these faunal remains at different sites, it is inferred that cattle (including buffalo) predominates over other domesticated species at these sites. Invariably, in all these sites it accounts for nearly more than 60% of the total faunal assemblage. This brings out two important facts. First, the earlier neolithic tradition of cattle keeping was continued and second, cattle pastoralism and not sheep/goat pastoralism, formed a major preoccupation of megalithic society.

The occurrence of the remains of domesticated pig and fowl suggests pig rearing and poultry farming on a small scale at many of the sites.

(iii) Hunting and Fishing

Hunting naturally augmented the food supply, as the equipment for hunting, like arrowheads, spears and javelins would indicate. Sling was probably another equipment used for hunting by megalithic people, as attested by the large scale findings of stone balls. The occurrence of skeletal remains of wild fauna like Wild boar, Hyena, Barking deer, Chousingha, Sambar, Chital, Nilgai, Peacock, Leopard, Tiger, Cheetah, Sloth bear, Wild hog, Pea fowl, Jungle fowl, Water fowl, etc. from different sites indicate that these species were hunted and obviously formed part of their dietary system. Even now, many of these wild species are found in and around the areas.

The evidence in the form of terracotta net sinkers from Takalghat and fish-hooks from Khapa and Tangal besides the actual skeletal remains of fish from Yelleshwaram reflect that fishing was also practised by the megalithic folk.

(iv) Technology : Industries and Crafts

For the fulfilment of other societal needs in domestic, technical and cultural fronts an efficient infrastructure of subsidiary economic activities is essential. The industrial activities such as smithery, carpentry, pottery making, lapidary, basketry and stone cutting which formed other economic activities of megalithic society, are dealt here mainly because of the interdependent link between these and the primary methods of production.

(a) Metals There are many megalithic sites which in all probability were the production sites of metals like iron, copper, gold, silver etc. The available archaeological evidence in the form of crucibles, smelting-furnaces, clay tuyers and presence of material like iron ore pieces, iron slag, copper slag and traces of ancient copper, gold mines or the mineral resources at or near to these sites is suggestive of smithery. The available archaeological evidence indicates the utilisation of metal implements such as axes, ploughshares, hoes, sickles, spades, etc. The use of axe was either for cutting logs or for clearing forests. The use of hoe (or bladed harrow) for cultivation has been recorded at many sites. This particular implement resembles the modern bladed harrow, known as “*kunte*” in Kannada and “*gunlaka*” in Telugu. The use of ploughshare from many sites amply attest to the technological base of megalithic people for carrying out the

agricultural operations. A recent study (1986) also highlights a wider knowledge of agricultural technology attained during the protohistoric and early historical India.

Iron was the metal used predominantly to produce weapons of different shapes and for different purposes, tools and implements for agricultural purposes and everyday household needs. The rich variety of iron objects enables us in understanding the aspects of their economy and their way of life to a large extent. These objects reflect that agriculture was their primary occupation as a large number of iron tools necessary for agricultural activities are found at different sites. Copper was used for the production of vessels and ornaments. The ornaments were also made of gold. The use of silver was rather scarce. Though Adichannallur burials and Nilgiris yielded bronze objects the use of bronze at these two sites are exceptions and it is rather doubtful if these were locally manufactured.

An efficient utilisation of metallic resources is dependent upon another crucial factors and they are the availability of fuel and type of fuel capable of producing the required degree of temperature. Perhaps the most common type of fuel used by these pre-industrial smelters were charcoal, wood dung and paddy husk.

(b) Woodcraft / Carpentry: A wide variety of technomic items viz., those related to woodcraft indicates another skilled profession practised by megalithic people. The evidence shows that the axes, chisels, wedges, adzes, anvil, borers, hammer stones, etc., formed the main tool-kit for working on the wood. The archaeobotanical evidence from megalithic sites show that the information regarding some of the plant species like Acacia, Pinus, Brassica, Stellaria, Teak, Satinwood etc. were already known to these communities. The use of wooden plough for cultivation cannot be set aside as suggested by M.K. Dhavalikar and G. Possehl. Even now, the tillage implement common in black cotton soil tracts, is the country wooden plough, which is large and very heavy.

The woods were also used for posts in the construction of huts with thatched or reed roofs supported on wooden posts. Postholes are observed at Bramagiri and Maski indicating the presence of timber constructions for domestic buildings. Some scholars like S.B. Deo suggest an advance stage of wooden architecture involving dressing of wood and creating different types of mortice holes either for interlocking or for tenons. The common occurrence of these technomic items suggests ample use of wood for construction and many other purposes.

(c) Ceramics (Pottery): The ceramic fabrics associated with the megalithic culture are black-and-red ware (BRW), burnished black ware, red ware, micaceous red ware, grey ware, russet coated painted ware (RCPW), etc.

BRW, which is a wheel-turned pottery, essentially consists of utilitarian shapes and a majority of the forms probably served as tableware of megalithic society. The prominent shapes encountered in this ware are varieties of bowls, dishes, lids or covers, vases, basins, legged jars, channel-spouted vessels and conoids.

The burnished black ware, which is also wheel-turned, comprises some prominent shapes such as elongated vases, tulip-shaped lids, funnel-shaped lids, goblets, spouted vessels, circular ring-stands, knobbed and rimmed lids with bird or animal finials.

In red ware the shapes are strictly utilitarian which include legged vessels, double knobbed lids, ring-stands, dough plates and vases.

Of all the types, the most attractive are the RCPW with wavy lines and other decorations. They are occasionally bearing post-firing graffiti. Russet-coated jars are recovered from several sites.

The micaceous red ware exhibits typical shapes like pots with globular body and funnel-shaped mouth, dough plates and basins. Decoration in the form of cording, applique and painted designs have also been noticed.

All these varieties of pottery are characterised by a fine fabric and are produced from well levigated clay rarely with sand or such gritty material. They were generally well fired in open kilns at low temperature. R.E.M. Wheeler opines that possibly the pottery were turned on a slow wheel.

The evidence of pottery kilns from at least two sites, viz., Polakonda and Beltada Banahalli can be taken as supportive evidence for the practice of this craft. Although, the above evidence at both these sites comes from late neolithic levels, a continuation in the habitational deposit bearing megalithic levels may help us to assume so. A wide variety of shapes in different fabrics to serve as tableware for eating and drinking purposes and cooking utensils and the technical efficiency evident in the preparation of these ceramics or potteries might hint at a professional class of potters and pottery making as one of the important economic activities.

(d) Miscellaneous (Bead making, Mat weaving, Stone cutting, Terracotta making, Rock art, etc.): A number of objects ranging from single terracotta beads to very finely manufactured gold ornaments were used by the megalithic folk for their personal decoration. The locational occurrence of some of the megalithic sites in resources zones, and the evidence of bead making industry attested at two megalithic sites –Mahurjhari and Kodumanal, are suggestive of the practice of this craft. The availability of a large variety of beads show that agate, carnelian, chalcedony, feldspar, coral, crystal, garnet, jasper, tremolite, magnesite, faience, paste martz, serpentine, shell, steatite, amethyst and terracotta were utilised in the preparation of beads of different exquisite shapes. Apart from the use of semi-precious stones, some of the shapes have also been worked on precious metals like gold, shell, horn, bone and glass.

The mat impressions left on the base of jars at sites like Managondanahalli and Nagarjunakonda indicate that the art of mat-weaving was known and practised.

The activity of stone-cutting is attested by the chisel impressions noticed at Borgaon Khurd (Maharashtra) on a stone trough, excellent laterite cutting evidenced in rock-cut chamber tombs of Kerala region, the field observation by A. Sundara in the construction pattern of chamber tombs in North Karnataka and also the occurrence of domestic stone artefacts such as pestles, mortars, saddle querns, etc., at many megalithic sites.

Terracotta discs, figurines, gamesman, miniature pottery vessels found from graves attest their use as toys for entertainment of children. The most remarkable is the terracotta disc resembling spindle-whorls, which was probably used in hop-scotch game. This is suggested by the discovery of a disc in the grave of a child.

Scholars like S.P. Tampi, Y. Mathpal and K.J. John, on the basis of the engravings and paintings on the rock-shelters in peninsular India, argue that these megalith builders were the authors of these paintings. There is evidence in Sangam literature also of the erection of burial

stones with paintings as well as writings. But, unless direct dating of the pigments from the painting is done, the antiquity and authorship of these paintings cannot be ascertained.

Thus, we can say that the megalithic people practised a highly specialised agro-pastoral economy. The divergent economic patterns, which seem to have prevailed then, as is the case even now, were not isolated but had a symbiotic relationship with each other.

Trade and Exchange Network

The excavations have yielded various non-local items among the grave goods which reflect that there were exchange activities during the megalithic period. According to R.N. Mehta and K.M. George, carnelian beads reported from coastal sites, which were points of exchange in ancient times, direct us to the presence of trade activities. Similarly, the availability of bronze suggests the arrivals of copper and an alloy, either tin or arsenic, from somewhere. From the Graeco-Roman writings and the Tamil texts it is clear that at a little later period maritime exchange was the major source for procuring them. The archaeological remains like the rouletted ware, amphora and other ceramic materials found at many sites like those at Arikamedu are evidence for this. Scholars like H.P. Ray, Rajan Gurukkal, R. Champakalakshmi and others have already shown that inter-regional and intra-regional exchange of goods were fairly well established in South India by the 3rd c. B.C. Regional variation in the production of commodities and the non-availability of local raw materials/finished goods had set in long-distance transactions under the initiative of the long-distance traders from the Gangetic region as well as the overseas world. The exchange network which was in an incipient state during the early iron age expanded over the centuries as a result of internal dynamics and external impetus involving the demand for goods in other parts of the subcontinent as well as the Mediterranean region. Many scholars including B. Morris, S. Gupte and D. Stiles opine that it was a network across land and seas with long-distance traders in the middle and unevenly developed people at either side. Thus, the megalithic people as the hunter-gatherers and shifting cultivators of iron age also had active participation in the exchange network.

Social Organisation and Settlement Pattern

It is not archaeology but anthropology, which provides us evidence to assume the possibility of production relations transcending clan ties and kinship in such remote periods of tribal descent groups. By and large they point to the material culture of diverse forms of subsistence such as hunting/gathering and shifting cultivation besides the production of a few craft-goods, which have been discussed in the previous section (“Subsistence Pattern”) of this chapter.

Though there was commonality in the idea of megalithism and the associated assemblages, the variations observed in the external and internal features of the burials reflect that the iron age society of the megalithic people was not a homogenous entity. Some of the relatively huge burial types are suggestive of status differentiation and ranking of the buried individuals as discussed earlier. Differences in the types and contents of the burials suggest that there was some sort of disparity in the attributes of the buried individuals. The number of more elaborate burials like the multi-chambered rock-cut tombs at many sites, are limited. Moreover, these have yielded rare artefacts made of bronze or gold. On the other hand, many of the burials are simple urn burials with a very few artefacts. The variety, high quality and fineness of ceramic goods in huge burials including the elaborate urn burials, are also suggestive of the difference in

social status. The studies on the megalithic society of South India by scholars like J.M. O'shea and U.S. Moorti generally assume that "an individual treatment at death bears some predictable relationship to the individual's state in life and to the organisation of the society to which the individual belonged".

The megalithic people lived in villages consisting of a sizeable population. Though they had a bias for the urban life, they were slow in building huge cities like their contemporaries in the Gangetic Valley. The size of the population is indicated by the organised mass of manual labour that was available for transporting and housing massive blocks of stone in the construction of cists, dolmens and other types of megaliths, or in erecting large rubble and earthen mounds across the water courses for storing up rain waters for irrigational purposes. The large size of population is further attested by the fact that extensive burial grounds with numerous graves, many of them containing the remains of more than one individual, and occasionally of as many as 20 or more individuals, have been found.

The houses in which the megalithic people lived probably consisted of huts with thatched or reed roofs, supported on wooden posts as indicated by the presence of postholes in the excavated sites. At Brahmagiri and Maski were found postholes indicating the presence of timber construction for ordinary buildings. Some scholars like S.B. Deo suggest an advance stage of wooden architecture during the megalithic period.

An increase in the size and number of settlements during megalithic period from the preceding neolithic/chalcolithic phase and growing use of different metallic resources was certainly not an independent development. This can be perceptively observed, as Sheratt (1981) argues in the effect of the spread of plough cultivation which produced major alterations in the structure and distribution of settlements. Although it is difficult to substantiate this point further in the absence of studies concerning land-use patterns during the megalithic period. However, an analysis of the available data by U.S. Moorti on the locational context and the distribution patterns of these sites strongly indicates a growing inclination towards intensive-field method. He suggests village transhumance on the basis of the location of most of the settlement sites either on the banks of major rivers or on their major tributaries and that of most of the burial sites within a distance of 10-20 km from major water resources. The maximum concentration of sites in river valleys and basins and preference shown towards occupying black soil, red sandy-loamy soil zones also supports this contention. The distribution pattern of these sites in rainfall zones where the average annual precipitation is 600-1500 mm, also hints to the same conclusion.

Religious Beliefs and Practices

The elaborate architecture of their graves, the grave goods and other metal and stone objects throw light on the religious beliefs of megalithic people. The megalithic people had great veneration for the dead as they constructed these monuments with great effort and devotion. They believed that the dead had a life after death and the living had to provide them with their necessities. The grave goods indicate that they belonged to the dead man in life and since they were required for his/her use in the other world, they were buried along with the mortal remains. All these certainly reflect that the 'cult of the dead' had a strong hold on the people. The grave goods represented the affection and respect of the living for their dead.

Their belief in animism is reflected in animistic cults. This is evident by the occurrence of animal bones of domestic animals like cattle, sheep/goats and the wild animals like wolf in the megaliths. It seems that these animals were killed for the funeral-feast and the skeletal remains were buried in the graves, or they were sacrificed and buried in the graves to supply food for the dead. Animism is also reflected by terracotta figurines of animals decorated with garlands and ornaments.

Sangam literature, which is contemporaneous with the end phase of the megalithic culture in South India, also throws light on the different methods of disposal of the dead prevalent among the megalithic people. Many of the earlier beliefs continued during the Sangam age. So, we may assume that the religious practices referred to in the Sangam literature reflect, to an extent, those that prevailed among the megalithic people. The tradition of associating stone with the dead has survived in South India till late times and the herostones or the *Virakal* or the *Mastikal* are examples of this.

Polity

The differences in the size of the monuments and the nature of the grave valuables reflecting differentiation in status and ranking, also suggest the nature of contemporary political power. The construction of a huge monument involving the mobilisation of substantial collective labour implies the power of buried individual to command it.

In the light of the fact that the contemporary people were tribal descent groups, anthropologically we may assume the prevalence of chiefly power, i.e. chiefdoms. The chief was the great son of the descent group. The Late phase of the megalithic cultural coincides with the Early historical period as reflected by the excavation at many sites. So, the Sangam works also help us in understanding the period. The chief of the tribal group is referred to as *perumakan* (great son) in the literary texts. He commanded the entire personal, material and culture resources of his clan. This attests that these elaborate burials probably were of the chiefs or descent heads. The tribal pattern of the distribution of power was simple and involved no hierarchy, though the chiefs, their heirs and warriors had a privileged status. However, this differentiation in status was too flexible to be made out as a stratification.

There is no theoretically plausible evidence showing the existence of a class-structured society anywhere in South India even by the mid-first millennium A.D, which is the upper date now ascribed to the megaliths. Therefore, the remarks of some scholars about the existence of tribal descent groups as a stratified society with aristocrats seems inconceivable. The period of these huge monuments hardly crosses the last two or three centuries before Christ. This period witnessed numerous small chiefdoms co-existing and contesting against one another and anticipating the emergence of big chiefdoms by the turn of the Christian era. As Rajan Gurukkal has shown, the people under big chiefdoms also were in a social organisation based on clan kinship ties and a complex system of redistribution. From the references in Tamil heroic texts like *Purananuru*, it is evident that even the big chieftains, who had enjoyed prestigious status among many other chieftains, were also given urn burials. So, in a way all burials including the most commonly seen urn burials represent individuals or groups with some status and ranking as headmen or kinsfolk. Thus, it can be assumed that even urn burials were of chiefly type. Sometimes memorial stones (*natukal*) were erected over the urn burials of great chieftains and warriors. However, the huge multi-chambered rock-cut tombs are not mentioned anywhere in the

literary texts, probably because the practice of erecting such elaborate burials must have become uncommon by that time.

Some of the chiefdoms must have been bigger depending upon their human strength, resource control and exchange relations. This is testified by the prestige goods and varieties of ceramics and other artefacts found in the graves.

The megalithic people had been interacting and exchanging material and cultural goods with one another. There was need-oriented and use-value based interaction at the level of clans. But at the level of chiefs it was competitive and hence combative process of plundering raids, both inter-clan and intra-clan, led by chiefs for predatory control. This led to subjugation of one chief by the other which in turn helped the emergence of bigger chiefs and the formations of bigger chiefdoms. These armed fights among the clans must have resulted in the death of many chiefs and warriors. Probably, this was the reason for erecting numerous sepulchral monuments during the megalithic period. This also accounts for the emergence of the cult of heroism and ancestral worship. Through armed confrontation and predatory subjugation the cultural and political power of a few chiefdoms became more evolved over the years and they emerged as bigger chiefdoms. The Tamil heroic texts represent the phase of bigger chiefdoms. From this we can infer that the last phase of the megalithic period which is contemporaneous to the Sangam period, marked the march towards bigger chiefdoms.

Legacy of the Megalithic Culture

It is interesting to note that megalithism is still alive amongst different tribes in India, for example the Maria Gonds of Bastar in Madhya Pradesh, the Bondos and Gadabas of Orissa, the Oraons and Mundas of Chotanagpur region now in the state of Jharkhand, and the Khasis and Nagas of Assam. Their monuments, which are of a memorial nature, include dolmens, stone-circles and menhirs. The North-east Indian megalithic culture seems to have a South-east Asian affiliation rather than the western influence.

In South Indian context, the remnants of megalithism among the Todas of Nilgiris are very significant. The account of M.J. Walhouse regarding the funeral customs of this primitive tribe reflects the surviving burial practices that were followed by the megalithic people. It helps us in understanding the probable customs that existed among the now extinct megalithic builders of South India. The existing burial practices of the Todas include many common features of the megalithic burials with grave goods including food items and the use of stone circles to mark the place of the burial.

Limitations of the Sources for the Study of Megalithic Culture

The major problem that comes in our way of studying the megalithic culture is the form in which the sources are available to us. Firstly, as almost the whole of our evidence is collected from the burials, the knowledge about the conditions and methods of their everyday life is necessarily limited to the evidence supplied by their grave furniture and the various inferences that can be drawn from the observation of the architecture of the graves and connected considerations. The literary evidences which include the accounts of Graeco-Roman writers and the ancient Tamil texts (Sangam literature) have their own limitations as their period marks the end phase of the megalithic culture. Secondly, vertical digging in excavations of different habitation sites with aim to unfold the cultural sequence of these sites provides us with evidence, which is scanty and limited in nature. And, on the basis of these evidence it is hazardous to generalise about their cultural attainment. Though scrappy, the evidence obtained by these

excavations nevertheless enables us to build a tentative picture of the megalithic culture. Moreover, the lack of settlement remains associated with the burials is the frequently raised issue in the context of the peninsular Indian megaliths. Due to the absence of habitation sites in regions like Kerala, the analysis of the settlement pattern of the megalithic culture has become a difficult task. The settlement sites could have provided a variety of evidence in addition to the stratigraphic data for separating periods of various culture strands, thus, making the reconstruction of the cultural history of megalithic people more illusive.

Thus, the megaliths of South India reflect a series of questions, answers to which are still shrouded in mystery. In his very recent writings B. Vidyadhara Rao (2000) has even questioned the authenticity of the megaliths as a burial. The issue still requires more investigations. Let us hope that the future researches on the subject would illuminate us with a more confirmed and clear image of the megalithic culture.

Conclusion

Summing up the above discussion, we can say that the megalithic culture in South India was gifted with dynamic people, who almost revolutionised the society of the earlier neolithic-chalcolithic times. They depended heavily on agriculture to sustain a considerably large society, though hunting and fishing supplemented their food supply and various industries and crafts enriched their economy. It becomes amply clear that the megalithic people practised a mixed-economy on agro-pastoral production. They had a bias towards the urban life but were slow in building up huge cities unlike their contemporaries of the Gangetic valley, where well-established cities had been flourishing since the 6th-5th centuries B.C. They were essentially a separate and more group of dynamic people than the other iron age folk in India. The cult of the dead became the dominant feature of their religion and life, which survives in the culture of many tribes till today.