CHAPTER I: THE CONTEXT

1.1 INTERPRETATIVE SPACE
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Hitherto, adequate stress on the evolution of the technological aspects involved in the construction of the buildings of different periods has received little attention by scholars. However, it must be stated that descriptions of monuments, their line drawings and measurements have been done in some of the earliest writings, authored by pioneers in the field of archaeology in India. It is necessary to begin the present description of the subject with a review of the works done by earlier scholars even though these do not emphasize on aspects of technology. For convenience of the present study, they have been divided and described as those written in the pre-Independent period and those after it. This division has been primarily made on the basis of the differences in the methodological approaches and the dominant issues, tackled by the scholars writing on monuments of historical importance. During the pre-Independent period preliminary studies were published mainly in the Annual Reports of the Archaeological Survey of India. Today, this kind of literature is indispensable, as it gives valuable information regarding the structural remains of ancient Andhradesa and lays the empirical foundation for all types of historical research. Since there are no known 'Indian' or indigenous accounts about surviving buildings and their descriptions, these surveys were in fact the first constructions of knowledge about particular ancient buildings and can be considered as the beginnings of a new awareness in India to document ancient remains. The pioneering
archaeologists, both excavators and conservationists, collected and wrote about the archaeological artefact and structure with an exactitude nurtured by scientific positivism. This became such a powerful method of analysis that future generations of scholars on Indian art studies could not shed it off. In the post-independent period though these methodological paradigms continued, it can be seen that a greater emphasis was given to an interpretation of the remains found in various regional contexts. Further, emphasis on the use of ancient literary texts to understand concepts in Indian architecture and identifying major technological achievements in this regard also began to be increasingly written about. We next turn to outline these broad trends in the writings on buildings of different types.

The study of buildings in pre-independent India fall into three broad groups: 1. the traveller's perceptions and brief notings, 2. the administrator's zeal for precision and imperial state's early initiative, and 3. writings of both Indian and Western scholars, inspired by the early discoveries and their attempts to interpret. These early writings taken together primarily focussed on describing the status of the building, its period and dynastic affiliation. They did not give much stress on discussing the methods of construction, materials used in construction and the techniques employed in the execution of the building studied by them. A major trend that emerged from the 18th century onwards was to look at the archaeological site as a whole, rather than at only the individual building. There was no clear cut method in this regard to study the evolution of the technology used to construct the different buildings located at these sites. However, architectural styles were vividly described. Infact, most of these early scholars did not think that study of technology was central to any analysis of the buildings that they
described. It was apparently accepted as a tacit factor which must have existed to produce the monumental art and architecture.

It can be said that the first European notices of the extant ancient monuments of India are found in the writings of travellers and scholars from the sixteenth century onwards a trend that continued up to the middle of the eighteenth century. It has been suggested that these records constitute the first group of archaeological writings on India. In the beginning most of the observations and studies by these observers were limited to ancient monuments on the West coast of India. The study of Indian architecture was an offshoot of these observations on monuments that were recorded by the European travellers. They reveal the contemporary European attitude to Indian architecture and sculpture which has been summarised in Partha Mitter’s work *Much Maligned Monsters*. The travellers however, recorded their observations in great detail and often over burdened it with personal opinion. For instance, Dan Joaode Castra came to India in 1538 A.D. and his attitude was one of unabashed admiration for Elephanta and Kanheri. His study for the first time offers an understanding of the plan and measurements of these caves. John Huighen Van Linchotien, a Dutchman, published his work on India in 1596 A.D. which was later translated into English in 1598 A.D. It was mainly a description of temples and images. Pietro Delia Valle travelled to India between 1623-1625 A.D. and also refers to temples on the West coast of India, for which some plans of temples have been given. The seventeenth century European travellers continue to describe the magnitude, of the ancient monuments, in particular, the famous Sun temple of Konark and the Jagannath temple of Puri.
The same tradition continued well into the 18th century. Towards the middle of this century, however, systematic scholarly attitude towards the monuments began, which marked a significant **historiographical** turn in the study of early Indian monuments. South Indian temples figure in the writings of the French scholars like Le Gentil la *Galasiere* and Pierre Sonnerat. Le Gentil who came to India in 1760 A.D., toured South India and studied temples near Pondicherry and the South Indian *godura* styles. South Indian *goduras* were also studied by Pierre Sonnerat, who toured India in 1774 A.D. He further described the famous temples at Tirupati, *Srirangam* and *Kancheepuram*. Francis Leguet referred to some places in the south and observed the form of South Indian temples in 1776 A.D. Colonel Colin Mackenzie, a military engineer who was renowned to be a specialist in the siege of forts, organised the Survey of India as its first Director General from 1783 A.D. onwards. He visited almost every place of historic interest in Peninsular India and in the process prepared 2630 measured drawings and 78 plans all laid to scale. He also prepared the first plans and drawings of the great *stupa* at *Amaravati*, which are still unsurpassed for accuracy and finish. Writers like Mackenzie had both a scientific idea and a benign interest in reproducing the art and architecture of ancient India to be preserved for posterity. For the Deccan and South India his work is invaluable, as, it for the first time, described the historical geography of the region.

The foundation of the Asiatic Society was a landmark in the history of studying antiquities, arts, architecture and literature of ancient India in a systematic manner. On the 15th of January, 1784 *Sir* William *Jones* founded the society in Calcutta. Till the middle of the 18th century
observations on a few accessible monuments had been made. To some extent these surveys helped in understanding the historical geography of the region where the monuments were located. In this regard there was great emphasis on the discussion of classical sources as a possible aid to locate ancient sites. The European travellers knew most of the ancient monuments for India as a whole by the 18th century. During the 18th century interest in aspects of Indian technology also began, since the historical origins of India, in their manifold dimensions came to be a matter of considerable theoretical interest to western scholarship. Thus, in this regard, writings on the origin of iron technology emerged in a significant way. The iron-smelting procedures in different parts of South India in particular, were discussed in detail to conclude that the indigenous and unique methods of metallurgy were well-known in India from ancient times. There was another aspect of the writings of the mid-eighteenth century, namely, the tendency to compare the Indian monuments in style and aesthetic appeal to those of Greece and Rome. Nieubuhr's writings around 1786 show this tendency.

At another level the relationship between India and the Western world was sought by showing the linguistic affiliation of Sanskrit with European languages like Greek and Latin. William Jones and several of his contemporaries were proponents of this view and for Indian studies in general, this had a great impact because, it tried to integrate Indian history within the contemporary notion of universal history. From now on this began to be done within various interpretative spaces. The earliest of these are today encapsulated by the term 'Orientalist Discourse' which has brought to the forefront the realization that Orientalism had generated
authoritative and essentialized statements about India's texts, monuments and institutional practices. They helped in creating a knowledge about India which was seen as the opposite of rational Europe's norms and practices. However, from our point of view what is important to emphasize is that extant monuments now began to be placed in new contexts for analysis overriding the existing contextual and textual frameworks that they had been originally built in. It can be observed that this new theoretical exercise was done at a time when the nature of British rule in India was undergoing a change from being a trader to a territorial ruler. The documentation and reporting on Indian monuments during the latter half of the eighteenth century, was thus done more precisely and accurately than the earlier attempts. At this stage this was mainly done by Western scholars.

The nineteenth century had important implications for the British in India as their rule became stabilised. The listing of monuments with scientific precision began in earnest. Buildings, arts etc. were important cultural manifestations and to map them and understand them, was in a sense, to show a superiority over the conquered people. James Princep who was the Secretary of the Asiatic Society of India located in Calcutta, wrote about his attitude towards field research in the words, "what the learned world demands of us in India is to be quite certain of our data, to place the monumental record before them exactly as it now exists, and to reinterpret it faithfully and literally". Though the monuments and antiquities did not earn any revenue, the official interest in exploring, studying and publishing on them was the need of the times. Indian reality could now only be perceived in terms of how the administrative document described it so that colonial rulers could appropriately use it to know and
understand the 'alien' Indian culture and society which they had colonised. From 1830 A.D. onwards specific archaeological writings on a variety of subjects are noted increased. Apart from descriptions of the observations on monuments, individual sites were also excavated and reported on. Accurate and precise description of monuments began to appear in the context of marked archaeological sites. One must underline that in contrast to the earlier writings, there was a conscious attempt to achieve accuracy on the documentation of ancient Indian monuments by the middle of the 19th century. This had a natural extension in that a new methodology of writing emerged during this period, wherein technical details were incorporated in these writings of the administrator scholars. The ideological framework of knowledge within which this was done was totally alien to the society that produced the monuments being studied. However, as the descriptions below indicate these were not only done by Western scholars but Indian scholars too began to adopt the same methods of documentation.

William Erskine wrote a paper 'observations on the remains of the Buddhists in India' in the third volume of the Literary Society of Bombay in 1823 which included a detailed account of major Buddhist remains known to that period. Colonel James Tod in 1830 tried to explain the origin of the Indian Rock-cut caves. He was the first scholar to cite a reference to the Silpa Sastram i.e., the indigenous texts on ancient technology and crafts. According to him, "The architecture and sculpture of India present a wide and interesting field for research, and much valuable information on these subjects may be expected from the translations of the Silpa Sastram, which is said to contain the principles of them and of other arts and
sciences of the Hindus". From this statement it can be gleaned that such knowledge was not readily available to western scholars though they were keen to use it and link it to their observations on the existing monuments. It is significant to note that an Indian Judge, Ramraz had in 1834 written a theoretical paper on Indian architecture. Ramraz's essay was announced as marking a significant step in writing about the history of the science of architecture in India. Ramraz had drawn information from contemporary workmen in temples and the priests in order to be able to explain the famous Śilpa text, the Mānasara. To make the meaning of the text clear, he further utilised 48 plates of neatly made and lithographed drawings of temples.

James Fergusson, (1808-1886) was inspired by Ramraz's essay though he was one of the most important scholars who used the tools of modern scientific methods to study Indian monuments. He began to write on the monuments after he had travelled extensively and conducted what can be called a one man architectural survey. He spent months at particular monuments and took extensive notes on them while simultaneously sketching them. His drawing plans are astonishing for their accuracy. Fergusson in 1843, presented a paper on the Rock-cut temples of India at the Royal Asiatic Society which resulted in the Government passing orders for a systematic preservation, drawing and copying of antiquities. Later in 1845, he published his first work, Rock-cut Temples of India with the explicit aim of attempting to bring architecture within the domain of the sciences. His Hand Book of Architecture was published in 1855 which is considered as the first illustrated history of Indian buildings and monuments. His most quoted work today is History of Indian and Eastern Architecture which consists of a description of the architecture of famous
Buddhist monuments and that of the Dravidian and Chalukyan styles of temples. With all his emphasis on scientific precision, Fergusson however, made no attempt to focus on the technological skills involved in the construction of these buildings. The post-mutiny period gained momentum for the listing and systematization of details on buildings to understand their outward manifestations.

Alexander Cunningham, basically a military surveyor and engineer who was a close associate of Princep, stressed the need of a systematic archaeological investigation at Government initiative. This culminated in the establishment of the Archaeological Survey of India in 1861 under his charge. The 23 volumes of his reports were published from 1863-67 which are now considered as indispensable source materials for the students of Indian architecture. Cunningham's own particular contribution to the study of Indian architecture was his work on the temples of the Gupta period, in which he, for the first time, traced the broad outlines of the evolutionary hypothesis of temple building. The newly established Archaeological Survey of India, however, left out of its scope a whole range of monuments and sites in South India during this period. Since Cunningham's primary concern became the topographical details of various archaeological sites, the latter half of the nineteenth century, saw a neglect of studies on Indian architecture especially in the context of South India. In fact the earliest architectural surveys were limited to Western India and the Central Deccan because of their accessibility and also due to the fact that they had been reported by earlier scholars through their perfunctory notings and observations.
A hallmark of these early reports of the Archaeological Survey of India was that, they were purely administrative in nature, only highlighting the form of the architecture. This can be contrasted with the reports of the later administrators of the survey, who wrote scholarly reports touching on the aesthetic values of the building and its art, duly incorporating the traditional literary references to them as well.

A greater stress on building activity of ancient South India and the Deccan rather than on only a study of its temples, is noticed in the writings of Burgess. One can also suggest that with his taking over the Directorship of the Archaeological Survey of India, a concerted effort at the documentation of different styles of architecture began. Burgess came to India as a Professor of Mathematics in 1855 and subsequently got interested in the study of Indian architecture. In 1874 he was appointed as Archaeological Surveyor and Reporter to the Government for Western India. During this phase he published his Report on the Antiquities of Belgam and Kaladgi Districts in 1874; Report on the Antiquities of Kathiawad and Kachch in 1876, and Antiquities of Bidar and Aurangabad Districts in 1878. In 1880 Burgess published, jointly with Fergusson, a monumental work on the Cave Temples of India and in 1881 he was appointed as Architectural Surveyor and Reporter for South India. His tenure as Director General of Archaeological Survey of India was marked by several important architectural surveys, which resulted in the publication of volumes entitled 'New Imperial Series' by the Archaeological Survey of India. In this regard Burgess wrote two important monographs, namely, Notes on the Amaravati Stupa and The Buddhist Stupas of Amaravati and Jaqqayvadet, which were published in 1882 and 1887 respectively. In 1884, Alexander Rea followed suit and published South Indian Buddhist
Antiquities which included a discussion on the stupas of Bhattiprolu, Gudivada and Ghantasala and other ancient sites in the Krishna District of the then Madras Presidency. This work is significant because it included important notes on the methods used for dome constructions of the stupas. He also published a monograph on Chalukyan Architecture in 1896 with plans and drawings of the temples. Robert Sewell's List of Antiquarian Remains in the Madras Presidency published in 1882 and Lists of Inscriptions and Sketches of Dynasties of South India in 1884 are other important works of the later half of the nineteenth century, focusing on individual monuments of South India. In this regard it must be mentioned here that these also happened to be the first detailed studies of monuments of ancient Andhradesa.

Alexander Rea's 'Excavations at Amaravati' was published in the Annual Report of the Archaeological Survey of India for 1905-06. This was an important one being the first excavation report of Amaravati, unveiling many important technical details of the stupa located here. It was only after this excavations, that he was able to reconstruct the plan of the stupa along with drawings of the gateways. He also made notes of Jaina structures at Danavulapadu and some temples of the early medieval period at Pedamudiym in the same report. The Buddhist remains at Sankaram were studied by him next and published in the report of 1907-08. These remains included details of a rock-cut stupa. caves, and brick built monasteries, which were all dated to between the 6th-7th century A.D. In the succeeding year Rea surveyed the monastic complex at Ramathirtham hill in Visakhapatnam district. The early 20th century was thus marked by inventing or reporting on new monuments in specific regional contexts.
Most of the writers like Rea followed the earlier pattern of writing their reports and also gave plans of the monuments visited by them. Though there were no major theoretical shifts in interpretation, the early twentieth century was marked by a tremendous increase in knowledge about different types of monuments. Some of the sketches and line drawings of this period became indispensable for a comparative study of new discoveries made later in the century.

As a policy matter of surveying ancient remains and monuments at a regional and local level, different States of British India began to establish their own Departments of Archaeology. The Hyderabad Archaeological Department was constituted in 1914 to study the ancient monuments and sites in the former Nizam's Dominions. Since its inception, a large number of temples, Buddhist sites have been systematically studied and described in detail in the Annual Reports of the Department. The first report was published in 1916. Yazdani as the Director of the Department, surveyed the monuments of the Nizam's Dominions and offered remarks on their architectural features. In particular, he surveyed and studied the temples at Pillalamarri, Palampet, Warangal, Ditchpally, Nagulapadu, Alampur and so on. Principal forts in the Dominions like Elegandal, Warangal and Koyalkonda were also studied, with the details on such aspects as trenches, trap doors, draw bridges, ramparts, walls, gates, bastions, cellars and secret passages. However, like other surveyors of the time, he did not discuss aspects of the technological skills involved in making either temples or, fort buildings.

G. Jouveau-Dubreuil's contribution to the study of Indian architecture, particularly in south India is most significant. He combined the first
hand knowledge of the actual monuments and living traditions of the Silpınś by subjecting these to a logical and systematic application of an appropriate methodology. This study was published as a History of Dravidian Architecture in 1917. It excelled previous achievements from a stylistic point of view, by thus interpreting every aspect of Indian Architecture. The concern to understand indigenous techniques gained momentum around this period with a good number of important texts bearing on architecture being brought to light, edited and published. Among these, the İsānaśīva Gurudevapadhati published from Trivandrum between 1920-24, the Silpāratnā also from Trivandrum in 1922, the Samanangana Sutradhara from Baroda in 1923, the Mānasōllāsa from Mysore in 1926 and the Vastuviddva from Trivandrum in 1940 are significant to mention as they facilitated researchers to understand the relevant terminology of architecture within the Indian tradition. They had another far reaching impact in that it opened the door to appreciating Indian technological achievements along with appealing to the aesthetic sensibilities of the art that went along with the building.

According to Pramod Chandra, "many of the short comings of the scholarship of Indian temple architecture such as the failure to explore Indian sources and understand the inner meaning of the monuments, the purely literary studies of the Silpā texts, without reference to the surviving monuments of its living practitioners, the study of style conceived only in terms of the development of ornamental motifs and without a grounding in architectural or religious history, were all largely overcome in the works of Ananda Coomaraswamy". Coomaraswamy's endeavours have been credited with re-establishing the study of Indian art and
architecture on a new basis. The 1920's saw a great spurt of writings by Nationalist scholars in various fields of ancient Indian History. This was not unrelated to the contemporary concerns of the anti-colonial struggle. One of these was to show that India as a nation in the making had had a glorious past and its intellectual achievements had to be documented. It was realised that the study of ancient buildings had not been neglected per se by the Orientalists but that they had simply been projected as inert passive objects of study, being thus regarded as lacking in dynamism. Indian art historians like Coomaraswamy who wrote between the 1920's and 30's thus injected these studies with a spirit that gave value to the indigenous wisdom. This they did by consciously focusing on local literary sources as central to their interpretation of buildings. They incorporated in their writings the aesthetic values that highlighted the inward manifestations of the Indian buildings and thus provided their own meanings to defining the cultural achievements of an ancient civilization.

Coomaraswamy's writings on Indian architecture reflect this characteristic yearning to know the conceptual framework and the multifarious manifestations of Indian architecture through the ages. His first important work was History of Indian and Indonesian Art which was published in 1927. His Early Indian Architecture was published in 1930 which is indeed a master piece. We find in it a brilliant discussion on the Prasada based on the evidence of literary sources and on early Indian sculptural examples, which were integrated to the architectural form, for the first time. In another context he described the various parts and components of the palace, the walls, gateways, different quarters and apartments, pillars, windows, etc. like a professional architect. He further examined the material employed in the construction of the multi-
storied prasadas and the development of gavaksha or the arched window which was a characteristic feature of Indian architecture. Thus one can conclude that an important feature of Coomaraswamy's interpretations of Indian architecture was his profuse citations from ancient Indian literature to arrive at appropriate explanations of the buildings, different structures and their components and an elucidation of many obscure architectural terms.

Coomaraswamy's work left an inedible mark on writings of later scholars. His work also opened up avenues for serious research on the Silpa texts. The ethos of his work in portraying the essence of ancient Indian buildings was carried forward by Stella Kramrisch. Her authoritative work on the meaning and symbolism of the Hindu Temple in two volumes, was published in 1946. This contains valuable information on the principles and methods of construction of temples with direct focus on South India. Her scholarly endeavours took pains to describe all aspects of temple building from the selection of site to laying of its foundations, the spatial organisation of temple layout, the construction of the udapitha, adhistāna and other aspects of the superstructure. In giving these details, she heavily depended on ancient Silpa texts which were utilised so as to supplement her views on the description of extant temples. From our point of view it is pertinent to note that her work is one of the first to embody discussions on technical details of building temple complexes and information on building materials and bye-laws necessary to build structures which thus enable us to have a wholistic view of the inter-relationship between architecture and technology. Necessary details for the latter and the terminology used for it was brought out in a systematic way by P.K.Acharya. His, An Encyclopaedia of Hindu
Architecture was also published in 1946 and provided detailed notes on the temple building activity according to the ancient Manasara Silpa Sastra. This was supplemented by making drawings to illustrate the relevant terminology used to describe various facets of temple building. This ranged from soil testing before executing the building to plastering which ultimately lent finishing touches to the building. Principles laid down in connection with the construction of other types of buildings such as common dwellings, palaces, roads and defence structures have also been elaborated upon and critically discussed. What is significant from our point of view is that aspects of building technology such as procurement of materials for construction, dressing of stone, erection, joining of beams, providing roofs have been fully explained based on information provided by the Manasara.

Just before Independence many scholars in their writings lay emphasis on the use of literary sources. H.D. Sankalia, in an article entitled 'Regional and Dynastic Study of South Indian Monuments' published in 1941 was primarily concerned with methodological questions and heavily dependant on Dubreuil's work on A History Of Dravidian Architecture published earlier. Sankalia's basic aim was to develop a more comprehensive classification of South Indian monuments on a regional level, since the dynastic knowledge about them was often incomplete. Percy Brown's first volume on Indian Architecture was mainly a compilation from previous work but with its numerous photographs and drawings it became a useful text book on Indian Architecture for a study of both Buddhist and Hindu monuments. His focus, like other scholars before him, was primarily on religious buildings.
The early twentieth century was also significant from the point of view of an increase in archaeological excavations. Excavations were carried out at Alluru and Gummadiurru in the Krishna district and at Nagarjunakonda in Guntur district between 1926-27 by M.H. Khureshi. Later, between 1928-29, and between 1929-30, fulfledged excavations were conducted at the same site by A.H. Longhurst revealing the existence of three monasteries, sixteen temples and small stupas. This is an important excavation, which laid bare a good number of ancient buildings which had served different purposes. For a study of early historic building technology, the materials brought to light from these excavations are indispensable. However, the Archaeological Survey of India over a period of time became more interested in the investigation of pre and proto-historic sites. This tendency limited the scope and progress of the study of Indian architecture for several years. It has been observed that during the pre-independent period most of the northern and western Indian monuments had been surveyed by the Archaeological Survey of India with some initial attempts at incorporating south Indian monuments into the survey. Andhradesa, the present region under study was still marginally documented.

In the post-independent period, a shift is noticed in the study of monuments and this is now done mainly by Indian writers. By and large they followed the methodology laid down in the scholarly works of the colonial period. However, monuments and buildings began to be studied in a thematic way, with focus of study being either Brahmanical temples or Buddhist structures or, in some rare cases, forts. Secular namely, ordinary structures of a non-religious nature were hardly taken up for critical study, in separate monographs. A significant tendency in the post-
independent period has been the focus to study monuments in a regional context.

A brief survey of works done on the Brahmanical temple architecture shows that there was a great emphasis on this theme of study in the post-independent period and this is seen to continue even today. The Archaeological Survey of India too launched an Architectural Survey of Indian temples with Krishnadeva and K.R. Srinivasan incharge of North and South India, respectively. This was intended to conduct a detailed survey of regional styles in architecture and to distinguish their similarities and variations. We list below some of these descriptive studies pertaining to Andhradesa. P. Sreenivasachar of the Hyderabad Archaeological Department published a small book, *The Ramappa and Other Temples at Palampet*, in 1953 in which he described the location, history and salient features of temples and sculptures of Palampet, which had been constructed during the Kakatiya times. Ground plan of the main temple and some illustrations of temples and sculptures were also included in this work. Like many other works for the different regions of India, it lacks any details on the techniques used for the construction of the temple building activity of the Kakatiyas. K.V. Soundararajan published his monumental work on the *Architecture of the Early Hindu Temples* in 1965. This was followed by two other works, namely, *Indian Temple Styles* in 1982 and *Early Kalinga Art and Architecture* in 1984. In the first one, the Brahmanical temples at Nagarjunakonda, the rock-cut caves at Vijayawada and Bhairavakonda and the temples at important places like Chejarla, Alampur, etc. were studied with their plan, elevation and measurements. His *Indian Temple Styles* subsequently became a standard text on the Indian temple as
It encapsulated neatly classified temple styles and described salient features of the architecture developed during various centuries with some of the typical examples. It was however, in his work on Early Kalinga Art and Architecture that he made an attempt to study the building materials used for building activity and, to some extent, the mechanics of temple construction. On the other hand, M.Rama Rao's Select Kakatiya Temples in 1962, Early Chalukyan Temples of Andhradesa in 1964, and M.Radhakrishna Sarma's Temples of Telengana published in 1972 focussed mainly on describing the form of architecture and did not at all mention the technology that lay behind these monumental edifices. These microlevel studies were valuable since they tapped an hitherto unknown material about the extant temples in the different sub-regions of Andhradesa, but they hardly differed from each other, in their mode of presentation and analysis of the new data. Such a method became typical of temple based studies and continues to be a standard format, identified for topics of research in the various universities of Andhra Pradesh.

At the same time we continue to note an interest in the publication of many Silpa texts. Some of these like Aparājīta Prichcha. Visvakarma Vastu Sastra. Pramāna Mañiari and Tantra Samuchchaya affected the study of art history, as they provided information on hitherto unknown details, extremely valuable for preparing technical reports on the extant monumental buildings. The appearance of these publications by Sompura and others have strongly influenced our current understanding of the traditional methods of temple construction and the terminology used for doing so. For instance, Bruno Dagen's critical edition of the Mavamata gives a comparative study of temple architecture. It is a useful work for scholars to acquaint themselves with the terminology used in the methods of
construction with special reference to South Indian temples. Chapter XII of this book exclusively deals with techniques on which the foundations of the temples were made. Sompura in an article entitled 'The Vastuvidya of Viśwakarma' presents briefly the terminology which was used for the construction methods of temples in the past. Details discussed begin with the laying of the foundations of temples to the construction of the vimānas. The prescriptions of the texts comply with the methods probably used for construction of the medieval temples. The Kakatiya temples in particular, most certainly, used some of these works on ancient architecture.

From the 1970's onwards a trend emerged wherein some scholars began to write about the technology of buildings but still considered it as peripheral to the overall discussions on ancient styles of architecture and their characteristics. The thrust of these writings did create scope for a change in the existing methodological framework. The new perspective focussed on technological aspects such as methods and skills used for construction, the invention of new materials needed for building activity and a study of the shapes and patterns of buildings. Despite these relevant concerns to understand the evolution of ancient building technology, many articles and books on temple architecture continued to appear prolifically. We highlight some of the important ones in this regard and then finally, narrow down on those exclusively dealing with ancient building technology.

H. Sarkar, in an article 'A Study of Adhistanas in Early Temples of Andhradeśa', traces the origin of the adhistāna or the basement of the
temple to differentiate the individual types employed in the rock-cut and structural temples of early medieval temples in Andhra Pradesh. However, barring the description of the decorative elements he does not mention the technical aspects of how these basements were made and how important they were to the building as a whole. R.Subrahmanya’s article 'Brahmanical Structures at Nagarjunakonda', on the other hand, provides information regarding the Brahmanical temples constructed during the 3rd century A.D. along with a discussion on materials used to make them and the development of plans and engineering skills of the period. I.K.Sarma, in his book, The Development of Early Saivite Art and Architecture, traces the origin of Saivite architecture from the 4th century B.C. onwards in Andhradesa. This book is based on the available archaeological sources gleaned from the excavations conducted at Amaravati and Gudimallam. He goes on to discuss major developments on this theme during the Sātavāhana, Ikshvaku and Vishnukundin periods. His major conclusions are on specifying the evolutionary hypothesis of how structural buildings of the Brahmanical faith in the Krishna Valley emerged during the early historic period. However, technology involved in temple building, does not form a topic of discussion in this study either.

Rajendra Prasad in his work Chalukyan Temples of Andhradesa shifts the focus to the early medieval period but similarly aims at only giving full details of the temple forms built during the time of the Chalukyas of Badami in Andhradesa. An architectural survey of the temples at Alampur, Kudavelli, Panyam, Mahanandi, Satyavolu and Kadamarakalva has been done with a view to evaluate the art and architecture exemplified in terms of the evolution of the history of what he calls Chalukyan Architecture. A brief description is however, given on the material used in temple
construction. Gopal Reddy on the other hand, in his book, *The Ghanpur Group of Temples* while giving much descriptive architectural details also classifies the Kakatiya monuments. These are put into *Ekakūṭa, Dwīkūṭa, Trikūṭa* and *Mandapā* varieties. He further discusses the spatial organisation of the temples, their plinths, basement, walls, roof and super structure but does not explain the techniques employed to achieve aspects of temple building nor, does he have a discussion on the building materials used to construct them. *Encyclopaedia of Indian Temple Architecture* edited by Michael W. Meister and M.A. Dhaky is basically a Series which systematised, in two volumes, a discussion of the styles of temple buildings in terms of those found in lower Drāvidadeśa and those in Upper Drāvidadeśa. They initiated for the first time, a focus on the Deccan by emphasizing a Deccano-Drāvida mode of Drāvida Architecture, which, they saw had survived from as early as the 1st century A.D. to the 10th century A.D. In these volumes the temple building activity of Andhradesa was done dynasty-wise including discussion on the Satavahanas, Ikshvakus, Vishnukundin, Eastern Chalukyas, Telugu Chōḍas, and Nolambas of Hemavati by two of the most prolific writers on the subject, namely, K.R. Srinivasan and K.V. Soundararajan. The important features of temple architecture noticed at the major temple sites of Rangapur, Kudali Sangamesvaram, Veerapuram, Nagarjunakonda, Pondugula, Biccavolu, Chebrolu, Draksharama, Amaravati, Samalkota, Bhimavaram, Papanasi and Somasila have been highlighted. Plans, Adhistana mouldings, plinth cuttings have been elaborately discussed. Except for a clear exposition of the stylistic affiliations of the temples to the different dynasties no indepth analysis of the evolution of technical details over historical time in early Andhradesa was visible in this work.
A good number of studies on buildings of Buddhist affiliation were also published during this period. Important among them were R. Subrahmanyam’s *Salihundam: A Buddhist Site in Andhra Pradesh*; H. Sarkar’s *Studies in Early Buddhist Architecture of India: Waheed Khan’s *A Monograph on the Early Buddhist Stupa at Kesarnapalli*; Debala Mitra’s *Buddhist Monuments* and I. K. Sarma’s *Early Buddhist Monuments and Brahmi Inscriptions of Andhradesa*. Like the aforementioned studies on Brahmanical temples, these reveal descriptive details on the Buddhist structures such as stupas, chaityas and viharas of Andhradesa illustrating them with plans, elevations and sectional drawings, besides furnishing details on their measurements. It goes without saying that these works too do not deal with the skills involved in the planning and construction of Buddhist buildings. A recent work which focusses on engineering skills, building materials and methods employed in the construction of the Buddhist structures at Thotlakonda has been made available in the form of a report by Krishna Sastry, et al.

In reviewing the historiographical literature of the post-independent period, it has been noticed by us that though the largest number of works were on different types of religious buildings, the study of defence buildings received some attention. N. S. Ramachandra Murthy’s unpublished thesis, *Forts in Ancient and Medieval Andhra: A Study* is an unique attempt on the defence architecture of Andhra Pradesh. He has traced the origins of the defence system from the proto-historic times and sought to discuss their development during the early historic and medieval times in Andhradesa. Select forts such as Dhulikatta, Keesargutta, Bhongir, Warangal and Gandikota have been thoroughly documented for the first time.
He has added literary references to understand the concept, lay-out and development of the fortifications. However, stress on how an evolution of defence building took place from period to period in early Andhradesa is lacking.

T.V.G. Sastry's work on the Veeraduram Excavations adds new data to the concept of early fortifications by describing those at Veerapuram in Kurnool district. Krishna Sastry has similarly described the new data on early forts noticed by him at Kotilingala and Dhulikatta during the course of his excavations there. The standard method in these works is to describe the physical features of these forts, such as bastions, gates, guard-rooms and moats. Margabandhu in his broader classification of architecture elaborates upon select forts and fortifications of Andhradesa under a chapter called 'Defence Architecture'. Amaravati, Dhulikatta, Satanikota and Nagarjunakonda figure in this connection. Ramamohan Rao studied the fortifications of Nagarjunakonda, Keesaragutta, Nelakondapalli, etc. and R. Subrahmanyam has exclusively studied the plan, elevation and building materials used at the fort at Nagarjunakonda which he defines as a Sthala and Giri Durqa. Civilian architecture in the fortifications has also been studied in his article 'Secular Remains at Nagarjunakonda'.

N.C. Ghosh in the Satanikota Excavations: 1976-80 has brought to light new data on the early historic fortification at Satanikota. The important feature described here is an unique rock-cut moat around the fortification with a draw bridge on the moat not reported earlier from any other site. Recently, Ramakrishna Rao has also discovered an unique rock-cut fort datable to between the 8th-9th centuries A.D. provided with rock-cut gate and guard-rooms at Gandharikota in Adilabad district. Though the above
works deal with the defence buildings of the early and medieval periods and reveal interesting information, the pattern of studying the evolution of building technology of the defence building is yet to be taken up.

In comparison with religious and defence structures, we find that separate monographs on habitations and public utility structures is rare. Those scholars that have drawn our attention to these do so by making a few contextual references to them in their works. Allchin's *The Rise of Civilization in India and Pakistan* describes town planning and types of individual dwellings in *proto-historic* India as a whole and discusses some technical aspects such as brick making, quarrying of stone and its transportation, sanitary arrangements and metal technology. This work differs from the other general works which usually confine themselves to only a description of the buildings in a superficial manner. Kulkarni in an article, 'Engineering in Ancient India' has attempted to trace references from Vedic and post-Vedic literature to explain the building of forts, bridges, roads and irrigation structures while also describing skilled workers like masons, smiths, etc. He does not, however, cite any surviving structures to correlate his discussion of the literary evidences.

Pertaining to *Andhradesa* in particular Allchin in his, *Utnoor Excavations* describes pit-dwelling activity as revealed through this excavation. In this regard he writes a small note on the construction of wooden cattle-pens. Amita Ray's, *The Villages. Towns and Secular Buildings in Ancient India.* is the first systematic work on data discussing different types of dwellings from the Vedic period onwards. This work is based on literary, archaeological and ethnographic sources. She has traced the origins of village architecture and also discussed the development of
towns and other secular structures, supported by the evidence of the sculptural reliefs from Amaravati and other places. She has succeeded in connecting the early house plans to the proto-types of what the present day tribes of the Krishna Valley and coastal areas of the Andhra Pradesh live in. R. Subrahmanyan's contributions on the Nagarjunakonda excavations were published as *Nagarjunakonda-I (1954-60)* in 1975 embodying the results of the excavations at the site pertaining to various phases of habitation. Dwellings such as pit-dwellings and houses made of stone have been discussed here at length. Amita Ray's other work *Life and Art of Early Andhradesa* also discusses settlement patterns, buildings and monuments. Rural house types, and city buildings are both elaborated upon and building materials used with special reference to Amaravati and Nagarjunakonda have been detailed. Besides laying emphasis on town planning and country planning, she critically evaluates different surviving proto-type structures in Andhradesa. Krishna Sastry's *The Proto and Early Historical Cultures of Andhra Pradesh* is a work mainly dealing with the proto-historic cultures of Northern Telangana. He traces the development of settlement patterns and discusses the house types of the Neolithic and Megalithic periods. This book also discusses aspects of civil buildings during the urban phase of early Andhradesa, giving details on building materials, drains, wells, roads and residential buildings from pre-Satavahana to the Vishnukundin times. Margabandhu in his book has a chapter on civil architecture. He describes the different buildings used by individuals as well as royal palaces, buildings of public utility and irrigational works with examples from Dhulikatta, Amaravati and Nagarjunakonda as noted from the excavations conducted at these sites. Ghosh's *Excavations at Satanikota 1977-80* is also an excavation report.
which provides information on civilian structures and building materials used such as tiles, bricks, iron nails, etc. of the Satavahana period in Andhradesa. R.Subrahmanyam's article, 'Secular Remains at Nagarjunakonda' elaborates the secular structures found here such as public buildings, roads and amphitheatre. Krishna Murthy's book Early Indian Secular Architecture emphasises on the architectural patterns in early India with reference to select sites on the basis of literary evidence.

The review of the above works leads us to conclude that the authors like Allchins and Krishna Murthy inform us about ordinary housing patterns and dwellings at an all India level. Krishna Murthy's attempt in citing literary references to such structures, however, lacks corroboration of the material with archaeological data available in plenty both at the all India and regional levels. Margabandhu's survey on the other hand, deals with such descriptions in the Deccan context whereas Krishna Sastry narrows the spatial scope even further to deal primarily with Telangana. Subrahmanyam and Ghosh, as excavators of the sites reported the extant archaeological remains pertaining to different types of utility structures as noticed at Nagarjunakonda and Satanikota, respectively. Amita Ray's works provide ample information on habitation buildings, beginning from hutments to sophisticated buildings of the proto and early historical periods, in early Andhradesa. She uses contemporary classical literature to understand the bye-laws for making such buildings. An important aspect of her work is that she has successfully corroborated the archaeological data with the literary references and has also connected the ancient house types with those of the present day tribes of Andhra Pradesh. Her studies are however mainly focussed up to the early historical times. A comprehensive study on
the evolution of building technology of simple housing structures from proto-historic to medieval times in the context of Andhradesa is left unresearched.

These works have interestingly used such terms as 'secular', 'civil' to club different types of buildings which do not fall into the category of religious buildings. Basically they have culled information from archaeology, on simple structures and ordinary housing patterns. In this sense, these are valuable studies but it has been noticed by us that such studies are only available for the proto and early historical environment. None of the aforementioned works delve into the early medieval or later medieval period to continue their concern with identifying the building technology of ordinary public utility structures. It can of course be reasoned out that empirical data on this subject is lacking for these later periods. In this context, it is interesting to note that Jyothindra Jain in a recent article called 'Parallel Structures' explains the spatial organisation of the traditional dwellings in to kitchen, bedroom, living room, pen-place and courtyard that have continued to be built throughout history in a same manner. In his study on the Rathva and Bhilai tribes of Gujarat and Madhya Pradesh and the Savaras and Kondhs of Orissa, he postulates that the method used for constructions also seem to have remained unchanged. Jain observes that the symbolic replica of the cosmic structure as understood at the tribal level was equally important to them as its functional and utilitarian aspects. These simple structures were usually built in wood and reeds, supported by a central pole and often supporting poles on the periphery with ridge pieces on the horizontal frame. D.R.Raju in his work, The Stone Age Hunter-Gatherers (an
Ethnographic Study of Cuddapah District) also tells us about the means and methods of building simple and temporary structures in vegetable material by the semi-nomadic tribes of Andhra Pradesh called the Yanadis. This work, in explaining the simple building technology of the tribals on a regional level, does valuable documentation on the subject.

The discussions above reveal that though they do dwell on the technological aspects of simple building structures they do so as marginal to their larger concerns of describing layouts and types of buildings. This leads us on to the final focus of a review of the works that explicitly discuss the technological aspects of architectural edifices. This pertinently brings to the forefront, the fact that the existing interpretations have only highlighted the technological aspects of monumental buildings, particularly temples. It can be noticed that such a trend was the natural culmination of a concentrated effort to read textual material pertaining to temple architecture rather than simply describing existing temple structure. Such endeavours had therefore revealed a plethora of information on techniques and technological skills. Most of these interpretations are found in books and articles published in the past few years.

In a discussion of articles and books exclusively dealing with building technology, we necessarily have to focus on India as a whole. There are no studies of this kind in the context of Andhradeśa. Andhreas Valwashi’s Living Architecture: India begins his work with an understanding of the origin of the Hindu temple and its evolution leading to dynastic variations in style. At the end of this description he supplies valuable information regarding such technological aspects as the
transportation of huge stones and their erection with the help of scaffolding and earthen ramparts. This book also gives a clear idea about the engineering and technical skills involved in temple building of South India. Kirit Mankodi in an article, 'Scholar Emperor and a Funerary Temple, Eleventh Century Bhojpur', mentions the details of the construction of the Bhojpur Temple. Evidence of planning involved in such a work is found in draftsman's diagrams engraved on the rock. He identifies an earthen ramp laid between the stone quarry and the temple for carrying the slabs. Some light is also thrown on the qualifications of an architect and matters related to the mechanics and the organisation of the temple construction during the medieval times based on the Samarāṅgana Sutradhara which was written by Bhoja.

Alice Boner and Sadasiv Rath Sarma are said to have identified a palm-leaf manuscript called the Bavachakada, which, according to them details as to how one of the greatest undertakings in the history of Indian temple building, i.e., the Sun Temple at Konark, was constructed around 1250 A.D. It provides interesting information about how the work progressed, the organisation of labour and their relationship with the patrons, and the administrators and artisans connected with the execution of the work. It further discusses the qualifications of the architects and sculptors, building materials and the methods of quarrying, transporting, lifting of huge stone blocks and scaffolding arrangements have also been published in the work. It is equally interesting to note that the above work has been considered a forgery according to some scholars.

K.S. Behera, is one of the many scholars who has questioned the authenticity of the manuscript and after testing the historical value of
the manuscript by cross-evidence, argues that the reliability of the text should not be taken for granted. Besides, many statements of the manuscript consulted by Alice Boner and others, such as the survey of the temple, the name of the Sutradhara who constructed the temple are also contradicted by M.H. Chakravarti, in his study based on another literary source on the Konark temple called the Mādala Pañji. After careful and critical scrutiny, K.S. Behera suggests that the manuscript published by Alice Boner and others belongs to the 20th century. On the other hand, a few scholars like Christopher Tadgel, while writing on the temples of Orissa in his work A History of Architecture in India, appreciates the work of Boner and others. He says "Alice Boner, New Light has shown that the temple at Konark took twenty years to build and was finished for concentration on Surya's birthday in 1258 A.D." This statement reveals that Tadgel had relied upon the work carried out by Boner and others. Tadgel does not seem to have been aware of the rejoinder put forth by K.S. Behera in this regard.

Tadgel's above work is a new approach on the evolution of Indian architecture. Technological aspects such as the foundations of temple structures and the building materials used, load bearing and distribution, trebeated system of arranging the beams, along with other engineering feats of the ancient architects are described. Gerald Colas in his article, 'Some Remarks about the Construction of the Temple according to Marichi Samhita' discusses different aspects of temple construction such as selection of site, methods of soil testing, laying of foundation and basement, and the hearthing materials to be used. This is an unique attempt at studying a medieval Sanskrit text, to unveil many mysteries of the traditional techniques in temple building. He is among the first few
writers who has delved into such details and also gives descriptions of ancient bye-laws needed for temple building at every level. The qualifications of the architects and skilled persons are some of the other aspects thoroughly discussed.

In the context of studies on South India, Parabrahma Sastry's *The Kakatiyas of Warangal*, though primarily a study of the political history of the Kakatiyas, gives significant citations from epigraphic sources to aspects of temple construction. He thus informs us about how the selection of stones was done for the Kakatiya monuments, their dressing, the joinery techniques and its development and finally, on the skills of the architects. In an article 'Tamil Temple Architecture and Art' Soundara Rajan focusses on the techniques of temple construction in general and explains several features such as the extraction of stone from quarry by 'blocking technique' and its transportation to the site to be finally dressed at the site before the erection of the temple. In 1991, the Regional Engineering College, Warangal, in collaboration with the Archaeological Survey, conducted a survey of the geological, geo-physical and geo-technical studies at places like the Thousand Pillared Temple at Hanamkonda, the *Keerthi Tōranās* at Warangal fort and the *Ramappa* Temple at Palampet in Warangal District, to identify details on how the foundations of these structures were made and evaluate their performance in relation to the total structure. The survey found certain technical flaws and suggested some remedial measures like grouting and the construction of retaining walls, around the temples with deep foundations. It also suggested that total reconstruction of certain temples could be taken up. These survey reports interestingly, do not throw much light on the
methodology and technology that was originally in practice at the time when Kakatiyas built these temples. 'Materials and Techniques of the Kakatiya Temples' an article by Siva Nagi Reddy and Subrahmanyam is the first of its kind, in which, they have studied the Kakatiya monuments from the technical point of view, keeping the style of Kakatiya buildings in mind. The building materials and tools used has been discussed to show how the huge and massive slabs used for pillars, beams and roof slabs were quarried, transported, dressed, lifted and arranged in position. It is also pointed out why in the first course of the foundation and basement, sand or earth was used to serve as cushion bed for foundation of these temples. In this paper, both literary and epigraphic references have also been used to corroborate the existing evidences from the standing monuments in evaluating the engineering skills and building technology of the Kakatiya period. Norms for temple construction as laid down in the Mānasāra, the Mayamata, the Marīchi Samhita and the Vastuvīdva have been used to corroborate it with the archaeological data.

A few works which describe the techniques of rock-cutting in the building of ancient monuments have been taken up by scholars from the early 1970's. An attempt to explain the process of rock-cutting is made by O.C.Kail with reference to the caves of northern India in his work published in 1971 as The Cave Temples of India. In the following year, Vidya Dehejia's study appeared as Rock-Cut Temples of India in 1972, in which, she explained the technical aspects of rock-cut temples of India in general. Her other work gives a clear idea about how rock was hewn into caves and how façades and mandapas in early historical times were made in Western and Central Deccan, with special reference to Ajanta and Ellora. The method of drawing or marking on the rock before starting the excavation
in required sizes and shapes by the craftsmen with the help of variety of tools and training of the artists are thoroughly discussed in her work Looking Again at Indian Art. Subsequently, similar studies on rock-cut architecture were carried out by several scholars. These include, S.Nagaraju’s Buddhist Architecture of Western India, S.P.Gupta’s The Roots of Indian Art, R.P.Mohapatra’s, Udavaqiri and Khandaqiri Caves, all published in 1981. Among the scholars mentioned above, Vidya Deheja and S.P.Gupta discuss the rock-cutting process of some Buddhist caves in Andhradesa, especially the ones at Guntupalli.

Among exclusive studies on Andhradesa, I.K.Sarma’s, Studies in Early Buddhist Monuments and Brahmi Inscriptions for Andhradesa provides some technical details on rock-cut technology, based on his observations of a few unfinished caves at Guntupalli and cut-out monoliths at Rampa Errampalem. The rock-cut caves discovered at Gopalapatnam for the first time by us, this year offer a few clues to assess that how the cells were cut into, the type of tools used for the purpose etc. These have been dealt with in an unpublished report entitled ‘A Report on the Discovery of a few Rock-cut Cells around Gopalapatnam near Tuni, Visakhapatnam District’ based on our survey conducted in April, 1994. However, the study of evolution of rock-cut technology in Andhradesa as a whole still remains unattempted.

The study of the buildings in the pre-independent period outlined by us above has therefore revealed that knowledge about them increased with the widening of interpretative spaces. From the brief notings of the travellers’ accounts to detailed reports of the administrators along with
their zeal for precision, ultimately culminated in scholars looking beyond the buildings to the cultural ethos that inspired the building construction in the first place. Thus, it has been noted by us that those monuments which were observed by the travellers were described only from the outward architectural point of view. This was followed by scientific exactitude being introduced for doing the same thing with the backing of the colonial state. Finally, scholarly insights found it necessary to describe the monumentality of buildings as initiated earlier within the purview of literary sources so that they could be understood much more comprehensively. It can further be concluded that during the earliest phase of writing on buildings, technological skills involved in their construction, were not identified for analysis and discussion. Later, however, the initiative by administrators resulted in an allusion to these skills being made to a limited extent. However, it was only during the later half of the 18th century and during the 19th century that diffusion of ideas had resulted in great interest in comparing the skills and monumentality of the buildings found in India to those of the classic western type, found in the ancient Greek buildings. This became a standard marker of comparison. Technical details while describing buildings were an integral part of those writings using literary data. Above all, the works of the pre-independent period provide first hand information of the details on the dynastic affiliations of monumental structures since the focus in this period was mainly on big buildings like temples and stupas. Further, most of these early writings looked at the buildings only in terms of their aesthetic and artistic form and were not concerned with understanding what went behind the making of these buildings, from a technological point of view. The empirical foundations that they laid for later studies cannot, however, be denied.
In the post-independent period scholars lost sight of writing on archaeological sites as a whole whereas there was a proliferation in the writings about individual religious buildings particularly temples. Indian scholars tried to replicate the methodological framework. They had inherited, especially in terms of the documentation of new buildings surveyed by the Archaeological Survey of India. From the 1970's onwards the interpretative space shifted to a study of buildings on a regional scale. Simultaneously, the earlier pre-independence interest of writing on Buddhist and Brahmanical monuments increased. In these, studies too, the focus was on the description of the outward facade, its decorative and stylistic details and its religious and dynastic affiliations. This gradually led to a tendency of describing the individual buildings alongwith a brief discussion on the materials used to build them. The engineering skills needed for construction, were however, dealt with only in a perfunctory manner.

The above survey of scholarly works gives us an idea that very few scholars attempted an understanding of the evolution of building technology on a broad scale, covering different types of buildings. Those who have taken a keen interest in this direction have done so in the context of looking at the various discussions of temple construction as literary texts provided valuable data on this subject. There were however, two other areas of technological interest which covered the interpretative space in the last few years. The first was the interest shown by scholars to understand the house patterns of dwelling, especially in the proto and early historic times. The other was a keenness to understand rock-cut
technology as developed in early historic times.

In reviewing these works we concluded that in the particular context of Andhradesa no major writings have dwelt on understanding the evolution of building technology not only in terms of different types of buildings but also in terms of being spread over a long span of historical time. The proposed dissertation hopes to fill in this gap and lay the empirical foundations for other studies in the future.


3. Ibid. p.327.


14. It is pointed out that this was done for most fields of Indian study as a professional medium to represent India in neat scientific packages. See Gyan Prakash, 'Post Orientalist Histories of the Third World: Perspectives from Indian Historiography', *CSSH*. Vol.32, no.2, 1990, pp.356-387.


20. Ibid. p.10.


26. See Annual Report of the Department of Archaeology in HEH The Nizam's Dominions. from 1914 onwards which are available with the Department of Archaeology and Museums, Government of Andhra Pradesh, Hyderabad.


41. For instance, out of 61 topics registered for Ph.D. and M.Phil degrees in Andhra University, Waltair upto 1987, there are seven topics on the study of Temple architecture, e.g., K.Sundaram’s The Simhachalam Temple. B.Mastanaiah’s The Temples of Mukhalingam. S. Nageswara Rao’s Temples of Bikkavolu, etc. In Nagarjuna University, Guntur, there are also seven topics on temple architecture e.g., Srisailam Temple Art & Architecture. G. Kamalakar’s Temples of Renadu, etc. For more details on the topics of other universities in the State, see PAPHC. 11th Session, 1987, Appendix II 'Research Topics in the Universities of Andhra Pradesh'.


60. V.V.Krishna Sastry, The Proto and Early Historical Cultures of Andhra Pradesh. Hyderabad, 1983.


75
86. Ibid. p.351, see foot note no.51.


95. S.Nagaraju, Buddhist Architecture of Western India. Delhi, 1981.


1.2 GEOGRAPHICAL SPACE
For any writing of regional history the definition of the geographical space is an important dimension. However, these geographical spaces of the past must necessarily be highlighted in the context of the historical and cultural landscapes that give meaning to it from time to time. In one sense vivid images of ancient geographical spaces can only be understood either, when historical texts tell us about them or, when monuments located in particular localities indicate to us ancient landscape patterning. Though historians and archaeologists have for quite sometime been aware of the importance of geography for the study of past cultures and events, it is only recently that theoretical and conceptual approaches of how this should be done have emerged in publications pertaining to different countries. In the particular context of our study of building technology, the archaeological potential of identifying past human occupation and activity has been fully exploited. This has been done by way of mapping historic structures at a regional level which preserve certain essential features of ancient environments. In explaining the importance of 'applied historical geography', Denecke informs us that one of the best ways of doing this is with the help of conservationists of old buildings and architects, who can document them in the best possible way. These structures then manifest themselves as a "visible past" and "represent human activity and thought from the past". More importantly, he informs us that historical geographers must appreciate that all kinds of past structures are "integrated parts of ancient landscape" and therefore, in his opinion such endeavours, i.e., "Research on past landscapes and
vanished places of former human occupation then becomes an obligation of landscape conservation and of preservation and restoration of field monuments.”

The attempt in the following pages of this chapter is to define the region of study with the help of ancient literary sources, inscriptions and more recent documents like gazetteers and census reports. Most significantly, it is attempted to locate the extant monuments against the geographical background of four sub-regions delineated by us. Whereas historical change is perceivable in the nature and variety of monuments that dot the cultural landscape from time to time, geographical change is directly less perceivable but is implicit in surviving structures of old centres of towns or villages. This historico-geographical survey of early Andhradesa has been plotted by us in the maps accompanying the various chapters of this dissertation [Maps I to XI]. We would like to emphasize at the outset that though definitions of Andhradesa as a political and administrative entity have been many and ever contestable, the boundaries of its geo-cultural identity have been changing only to be more integerrative and incorporative as far as it has been possible to do so. The spread of the Telugu language has been taken by us to be an important criteria to define this space. Interestingly, this spread coincides with certain delimiting geographical boundaries which, in some directions, are more severe than in others. Nonetheless, if these are firm, at the same time flexible, geo-cultural boundaries that have enabled us to identify the area of our study, rather than the contestable political boundaries, which, in any case, have always been changing and defy a stable definition for the period of our study which covers a long span of time from the earliest habitations in the region upto the 14th century A.D.
Based on archaeological sources it can be suggested that Andhradesa has seen continuous human habitation since pre-historic times and the antiquity of terms Andhra/Andhradesa can be gleaned from literary and epigraphical sources. The term Andhra to denote race or people has been found recorded in some of the earliest literary works known on the Indian sub-continent. The earliest reference to the term Andhra is the name of tribe and this is made in the Aitareya Brāhmaṇa. This speaks of them as the exiled sons of Visvamitra who were considered outside the pale of civilised life. The same Brahmana counts the Andhras to be socially parallel to other tribes such as the Pundras, Sabaras, Pulindas, etc. Of these, it is suggested, that the Sabaras can be identified with the present day Sabaras of the Visakhapatnam-Srikakulam tract. The term Andhra to denote a race is also mentioned in the Sāṅkhvāvana-Srauta Sutra. Among some of the later historical works, Megasthane motions that the Andhra were a separate race. Even to this day there is an aboriginal tribe known by the name 'Andh' in the Adilabad district of Andhra Pradesh which is believed to be an off-shoot of an ancient race. Gopalachari emphatically affirms that the country Andhrades’a derived its name from the people called the Andhras, whom he has defined as a tribal group most of whom, according to him, had settled down in the valleys of the Godavari and the Krishna. Thus, the name Andhra is commonly established in an ethnological sense; a name derived from an autochthonous tribe called Andhras.

Early Buddhist literature contains many references to the Andhras and their country. The Suttanpāta story of Bavari mentions Assaka as an
Andhra janapada. In some of the Buddhist texts, the Andhakas are mentioned along with the Mundakas, Kalakas and Cinas. The Kumbha and Samkicca Jatakas refer to the Andhakas as well as to Andhra country and to an Andhra city. The Bhimasena and the Serivani Jataka describe the Bodhisatva’s journey to Andhradesa. Bhandarkar suggests that Andhapura, mentioned in the Serivani Jataka is to be placed on the river Televahà, identical with the modern Telugu or Telingiri, a tributary of the Mahanadi in the Eastern Deccan. In the Suttanipàta the land of domicile of the Andhakas is identified on the banks of the Godavari and it was referred to as Andhakaratta.

In the classical accounts of the Greeks too the Andhras as a people have been mentioned. Megasthanese noted that the Andhras were second only to the Mauryas in military might, having possessed 30 fortified cities with an army which consisted of 2000 elephants, 3000 horses and 1,00,000 infantry. Charaka who is generally believed to be the court physican of the great Buddhist monarch Kanishka mentions the Andhras. The famous Indian epics also refer to the Andhras as a people. For instance, in the Mahabharata it is said that Sahadeva, the younger brother of the Pândavas, conquered the Pândyas, Drā víças, Udaras, Keralas and the Andhras. It also speaks of the Andhras and Odhras as neighbours of each other. The Prakrit work, Kuvalavamāla of Udyotana Suri refers to the Andhras and their language. The Mārkandeya Purana mentions the Andhras as a southern people. Andhra country too finds frequent mention in the ancient texts. According to a Buddhist tradition, the Andhra country had rich and fertile soil. Varahamihira has mentioned the Andhra country as situated towards
the south of the Vidarbha, Videha and Chedi countries. Hieun Tsang in the 7th century A.D. refers to Andhra as An-To-Lo, which was said to be situated to the south of Kosala within a distance of 900 li. Jayamangala, the commentator of the Kama Sutra, locates the Andhra country to the south of the Narmada and to the east of Karnata Vishaya within Daksinapatha. Dandin in his Dasakumāracharitra speaks of the country as lying to the south, west of Kalinga and calls the capital of Vendi as Andhra nagari.

The name Andhra as a river has been mentioned in the Bhaqavata Purana which is datable to roughly between the 8th and 9th centuries A.D. Yadava Prakasa's Vaijavanthi located the Andhra country in Eastern India. The Pratāparudriyam of Vidyanatha describes that the land surrounded by Srisailam, Draksarama and Kalesvaram was known as Trilīṅgadesa. Kumarilabhṛṭṭṭa, the commentator of Jaimini's Pūrvamāṁsa Sutras written during the 8th century A.D., refers to the Andhra-Dravida Bhasha. A Jaina work, Jinaviṭṭṭa in reference to Kumarila says, that he was an Andhra, born in village called Jayamangala, situated on the border land of Utkala and Andhra countries. The Anargharaghava mentions that the river Godavari passes through the country of Andhra and its chief deity is Mahadeva Bhimesvara. The Saktisangama Tantra draws the distinction between the Andhra country and another land which it calls Tailanga desa. It has to be noted that the author of this work for the first time separates Andhra from Telangana and also from Kalinga. At the same time, the work refers to Andhradesa as the country which stretches from Jagannatha (Puri) to the shrine of Bramarambika of Srisailam.

Inscriptions also provide considerable information on the term Andhra and its various connotations as a people, a language and as a country.
Among the epigraphs, the earliest is their mention in the Asokan Rock Edict XIII, which refers to Andhras along with the Bhojakas, the Pitinikas and the Pulindas. The next record that refers to Andhras are the Mayidavolu plates of Pallava Sivaskandavarma dated to the 4th century A.D. It mentions the tract of Andhrapatha and its capital Dharanikota which is considered identical with the modern Dharanikota, near Amaravati in the Guntur district of Andhra Pradesh. In the Haraha inscription of the Maukhari King Kumara Gupta III (554 A.D.), a certain lord of Andhras is said to have given the Maukhari King great trouble by his thousands of three-fold rutting elephants. The identification of the Andhradhipati of the inscription is with a King of the Vishnukundin period and the Kingdom was known then as Andhra according to D.C. Sircar. In the Jaunpur inscription of Isvāra Varman, the Maukhari King refers to a victory over the Andhras on behalf of Isvāra Varman. In the Eastern Chāluukyan records, the name Andhra has been applied to a wide region bounded on four sides by the Eastern Ocean, the Kalahasthi hill, the Mahendrā mountain and Srisailam. The Udayendiram Plates of Vikramāditya II also mention the land lying to the west of Andhrapatha.

The Indian Museum Plates of the 9th year of Narayana Paladeva of the Pala dynasty refers to Andhra Vaishavika Sakva Bhikshu Sthavira Dharmamitra, who erected an image of the Buddha. It is stated in one of the inscriptions of the Velanāṭu chief Gonkaraja, that Andhradesa consisted of fifty lakhs of villages. Velanāṭu Kulottunga Rajendra Chola II in his records called himself, the general and vassal of Rajaraja II, the Chāluukya-Chola emperor, and has also mentioned that he received from him the Andhra country bounded on the four sides by the Eastern Ocean, the
Kalahasthi hill, the Mahendra mountain and Srisailam. In an inscription of the Vakataka King Harisena there is mention of his conquest of the Kalinga and Andhra countries. The patron god whose temple was built at Srikakulam was called Andhra-Visnu, either, because his worshippers were the Andhras and their empire is said to have extended up to the banks of river Krishna with their capital at Dhanyakataka or because a mythical personage of that name was said to be the progenitor of the Andhra King.

A record dated to 1192 A.D. in the tenth year of Kulottunga Chola II issued by Velanāṭi Gonka at Draksarama, mentions the king as the supreme Lord of Andhras. In a 13th century inscription, Hanumakonda is described as the "ornament of the Andhra country".

Throughout the early historic and early medieval period we notice a change in the meaning of the term 'Andhra', initially as a name of people or tribe. The name as a suffix to a country developed later and the extent and limits of this country also underwent change from time to time. Most often inscriptions referred to the political boundaries of Andhra country in relationship to the Kings that ruled over this territory. The above references clearly show the familiarity of the Andhra people and country to contemporary writers, located everywhere in India and to political chiefs in their inscriptions through the centuries. The broad geo-cultural as well as territorial delineation of Andhra country however, has not been specified in many of these early sources. We next turn to examine this aspect from the medieval period onwards as sources are relatively more specific from the 14th century onwards. The references discussed below for the medieval period, for the first time, bring out clearly the question of the relationship between Telangana and Andhra.
By 14th century A.D., the name *Andhrakhandamandala* came to be restricted to the territory that extended from the Gautaminadi to the border of Kalinga. In the *Srirangam* Plates dated to 1358 A.D., it is stated that the Telinga country is bounded in the north by Kanyakubja, on the west by Maharashtra, on the east by Kalinga and on the south by Pandyaka and there is also a reference to the emperor of the Kakatiyas in these Plates. Kakatiya Rudra's realm was called *Tillanga* in the *Vratha Khanda* of *Hemadri*. He also mentions the term Andhra as applying to the same country when he refers to Queen *Rudramba*, the daughter of Ganapatideva.

In an inscription of Mudukidare from south Kanara dated to 1429 A.D., it is stated that Devaraya II of Vijayanagara, besides vanquishing a large and powerful body of Muslim cavalry, destroyed the elephant forces of the Gajapati and the vast army of the King of the Andhras. The Andhra King of the above inscription has been identified with the Velama ruler of Rachakonda. It is however, in an inscription of the 16th century A.D., that the two names of the kingdom are combined in the expression, *Andhra- Trilinga-Madhyama* country.

The earliest form of the name Telangana is perhaps Trilinga corresponding to the Trilingon of the *classial* writer Ptolemy and *Trilinga* of the *Purle* Plates of the Ganga King *Indra* Varma dated to 647 A.D. A Kurgod inscription of the later part of the 12th century A.D. had the form Telunga. Amir Khusro has reference to *Tilung* and *Abul Fazl* to the term *Tilingāna*.

It is only very recent history, when the Andhra and Telangana regions highlight their identity in absolute terms. Thevenot, a 17th century
traveller notes that Telangana was the principal province of the Deccan and its boundaries reached as far as the Portuguese lands towards Goa and Bijapur. It was bordered on the east by the kingdom of Golconda, on the west by the provinces of Baglana and Bijapur, on the north by the Balaghat range and on the south by the Vijayanagar empire. After the collapse of the Vijayanagar empire and the gradual decline of the Bahmani kingdom, with the exception of certain parts of southern Andhra, the entire Andhra region was under the Qutub Shahi rule. From 1687 A.D., Golconda became one of the provinces of the vast Mughal empire. The kingdom of Golconda included the districts of Kaulas, Elgandal, Medak, Warangal, Muhammadnagar, Bhongir, Nalgonda, Khammammet, Koilkonda, Devarakonda, Ghanpur, Pangal, Eluru, Rajahmundry and Srikakulam, including Kondavidu and Kondapalli. The Golconda province of the Mughal empire comprised of the land between the two rivers, Godavari and Krishna, and a small territory to the south of river Krishna upto the Gundlakamma rivulet. The fall of Golconda ushered in a new dynasty of rulers called the Asaf Jahis who ruled over the districts of Nalgonda, Pangal, Elgandal, Warangal, Kondapalli, Eluru, Machilipatnam, Rajahmundry, Chicacole, Guntur, Nizampatnam, Khammammet, Bhongir, Medak, Ghanpur, Koilkonda, Ramgir, Molangur. The above districts comprise the then Andhradesa, exactly the land between the two rivers Krishna and Godavari, in addition to Chicacole on the north-eastern border of present day Andhra Pradesh. The British East India Company concluded an agreement with the Nizam in 1765 A.D., in which the Circars of Srikakulam, Rajahmundry, Eluru, Mustafanagar and Murtujanagar, except the Guntur Circar were given to the Nizam's government. Later on, the authority in the Guntur Circar was transferred to the East India Company in September 1788. In 1800 A.D., the Nizam of Hyderabad ceded the districts of Cuddapah, Kurnool, Bellary and Anantapur to the British. These districts
were called the ceded districts of the present day Rayalaseema region of Andhra Pradesh. Subsequently, the British occupied the Nellore and Chittoor districts defeating the Karnataka Nawab. However, it was only by 1815 that the British succeeded in restoring their order into the coastal districts of present day Andhra Pradesh by incorporating them under their rule.

The Andhras at the time of independence thought that the exit of the Britishers would facilitate the early formation of the Telugu speaking areas as a separate State but this was delayed. The agitation for a separate Andhra province therefore took a long time but as early as 1913, a resolution had been passed by the Andhra Mahasabha demanding a separate province. In the meanwhile, due to the policy of Sardar Patel, a democratic government was introduced in the dominions of the Nizam in 1952 and this kindled the hopes in the hearts of Telugu people that a full-fledged Telugu speaking State would certainly materialise in the near future. Sri Potti Sriramulu (1901-1952 A.D.) took up a fast unto death for the achievement of the formation of such a separate State. The Union government responded to the peoples' demand, and the Andhra State was constituted by separation of the undisputed Telugu speaking territories of 11 districts and 2 taluks from the Madras State in 1953. Later, as a result of the decision of the Union Government on the report of the States Reorganisation Commission on 1st November, 1956, the State of Andhra Pradesh, which comprises the Andhra area of the Andhra State and Telangana area of the Hyderabad State was inaugurated by Jawaharlal Nehru, the Prime Minister of India.
The recent historical changes in the formation of the present day state of Andhra Pradesh can be contrasted with the situation of this region in medieval times. It can be noted for instance, that the term Andhradesa during the post-Kākatiyan period was applied to the region around the present-day Godavari, Krishna and Guntur districts, whereas the term Telangana was applied for the Telugu speaking area of the northern part of the State, bordering Maharashtra. The State in its present form was never entirely ruled by a single monarch nor, had it come under the sway of a single dynasty but was ruled simultaneously by more than one ruler from different centres. The above study leads us to conclude that the term Andhra, over a historical time had different connotations alluding to either a general term for a people, or a specific tribe, or yet again to a territory or language from the different sources dealt with above. The territorial and administrative division of Andhra, underwent many changes at the hands of various political powers and we can notice that there was instability even in terms used to describe the administrative boundaries of Andhradesa from time to time. A broad political definition coinciding with a cultural identity of the region emerged gradually, and can be gleaned from inscriptional sources of Andhra till about the 13th century A.D. Thus a regional identity of the Telugu speaking people in a full-fledged manner emerged from the medieval period onwards.

Against the above background of the changing definitions of Andhradesa in the indigenous literary and inscriptional sources, we may observe the definitions given by Campbell and Grierson for the Telugu speaking areas at the turn of the 19th century. In 1898 A.D., Campbell defined the Andhradesa, in terms of the limits of the Telugu language. Sir George Grierson of the Linguistic Survey of India also gave importance to this
factor and defined Andhradesa as follows: "The Telugu country is bounded towards the east by the Bay of Bengal from Barua in the Ganjam district in the north to near Madras in the south. From Barua, the frontier line goes westwards through Ganjam to the eastern ghats and then southwards, crosses the Sabari on the Sunkam and Bijji taluks in the State of Bastar, and thence runs along the range of Bela Dilla to the Indravati, it follows this river to its confluence with the Godavari and then runs through Chanda cutting off the southern part of that district and further eastwards including southern border of the district of Wun. It then runs southwards to the Manjira and thence farther southwards towards Bidar where the Telugus meet the Kanarese. The frontier line between the two forms of speech then runs almost due south through the dominions of the Nizam. The Telugu country further occupies the north-eastern edge of Bellary and greater eastern corner of Mysore. Through North Arcot and Chingleput the border line then runs back to the sea" [Map II].

This description has given a broad geographical location of the country known from its linguistic affiliation to the Telugu language. It therefore, includes those areas of bilingualism within its purview, which does not exactly coincide with the present day linguistic boundaries of the State of Andhra Pradesh. Infact, it is larger than it. The above definition broadly helps us to understand the cultural formation of this region in border zones where two languages co-exist. These cultural boundaries are very different from the political or administrative ones described in the earlier sources and as noted above these have been changing from time to time. Cultural boundaries too change but they are closer to the geographic delineations of regions and sub-regions which are
LINGUISTIC IDENTITY OF ANDHRADESA
(A 19TH CENTURY DEFINITION)
rooted in a particular specificity and we turn to examine this next. It may also be noted that geographical changes take place at a slower pace when compared to any historical, political and administrative change that a region undergoes.

It is necessary to study the physical setting of ancient Andhradesa to suggest that the geographical background had changed at the slowest pace and therefore, this is the most appropriate way to describe the cultural delineation of ancient Andhradesa. History is influenced to a larger extent by its geographical features since man has conditioned his life and subsistence pattern by exploiting nature. The influence of geography can be seen not only in economic prosperity but also in the political and military spheres. The communication systems of any region of any period had a great influence of the geography of that particular area. According to B.Subba Rao, the cultural development in space and time was controlled by the geographical features of the regions and the relative effectiveness of its barriers, physical and human. E.W.Gilbert also opines that, "Geography is the art of recognising and describing the personality of regions". In a brilliant analysis of the relationship between Indian History and Geography, Richards has indicated that the main transcontinental communication system was based on the geographic factors of the region. Subba Rao further rightly observes: "the horizontal expansion of the cultures has to some extent been retarded by the geographic and factors of a particular region". The technological attainments of a society, from time to time, are also determined by the interaction of geographical factors, with the level of material existence which, in turn, shapes the economic structure of that society. A proper
understanding of any particular region demands the knowledge of its cultural traits in addition to its geographical extent.

The geographical limits of ancient Andhradesa naturally include the present day boundaries of the State of Andhra Pradesh but, in the particular context of this study, embedded as it is, in an ancient and early medieval period, the contiguous regions bordering the State have also to be taken into account. In other words, we have not adhered to a rigid boundary, for making ancient Andhradesa coincide with the modern State boundaries. This is a must because to understand the broad parameters of the development of building technology, those in the adjacent States of Karnataka, Maharashtra, Madhya Pradesh, Orissa and Tamil Nadu cannot be lost sight of. Buildings located especially in the border regions of various present day linguistic States, have features which are similar to each other and this calls for a comparative study. The study of building technology in Andhradesa has to be therefore, projected against the salient geographical features of the land we undertake to describe phsiographically which must include the border regions cutting across present day State boundaries of Andhra Pradesh.

Since the present day State of Andhra Pradesh is essentially part of our definition of ancient Andhradesa, a brief topography of the State is furnished below for convenient reference. Andhra Pradesh, a State of the Indian Union, lies between 12° 46' and 19° 54' north latitudes and 76° and 84° 46' east longitudes. Excluding the natural nautical boundaries of the Bay of Bengal on the east, the State is bound by the States of Maharastra on the north, Madhya Pradesh and Orissa on the north-east, Karnataka on the west and Tamil Nadu on the south. The State has an area of 2,76,754 sq.km.
forming 8.4% of the total land of the country, with a coastal line of 970 kms. Topographically, the State has three geo-political regions, viz., Coastal Andhra, Telangana and Rayalaseema. Coastal Andhra consists of the present day districts of Srikakulam, Vizianagaram, Visakhapatnam, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore. The Telangana area situated on the north-western part of the plateau is composed of the modern districts delineated as Adilabad, Nizamabad, Karimnagar, Medak, Hyderabad, Rangareddy, Warangal, Khammam, Nalgonda and Mahboobnagar. The Rayalaseema area on the south-western part of the State consists of the districts of Anantapur, Kurnool, Cuddapah and Chittoor.

To make the physical configuration of Andhradesa far more inclusive we must recognise that it presents varied geographical regions with their attendant historical and cultural peculiarities. As a Working outline, we draw upon Grierson's definition of the cultural limits where the Telugu language had existed at the turn of the last century to begin to delineate this geographical region. We have divided the area, with its heterogeneity into four sub-regions. The rationale for our sub-regional demarcation lies in the fact that there are geographical and topographical differences and variations within the broader region of Andhradesa. The four sub-regions denoted as A, B, C and D in the accompanying maps [Map III] have been defined in the following way:

Sub-region A on the north side is bordered by the river Penganga from the Satmula range and continues up to the meeting point of the river Wainganga and from there onwards it is called as the river Pranahita. The eastern border line falls on the river Pranahita which crosses the river
DELINEATION OF SUB REGIONS AND PHYSIOGRAPHY OF ANDHRADESA
Godavari and then runs along the river **Maner** which further continues crossing the rivers Paler, Aler, Musi, where it turns in the southward direction and proceeds further crossing the river **Halia** until the point where another river Dindi meets the Krishna and takes the line along the river Tungabhadra until the river **Hagari** meets it and finally, the western border starts from the merging point of the Hagari and passes northwards crossing the rivers **Manjira** and Godavari upto the Penganga [Demarcated on Map III].

**Sub-region B:** The northern boundary of this sub-region starts from the Pranahita river, crosses the river Indravati, further runs eastwards along its course touching the Bela Dilla ranges and then moves towards the east, crossing the rivers Langulya, Vamsadharā and Nagavali into the Eastern Ghats and then to the sea coast. Its eastern limit starts from the Mahendra hills on the east which takes a southward direction all along the eastern ghats on their western side crossing the rivers Godavari, Krishna and Pennar upto the river Swarnamukhi in the south. The southern border of this sub-region takes its line from the meeting place of the rivers Krishna and Tungabhadra, then goes towards the south along the Kunderu river course cutting across the Nandyala valley and then towards the east by the Pennar river, upto the Veligondalu ranges which again take a southward direction upto the Swarnamukhi river and finally, the western border falls exactly on the eastern border of sub-region A described above [Demarcated on Map III].

The western border line of **sub-region C** falls on the eastern border of **sub-region B** described above and the coast line forms its eastern boundary. The southern limit of this sub-region starts from the Veligondalu ranges, crosses river Swarnamukhi and further extends upto the sea on the east.
Sub-region D: The northern boundary of this sub-region falls on the southern boundary of the sub-region A which follows the river Tungabhadra upto its confluence with the river Krishna, then takes a slope towards south-eastern direction following the Kunderu and Pennar rivers upto the western side of the Eastern Ghats, where it turns towards the south ultimately on the northern side of the Pulicat lake. The eastern border becomes the coast line between the Pulicat lake and the mouth of the Swarnamukhi river. The southern boundary of this sub-region tallies with that of the southern border of Grierson's definition of Andhradesa defined above. The western limit of sub-region D starts from the confluence of the river Hagari with Tungabhadra on the north, which cuts across the north-eastern portion of the Mysore plateau.

Sub-region A broadly lies to the south of the river Penganga and north of the river Tungabhadra and this includes the western and northern Telangana area of the present day districts of Adilabad, Nizamabad, Karimnagar, Medak, western part of Warangal, Hyderabad, Rangareddy, Mahboobnagar and parts of Nalgonda. The contiguous regions of the neighbouring States are southern parts of Nanded, Yavatmal and Chandrapur districts of Maharashtra, the eastern parts of the districts of Bidar, Gulbarga, Raichur, Bellary, Chitradurg, the northern parts of Tumkur and Kolar districts of Karnataka, and the northern parts of North Arcot and Chingleput districts of Tamil Nadu. In terms of geology sub-region A [Map IV] is composed mainly of granitic rocks that differ markedly from the basaltic rocks of the Maharashtra region. The Peninsular gneissic complex is widely distributed. The Gondwana rock belt of 60 km width is found
adjacent to the river Godavari and Pranahita in this sub-region. Major geological formations occupied are Archaeans, Deccan traps and laterites. The granites are the predominant rocks in the southern and eastern parts of this sub-region. The Deccan Trap which originated during the Mesozoic and Cenozoic eras has got a few extensions in the western and northern parts of the Telangana region. The formation has to be seen in the context of the physiography of the Deccan Plateau as a whole. The Telangana peneplain covers a major part of Hyderabad, Rangareddy and Nalgonda districts along with a few adjoining stretches in Mahboobnagar and Medak districts.

There occurs in this sub-region, an eastward projected table land, namely, the Hyderabad plateau, conspicuous by its imposing position with laterite and lava deposits. The Cuddapah sediments occur along the northern bank of the river Krishna. A laterite cap is seen developed over the trap in the Anantagiri hill area of Hyderabad and Rangareddy districts and in the Chinnamarur area of Mahboobnagar district. The sub-region is drained by the major river Godavari with its tributaries, Penganga, Wardha, Pranahita, Manjira and Maneru in the north and the river Krishna and Tungabhadra and its tributaries, the Bhima, Musi and Dindi in the south. Almost all the area has rugged and heavy undulating topography and most of the prevailing soil is reddish brown to brownish red sandy loam known as Chalkas. These are stated to have developed under severe leaching conditions and they are almost free of soluble bases and plant food elements. Thus the area is generally poor in plant nutrient reserves. The other soils are mostly found in low valleys. The soils vary very much in colour, depth and physical and chemical properties from area to area. There are many patches of black soil, both deep and light, dispersed throughout the sub-region. These are generally encountered as narrow
strips and at places, wider patches are also met with in Adilabad, Nizamabad and Karimnagar districts and in the Krishna-Tungabhadra doab area. The alluvial soils are met with along some parts of the course of the river Godavari.

Sub-region B includes the southern part of the Chandrapur district of the Maharashtra State; Bastar district of the Madhya Pradesh State; Koraput and Ganjam districts of the Orissa State; and parts of Warangal, Nalgonda, entire Khammam district, the western half of the districts of Srikakulam, Vizianagaram, East Godavari, West Godavari, Krishna, Guntur, Prakasam and Nellore districts and the eastern parts of the Kurnool and Cuddapah districts of Andhra Pradesh. This sub-region is drained by the rivers, Vamsadhara, Nagavali, Godavari, Wyra, Krishna, Gundlakamma and Pennar. In terms of geology [Map IV], the major formation of this sub-region consists of the Archaeans, which include the charconite series and the granites. Lower pre-cambrians consisting of Khondalites are most extensive formations along the eastern boundary of this sub-region, particularly in Srikakulam, Vizianagaram and Visakhaptanam districts. Dharwars are the oldest rocks belonging to the pre-cambrian period, consisting of schists which are highly metamorphosed occurring in the Nellore, Prakasam and Guntur districts. The lower Gondwana rocks consisting of shales and sandstones occur mostly in the coastal area in between the rivers Godavari and Krishna. Tertiary formations, also called the Rajahmundry sandstones, belong to the Miocene-Pliocene period and are found on the eastern border of this sub-region, especially in the East and West Godavari districts and are considered very useful as building materials. The relief of the sub-region consists of the Eastern Ghats on the eastern border which are a continuous
GEOLOGICAL FORMATIONS OF ANDHRADESA
chain of hills spreading from north to south. They separate the coastal plains of the east from the plateau which lies to the west of the sub-region. The river Krishna and Godavari flow through the gaps of these hills. The uplands of the coast forming part of the eastern ghats reach an elevation of 3000-6500 ft. Beyond the Krishna lies the Cuddapah range of hills. This region forms a great crescent, the heart of it being the wide Nandyal valley drained by the Kunderu river, a tributary of the Pennar. The eastern limb of the Kunderu basin is formed by the parallel ranges of the Nallamalai and Velikonda hills, separated by a longitudinal valley drained by the Sagileru stream which joins the Pennar. The sub-region consists of peneplains developed on the gneissic plateau which covers the Kurnool, Nalgonda and Warangal districts. The general feature everywhere is that of graded valleys and isolated hills or groups of hills breaking the monotony of the plains. The soils of this sub-region are red soils. Red soils can not retain the moisture for long, which is necessary for continuous cultivation. Black cotton soil patches are scattered here and there in the Telangana area. These are residual soils which are brown, black or red, pebbly and porous and are found mostly in the dry districts of Kurnool, Srikakulam and Nellore. The vegetation includes moist deciduous types of forest which contain teak, maddi and yepi in the agency tracts of Visakhapatnam, Srikakulam, Vizianagaram and East Godavari districts.

The sub-region C is nothing but the coastal plain east of the Eastern Ghats starting right from the Srikakulam district in the north to the Nellore district in the south. Regarding the soils of this sub-region, the coastal alluvium stretches as a belt throughout the length of the coast,
excepting for a short interruption of few kilometers near Visakhapatnam in the north. In places where the Eastern Ghats approach the sea, only a comparatively narrow sandy tract remains. The costal alluvium is generally not rich in plant nutrients and organic matter. These soils are usually of sand and sandy loam. Here, we also see soil known as deltaic alluvium [Map IV]. This is to be met with in the double delta of the rivers. Godavari and Krishna extending over hundreds of kilometres around the lake Kolleru. The deltaic alluvium is mostly with plant nutrients. Therefore, this micro region becomes the most fertile part of Andhradesa. This is an area of high agricultural productivity based on triple cropping pattern which has throughout history, always supported a dense population. In the costal belt the Krishna-Godavari alluvial expanse is occasionally marked by rich mango groves, swamps and clusters of tall palm trees, big and small Lagoons and low sand dunes near the sea. This alluvial expanse constitutes the agricultural nucleus of the region. Further up the coast in the Srikakulam-Visakhapatnam region, there is an occurrence of outcrop rocks which come close to the sea. The valley floors of this region are constituted of black soil, which grade upwards into poorer red soil. In the extreme south, along the coast, that is in the Nellore region, a narrow belt of alluvium intervenes between the rugged interior and the sea. However, generally speaking Nellore region is a poor land.

The chief river basins of this sub-region, the Godavari, Krishna and Pennar, have however, been penetrated and exploited by large scale agricultural communities, driving the earlier inhabitants with a more primitive economy into the forested mountains.

Depending upon the way physiographic formations of this region are
perceived and their consequent impact on the political, economic and social structure from time to time, various geographical entities have been classified by scholars under different headings. One such is the terminology given to us by B. Subbarao and known as 'nuclear' regions or 'areas of attractions', areas of 'relative isolation' and 'areas of isolation'. Regions with vast tracts of fertile lands which have direct impact on the development of civilization, have been defined by him as the 'nuclear areas' or 'areas of attraction'. Sub-region C is one such area. These areas, according to Subbarao are to be called "the areas of attractions". The core area of periodic and persistent political power was the Telugu speaking deltaic area of Godavari river centered around Rajahmundry. The lower valleys of the rivers Krishna and Godavari falling within the gneissic-metamorphic zones supported wide spread pre and proto historic settlements. On the other hand, the more wooden upper reaches of the Godavari were first exploited by widely distributed Chalcolithic communities. Gradually the centre of political power and economic activity shifted to the less fertile tracts of the interior, i.e., from Andhra to Telangana during the 11th-12th centuries A.D. and afterwards.

Sub-region D can be identified with parts of the modern districts of Kurnool, Cuddapah and the entire districts of Anantapur and Chittoor. This sub-region also occupies the eastern parts of Bellary and Chitaldurg districts of the Karnataka State on the western border of the sub-region. The northern parts of Tumkur and Kolar districts also form the southern border of the sub-region in addition to parts of Dharmapuri, North Arcot and Chingelput districts of Tamil Nadu. The Western part of this sub-
region has a long belt of peneplains chiefly developed on the gneissic rocks with common levels between 300-600 metres. More than three-fourths of the area is occupied by Archaeans belonging to Dharwarian system [Map IV]. The Dharwar formations chiefly consist of the schists. The Cuddapah systems comprising of quartzite and shales are found in huge hill masses. The spread of the Nallamalais starting in Kurnool district, a section of Eastern Ghats, end in the Cuddapah district of this sub-region. The Seshachalam and Palakondalu ranges occupy Anantapur and Cuddapah districts. Numerous workable deposits of barytes and asbestos occur along the Papaghni river in Cuddapah district. The sub-region is drained by the river Pennar which is joined by the Kumudvati, Jayamangali, Chitravati, Papaghni, Sagileru, Swarnamukhi, Kaundinya, Arni, Bahuda, Kalyani and Kusasthali. Black cotton and red loamy soils occur in this sub-region. Black cotton soil, mostly occurs in patches along the river course. Residual soils of the lateritic type, vary from dark reddish to brown or black and these also occur in the sub-region. The bulk of dry deciduous forest, tropical thorn forests and the scrub jungles are confined to the outer edges of hill slopes in Cuddapah, Chittoor and Anantapur districts.

The above sub-regional divisions facilitate us to make a comparative study of the various ancient buildings located in them and the reasons why specific building materials have been found prolific in a particular sub-region and found absent in other sub-regions. It is also possible to study the buildings in terms of how they were influenced by technological skills prevalent in adjoining zones. For example, the buildings in the north-eastern parts of sub-regions B and C were prominently influenced by the skills in the Kalinga region and in the western and northern parts of sub-regions A and D by the skills in the areas ruled by Western Chalukyas in
northern Karnataka. Similarly, in the southern parts of sub-regions C and D, the influence of the technical skills prevalent in the Pallava-Chola ruled Tamil Nadu areas was rampant and in the sub-region C the styles and skills of the Chalukya-Chola ruled areas of Karnataka and Tamil Nadu were predominant. Many kinds of forces, external and internal, have influenced the political formation of the region under study. The geographical features as argued by Subbarao and Manzoor Alam have always been determinant factors in this regard.

The continental and maritime location of Andhradesa has been one of the most important factors that has shaped its destiny. Unlike the Konkan on the western side of the Peninsula, the eastern coastal plains with easy access to the plateau, had a fertile hinterland. This is because the Eastern Ghats were neither too high, nor so continuous as the Western Ghats, and communications were easy across them. The mouths of the East Coast rivers have always served as locations for important ports up to the modern age. This facilitated the development of ancient Andhra as a maritime country. From an early period the Andhra people navigated the seas and their bold sea faring exploits carried them to distant parts of world. The double delta of the Godavari and Krishna made the traders, along with their religious Bhikshus from north and south, gather here in ancient times. The ports at Dharanikota and Nagarjunakonda are the best examples of their order. The epigraphs of the Satavahanas and Iskvakus refer to a good number of such ports and market centres. The Indo-Roman trade helped the rearing of a chain of coastal port-towns and these must have inspired the growth of a number of inland market towns. Sarkar is of the opinion that many Buddhist centres were found to be along the
trade-routes and situated close to places of commercial intercourse. Most of these occupied the major part of the so-called 'area of attraction' in early Andhra as delineated by Subbarao's definition. As trade and religion drew people from all parts of India to Andhradesa from early times, close contacts naturally brought about cultural assimilation which became a characteristic feature of Telugu culture during the medieval times as well. It can be said in general that the pattern of Indian culture that evolved here was the result of a creative synthesis between the north and south.

It is necessary to identify the location of some of the important building structures right from proto-historic times onwards that had an impact on certain geological and geographical factors, in determining the shape and nature of these buildings. Some of the pit dwellings of the Neolithic period have been reported from sub-regions A and B. This is so because the region during the Neolithic times may have had dense forests with wild animals and in order to protect themselves from the predators and also to withstand the then climatic conditions this type of pit dwelling was evolved. Pit dwellings have been noticed at the sites of Utnoor in sub-region A; Veerapuram and Nagarjunakonda in sub-region B [Chart I A]. Megalithic burials of various types have been reported from almost all sub-regions as tabulated in Chart IV A. All types of burials such as cairn circles, stone circles, cists, pit circles, dolmens and menhirs have been noticed in sub-regions A, B and D [Chart IV A]. These primarily needed the use of different types of stone for building, which were found in easy accessibility of most of these burial sites. It is true to say that Menhirs and monolith stones used in Dolmens, are more common in the Plateau region. For instance, a unique type of rock cut burial has only been reported from Jonnawada in sub-region C. Burials with cruciforms have also
been reported from sub-regions C and D. It is significant to note that in sub-region C however, no structural burials have been found for this period, probably because of its location on the sandy coast.

The Early historic period in Andhradesa is marked by such buildings, viz., religion-related structures like Buddhist stupas, chaitvas, viharas. Brahmanical temples, and habitational buildings and irrigation structures and finally, defence buildings like forts, ramparts, etc. All these indicate that there was a greater exploitation of the environment for rich agricultural settlements to emerge. It was only because of this development that surplus, needed for expenditure to execute these building structures, could have been met with. The Buddhist Stūpas and monastic buildings have been found at a good number of sites as tabulated in [Chart VI B] Maximum number of Buddhist establishments are found located in sub-region C, this being an 'area of attraction' and well-connected to trade routes leading to other parts of India. The locational tie between Buddhism and the political-merchant complex is apparent in the period from 2nd century B.C. to the 1st century A.D. During this time there was a spread of Buddhism, from central India to the Krishna Basin. The three-fold union of Buddhism, trade and empire continued into the following centuries of Christian era and this further saw an increase in monastic sites in the Krishna delta of sub-region C. In sub-regions B and C a sudden jump in the number of Buddhist centres has been noticed during the Ikshvaku times, whereas, in sub-region D, only a single Buddhist centre at Nandalur has been reported because this area was a semi-arid zone and not conducive for agricultural expansion. It was also not congenial for trade activity. This region falls into the category of a 'area of isolation' as
defined by Subbarao. On the other hand, sub-region B falls under the category of 'area of relative isolation' which constitutes a few pockets of fertile areas and was more amenable as a region of trans-continental communication and trade. This had only an indirect impact on the development of Buddhist buildings in this sub-region as they emerged on important trade routes connecting eastern Deccan with the western Deccan. Therefore, a greater number of centres have been found in this sub-region when compared to sub-region D. Subbarao in defining the regions of 'isolation' and 'relative isolation' has pointed out that these were not fertile zones like the 'nuclear' areas but the latter was important because it was a crucial region of communication and migration connecting economically well-developed zones.

Brahmanical brick temples have been noticed in various sub-regions as tabulated in Chart VI B. However, it has been noticed that they have not been prolifically distributed, as the religious structures of the Buddhist affiliation during the early historic period. This structural feature is in turn indicative of the fact that economic development went hand in hand with the realization that the surplus thus generated had to be controlled and channelized for distribution. Thus early State formation was first seen in the rise of localities emerging as small centres of political control. This is the reason why so many defence structures are found located even in sub-region A which is an area of 'relative isolation'. Sub-region D has not reported any defence buildings of the early historic period partly because it was an area of 'isolation' without either large tracts of alluvial soil, or port towns facilitating as outlets of trade, as in the case of sub-region C. This sub-region was a peripheral area under the rule of dynasties like the Mauryas and Sātavāhanas.
The growing prosperity of the early historic period is found reflected through a number of buildings such as houses, shops, roads, cisterns which have been found located at sites as tabulated in Chart I B. From the early medieval period onwards no structural remains of this type have been reported in terms of archaeological remains. However, existing epigraphs and contemporary literature do give considerable data on building technology of this period. They also describe housing patterns and material used to construct. It is interesting to note that for the same period, i.e., from early medieval times onwards evidence of structural temples increases manifold. The great spurt in temple building activity at the local and sub-regional levels in Early Medieval and Medieval periods, i.e., Periods III and IV, is pertinently indicative of the expansion of the agrarian base into areas which had not been habited in the early historic times [Charts VI C & 0; VII C & D]. It is also relevant to note that much of the agrarian surplus went into the hands of local elites, who in turn supported the building and maintenance of temples. Such large structural remains also involved the exploitation of natural resources like different types of stone and wood. It is noticed that apart from the earliest stages, a major tendency arose to build temples in stone in preference to the use of brick.

The occurrence of several buildings of specific nature only in a particular sub-region and their absence in other sub-regions may be explained due to geographic, economic, political and ideological factors. Of these, the availability of suitable building materials like stone, lime, sand, fine clay and wood which determines the shape of buildings is also
important to emphasize upon in the present context. For example, alluvial and black cotton soils of sub-region A, B and C were more preferred to make fine bricks than the gritty and morrum soils found in the semi-arid area of sub-region D. Therefore, subregion D has a very few structural remains in all periods of history. Likewise, the main building material for the early structural temples in these sub-regions was red sand stone brought from Satanikota. The architects of the later Chalukyas, Chālukya-Chola and the Kakatiyas used the locally available stones such as granite, sand stone, basalt, shale and khondalite in addition to brick for various buildings in the different sub-regions. Sub-region C in particular, with the fertile alluvial soils and port towns and well-connected hinterland by both land and water ways, prompted the ruling elites to raise magnificent buildings. Apart from a sound economic background the ideological beliefs of both kings and laymen influenced the style of buildings. The rock-cut structures of the early historical period were said to be excavated on lines suggested by the taste of the donors coupled with skill and creativity of the artisans.

Geological considerations certainly played a great role in the location of various buildings, especially monumental ones. The quantum of economic surplus of a society in different historical periods, also determined the nature and number of buildings that were erected. S.J. Knudson suggests that geographical features directly influence the material cultures of a society and thus technology, with the interaction of geographic factors, produces the economic structures. The study of the Evolution of Building Technology in Early Andhradesa in different sub-regions of Andhradesa, has been taken up in the light of the geographical variations of these localities. This enables us to postulate an analysis
of building technology, which was intrinsically related to the way the geographical context determined the given socio-economic formation of different periods in early Andhra history. We shall focus on some of these aspects in the next section of this chapter. The present study of building technology thus generates an interesting relationship with past geographical spaces that enables us locate possible old landscapes in the visible present.
FOOTNOTES

1. A significant publication that has helped us to clarify some of our ideas on the subject is Period and Place. Research Method in Historical Geography, Alan R.H.Beker and Mark Billinge (eds.), Cambridge University Press, Cambridge, 1982.


3. Ibid. p.134.

4. It is a common practice for Departments of Archaeology to compile selective inventories of ancient monuments and buildings but these are hardly ever placed in their geographical context.

5. Aitareya Brāhmaṇa, VII. 8.

6. Ibid. VII. 8, 92.


8. Sankhvavana Srauta Sutras: XV.


10. This aboriginal tribe lives in the border areas of Adilabad, Nanded and Berar on the banks of the river Penganga according to W.Grierson. See preface to C.V.F.Haimendorf’s Chenchus Aboriginal Tribes of Hyderabad. London, 1942, p.ii.


15. E.B.Cowell, Jātakas. vol.1., no.12, 80., Cambridge, 1895-1907.


21. Ibid. III.188.35; Ramayana IV.41 refers to them as Jati.


23. Markandeya Purāṇa, LVII, 48-49.


25. Brhat Samhita: Ch.16 Sloka 11.


34. IC, July, 1941.


37. Ibid. vol. VI, p. 86.

38. Ibid. vol. XIV, p. 110 ff.


42. *EI*, vol. III, p.76.

43. B.C.Law, *Historical Geography of Ancient India.* Delhi, 1976, p.140.


47. *SII*, vol.IV, no.1171.

48. *JAHRS.* 1914, p.137.


65. C. Campbell, Specimens of languages of India including those of aboriginal tribes of Bengal, the Central Provinces and the Eastern Frontier, 1874.


78. Ibid. p. 734.

79. Ibid. 1967, p. 738.


81. Ibid. p. 12.


1.3 HISTORICAL SPACE
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The above delineated geographical space thus becomes for us an appropriate background to now focus on historical space which must necessarily be done in terms of time or, more simply, within a chronological framework. Hitherto studies on monuments, which have primarily been done on identifying styles of temple architecture, have used the political chronology of the rise and fall of dynasties as a convenient way to understand the long process of the development of these styles. Thus writes Champakalakshmi: "the commonly used method is its periodization under dynastic appellation . . . . . . This division has a fortuitous coincidence with the major changes that occurred in architectural evolution" (emphasis added). It must be mentioned that her writings in this regard were focussed on Tamil Nadu and such a conclusion may not be applicable to all cultural sub-regions of the sub-continent. However, more pertinently, in the present dissertation we are concerned with delineating the historical space of a large variety of buildings from simple dwelling structures and public buildings to monumental structures like forts and temples. Therefore, to visualise change in the evolution of building technology only in terms of transition in political periods of governance would not be a wholly appropriate framework.

The Annale School of French Historians had succinctly explained to us that political changes envisage the most visible and fast moving elements of change which are easily identifiable as they are often documented
clearly in literature and inscriptions. Significantly, economic and social change is said to take place at a slower pace and is also less easily discernible and recognizable. In other words, it must always be analyzed on the strength of a given broad range of trends. Historians do not necessarily agree on how this change should be divided as the criteria for doing so would differ in the respective methodological perspective adopted by them. In this sense historical space and time continually change because the emphasis on interpretations of history lend it different chronological frame works. Further, in any case, it has come to be generally considered that history is an on going dialogue between the present and the past in which the emphasis is not on what actually happened in the past but an account of what happened in the past.

Recent researches on the ancient and early medieval periods of history pertaining to the Indian sub-continent as a whole, have made us sensitive to understand historical space and time at a broader level, incorporating several elements of change in the society at large. We have thus moved away from simple historical representations of the political and military achievements of kings and their nobles or, of the history of religion and monuments, affiliated to the myriad faiths and belief systems that India gave birth to. For our current research on the history of technology, therefore, it has become necessary for us to look at the rise of local cultures and kingdoms and their prosperity and decline in an integrated way to define historical time both in terms of changes in the nature of polity and the attendant social and economic changes.

The whole period of the present study, i.e., from the proto-historic to the medieval times (roughly from the second millennium B.C. to about the
middle of the fourteenth century A.D.) has been divided by us into four periods for convenience of historical analysis. They are named as Period I, Period II, Period III and Period IV. Among them Period I basically deals with the proto-historic period, its chronological frame ranging from the second millennium B.C. to the third century B.C. This is followed by Period II which can be identified as the early historic phase from about the fourth century B.C. to the third century A.D. The next period, i.e., Period III is defined as the early medieval phase ranging from about the fourth century A.D. to the ninth century A.D. and Period IV, is considered by us as the beginning of the medieval phase proper from about the tenth century A.D. We terminate our study around the fourteenth century A.D.

Each of these periods do not sharply differentiate the stages of technological growth and development but they do enable us to reflect on the new elements that were added to the already known skills and techniques known to a particular period. In India, the continuity of technological skills is a hallmark which has something to do with the corporate nature of the organizations known to the people who were involved in protecting and transmitting these skills. However, what is significant in the adoption of the above scheme of periodization is that both the types of buildings found in each period and the skills inherent in their construction, can be related to the changes that took place in the polity, economy and ideology of the times.

It is to elaborate on some of these ideas, that before embarking on a discussion of the evolution of building technology with respect to habitation, irrigation, defence, funerary and religious structures, it was
felt necessary to dwell upon the nature of state, society, economy and ideology of each period of our study, beginning from Period I to Period IV. It is pertinent to do so because, for instance, the nature of state and polity had a great impact on the forms and types of different defence structures that were built from time to time. Likewise, the nature of society, economy and ideology are closely related to each other and influenced in shaping the different types of habitational, irrigation and religious structures respectively, and the technological improvements made from time to time.

Further, within the periodization envisaged by us above, the dynastic changes at the level of not only the major families has been taken into account but, side by side, also the activities of chiefs of the smaller localities have been considered. In the following pages we primarily focus attention on the interpretative dimensions pertaining to: (a) transition from pre-state to State society, (b) issues associated with the characterization of early historical society, particularly the historical environment in which Buddhism flourished, and (c) the economic and ideological aspects of transition to the early medieval and medieval periods. Each of these aspects emphasize on recent interpretations of the historical space. They particularly lay stress on the periods of transition and also help us to highlight those elements which are necessary for a background to detail the evolution of building technology pertaining to the different types of structures taken up for discussion in the subsequent chapters.

We begin with a brief description of the origin of social stratification in a pre-state society as this is a necessary background for
understanding the rise of early State. Differentiation in stages of a 
tribal society in terms of band, ranked society or chiefdom and stratified 
society have been discussed at length by Morton Fried. Service defines a 
band as "an association more or less residential, of nuclear families, 
ordinarily numbering 30-100 people allying it with one or a few other 
bands". Service's views of a tribe are that it is an association of a 
much larger number of kinship segments which are each composed of 
families. In the view of Sanders and Morino a tribe has a common culture, 
languages and territory. Sahlins emphasizes that tribes live in perpetual 
state of warfare. The development of simple headship or leadership in a 
tribe was strengthened by being in conflict with other tribes. These 
conflicts increased with compound headship along with larger antagonism of 
race with race. These scholars therefore suggest that differentiation 
emerged in this society by which there first arose a temporary military 
head. Initiated by conflict with adjacent societies it naturally happened 
that his political power increased as military activity continued. Thus, 
the simple leadership in the band stage led to the emergence of a ranked 
society. According to Fried, a ranked society grew out of an earlier 
egalitarian society without the conscious awareness of the members of the 
society in which it occurred and he is further of the opinion that later a 
stratified society and the state emerged in much the same way.

The late neolithic society has often been described as a ranked 
society. A distinctive feature of ranking society is the employment of all 
individuals in labour tasks on the basis of their age and sex. Warfare 
increases in a ranked society over that in an egalitarian society and 
increases still more in a stratified society, over that in a ranked society
and crests after the appearance of the state. In primitive society no one possesses a special military technology but all members use ordinary tools and the weapons of the hunt when they fight men. The evolution of warfare and military statuses during the earliest breakthroughs to a more complex form of society was followed by, and was dependent upon, developments in technology, economic organisation and other non-military aspects of social organisation.

The social organisation of the chalcolithic phase reflects an adaptation to the environment. Agriculture brought large communities together for creating new subsistence patterns. This meant that a division of labour was necessary for efficient farming and craft specialisation. Irrigation was also developed and this helped the incipient redistributive economy. It emphasised the need of a centralised authority for the control of water or for storing of the surplus. On the characterisation of ranked societies in the Western Deccan, Dhavalikar explains that increased accumulation of surplus clearly must have resulted in the formation of a ruling elite separated from specialised craftsmen and tillers of land. These developed chalcolithic societies have been considered by him as ranked societies since there had emerged in them the importance of the control of surplus by a few as corroborated by the existence of public buildings such as fortifications and irrigation structures along with granaries as noticed at both Diamabad and Inamgoan.

The economy of the neolithic phase in Andhradesa is characterised by besides hunting, a mixed economy of agro-pastoral production. Excavations conducted at Chinnamarur and Chagatur in sub-region A, Veerapuram and Gandlur in sub-region B and Hulikal in sub-region D indicate the
domestication of cattle, sheep and goat from the early levels of neolithic occupation. Cattlepens which have been reported from Utnoor in sub-region A also attest to the above. Incipient cultivation must probably have begun with the help of hoe and digging sticks. The occurrence of corn-crushers, mealing stones, mortars and pestle from Hulikal, Veerapuram, Chagatur, Chinnamarur and Ieej indicate a primitive agriculture and a subsistence economy. The recovery of copper toe rings, bangles from Chinnamarur in sub-region A and Palakonda in sub-region B respectively and unique discovery of a copper antennae sword from Guttikonda in sub-region B speak of the economic status of a few groups in society who could own these luxury goods.

The simple subsistence level of these early societies meant a limited amount of agricultural surplus and therefore, during this early period we do not have evidence of monumental buildings. Simple structures were taken up for construction even by the ruling elite. Neolithic technology however, developed and proliferated from the use of stone to the expanding use of clay for various constructional purposes. The knowledge of wood, reeds and other such material as rice husk for building simple habitations become increasingly evident in the archaeological record.

During the Megalithic phase, there was a significant change in the protohistoric society of early Andhradesa with the introduction of iron. During this period both domestic and sepulchral buildings emerged and the use of non-perishable materials like hard stone began to appear. Agriculture along with domestication of animals and hunting formed the main basis of the economy of the people during these times. Agriculture is
attested to by the discovery of iron sickles, ploughshares, etc. from the burial sites.

The burials provide an example of structures which were large in size and the constructions were made to meet practical needs. All of these structures testify to the ability of powerful individuals or chiefs to engage skilled people, to own material resources as well as control a large amount of ordinary labour. Bruce Trigger is of the opinion that monumental architecture is an expression, in a public and ordinary manner, of the ability of an authority to control materials, specialised skills and labour required to create such structures. Major megalithic monuments could have only been built by some centralised and coordinated society, of the kind which, Renfrew has called as a chiefdom society. E.R. Service has discussed at length that the chiefdoms were particularly distinguished from tribes by the presence of centres which coordinated economic, social and religious activities. That specialisation of crafts grew in the megalithic chiefdom society are implicit in the monuments. In fact they could only have been erected with an organisation in an integrated society which had centres that were able to coordinate social, religious as well as economic activity. This involved pooling of individual skills in large cooperative endeavours, organisation and deployment of public labour for building its monuments and above all, collecting resources to do so. The chief in such a society was the seniormost descendant of the tribe's ancestors or the ancestor's gods. The chief was considered to be in the best position to influence the latter and thus, he along with the religious specialists, became the managers of the cult and responsible for its well being and prosperity. This ritual status according to Shereen Ratnagar enabled the chief to transcend his immediate kinship/obligation and gave

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him authority to command non-kin labour as well.

The important aspect of the material culture of the megalithic phase was the **intensification** in the exploitation of iron deposits. The megalithic people generally preferred habitation on hilly sites, near some perennial water sources, since stone for building megalithic burials was an absolute necessity. Importantly, these plateau areas and hilly tracts were also rich in iron ore. The level of iron technology attained by megalithians can be discussed by the range of tools found in their burials which indicate the use of these for a variety of crafts based on material requirements. The amount of objects found in this media is fairly large implying the availability of raw materials. These are particularly pertaining to agricultural implements such as axes, hoes, ploughshares, coulters and objects of offence like swords, daggers, lanceheads, arrowheads, tridents and long sūlās and apparatus for carpentry and quarrying work like chisels, crowbars, etc. Scholars like S.B.Deo opine that the level of craftsmanship reflected in the manufacture of metal objects and beads suggests that the megalithic people maintained a specialist group of artisans who catered to the needs of the community in respect of basic and luxury requirements. Agriculture was one of the forms of subsistence in the economy of the society which has been attested by the existence of sickles, and plough coulter in the excavated material. Iron strapped hatchets have been recovered at Pochampad, while the prong of a hay fork or ploughing implement was found in a cairn burial at Hashmatpet. The discovery of pulses at Serupalli, rice and pulses at Veerapuram from megalithic levels suggests that these people were primarily agriculturists. At Gajjalakond in sub-region B, decayed
grains were found in pots from megalithic burials. The association of irrigational tanks with the megaliths, as has been noticed at Budigepalli in sub-region A, also indicates the possibility of a megalithic culture having a strong agricultural bias.

The megalithic economy and society is also reflected in the recovery of ornaments in precious metals like gold, silver, copper and bronze alongwith ivory. Nearly 35 gold beads have been reported from the cairn XIV at Nagarjunakonda in sub-region B. Golden bangles and objects have been recovered from megalithic burials at Janampet and Polichetty Cheruvugadda in sub-region B and Kadambapur in sub-region A. Along with gold, silver was also recovered in the shape of studs and spacing beads from Nagarjunakonda. At Karapakala in sub-region A, a bronze bell with a bone tongue was noticed in a pit circle. Copper rings/hands for tying round the neck of the cattle have been reported from Raigir in sub-region A. Recovery of an ivory comb from a burial at Pochampadu in sub-region A further speaks of the craft specialisation and economic well-being of the megalithic society.

The study of the building technology during megalithic has to be discussed not only in the broader socio-economic context but in the ideological context as well. It has to be stated that the ideological context cannot be seen as different from the forms of polity and control mechanism that each society asserted either, through coercive force or, spiritual conquering. We know a considerable amount about the megalithic ideology especially their religious beliefs as this firmly led to the erection of huge monuments like dolmens, menhirs, etc., for the dead. An aspect of ancestral worship is evident in these different types of burial
practices. Thus in a sense the ground was prepared in the megalithic period for the rise of institutional religion during the early historical period.

In this connection we felt it necessary to have a brief description on the origins of religious trends in human society. These were responsible for leaving a great legacy of monumental building known at least from the late phase of protohistoric period, i.e., Period I, corresponding to the Megalithic phase in Andhradesa. The noted British anthropologist Edward Burnett Tylor, who has often been called the father of anthropology, has presented a hypothesis of the evolutionary development of religion, beginning with simple animism and belief in spiritual beings and then proceeding finally to monotheism. He has interpreted it as a cognitive attempt on the part of prehistoric man to explain the differences between life and death, sleep and wakefulness and states of unconsciousness and normality. According to Edward Norbeck, religion is also regarded as the creation of man that has arisen by whatever psychological processes, from man's experiences of daily life and serves him various functions. The concept of life after death was responsible for the emergence of primitive religion which is evident through the disposal of the dead right from the prehistoric times. During the Palaeolithic times dead were buried in caves. In course of time the late Neolithic peasants developed their economy which led them to erect some tombs for the dead. During the megalithic period, tombs continued to be built, but on a larger scale by people inspired by a certain faith. The forms of these tombs varied from simple pit burials to the erection of Menhirs and Dolmens by cutting
monolith stones from local quarries to be transported and erected on the burials.

It has been pointed out by the scholars that in an ethnographic present, there are parallel instances of the practices of live Megalithism in India among the 'Savara', 'Gadaba' and 'Valmiki' tribes, while they celebrate their respective mortuary funerals like 'Gaur', 'Kudamala' and 'Akkara'. In these ceremonies they arrange stone slabs or monolithic menhirs, dolmens and stone circles respectively. The Kurumbas of North Arcot district erect small dolmens even today. The Chota Nagas construct little dolmens to cover the pots containing the skulls of their dead. Khasis in Assam and Mundas in Chota Nagapur region are also said to erect menhirs on their burials. It was during the Megalithic period that the worship, veneration and commemoration of the dead expanded on large scale. A wide variety of megalithic memorials indicating forms of religious behaviour intermingled with the way of life of the Megalithic folk. However, these memorials in the shape of different burials known as the megalithic monuments, not only speak of their belief in after life, but also suggest the essential commitment of the megalithic folk involved in expending of finances, labour and energy required for installations of monuments in memory of their dead. With this overall description on the pre-state society, economy and ideology of Period I we now turn to discuss state formation and the nature of society, economy and ideology of Period II and assess how the building construction of this period could be related to these changes.

As mentioned in the earliest extant literature of India the Rig Vedic society was essentially a pastoral one. Leadership in this situation
required the ability to protect not only the herd since cattle were the chief form of wealth, but also one's clan and to defend its claim to ownership of cattle and control over the grazing ground. Hence, we have the synonyms of Gopa, Gōpati and Janasya Gopati for the word rāja. A group of clans constituted a Jana and the territory where they settled was referred to as the Janapada. In the post Vedic times peasants produced much more than they needed for their subsistence. This created conditions for the rise and upkeep of large territorial states called Mahājanapadas. Once the tribal traits of equality had disappeared completely by later Vedic times, in due course, there emerged a social stratification based on class and Varna. This has been considered as the first pre-requisite for the rise of State in early India.

In the view of Thapar, the basic unit in such a system was the extended family based on a three or four generation lineage controlled by the eldest male who represented it on both ritual and political occasions. She focusses on data from the Vedic texts to explain that a nuclear unit in a lineage society was the Kula, the family and a group of such families made Grama or village which was a large unit than the Kula by smaller than a Vis. Before the emergence of full-fledged State, Ganasangha chiefships were known in north India as mentioned by Pāṇini. Once the State had emerged it had an obligation to defend its citizens and its territory, implying an identification of its citizenship over others and a monopoly over the use of force. For scholars like R.S.Sharma, the ancient Indian state acted as a functional and structural power entity. It is well understood that State must be defined as a collection of specialized agencies and institutions, both formal and non-formal, which help in
maintaining an order of stratification. Stratification has been viewed as a precondition for the emergence of the state since stratified groups became involved in internal conflicts, resulting in the evolution of a powerful elite. Thus according to Fried, the State is a complex amalgam of institutions by means of which the power of the society is organised on the basis of superiority in kinship. The state is also explained as the product of a particular social condition, whereby society is divided into opposed social classes which produces a central organisation of political authority within its midst. Magadha in north India witnessed the first state formation with Ajatasatru as its king and Rajagriha the first capital which was later shifted to Pataliputra.

In north India the breakup of old tribal units during the 6th century B.C. saw the emergence of the first territorial states which led to the growth of certain places as seats of political authority. With the growing complexity of the administrative set-up large number of royal officers were appointed. This process was rather late in the Deccan and south India. Sudershan Seneviratne views the emergence of a stratified society in which the producer was subordinated by the elite with the rise of the Satavahana power. Prior to this period, writing in the context of Andhra and Kalinga, he visualises and refers to "Chiefdoms" wherein the expansion of settlements from the highland peripheral areas to deltaic plains show a transformation from a pastoral-cum-subsistence economy to a primarily agricultural one in the technique of production. The Sangam texts for south India pertaining to Tamilakam also reveal simple segmentary tribes living as decentralised autonomous communities in small dispersed settlements. It is generally suggested that simple segmentary tribal states emerge into a lineage society and these are defined as a corporate
group of unilinial kin with a formalized system of authority.

Seneviratne, further opines that "the process of secondary state formation in Kalinga and Andhra was an outcome when the autochthonous forces combined with consequences resulting from a period of political subordination to the metropolitan states of Mauryas and the Sātavāhanas". The process of state formation in Andhra and Kalinga was thus understood by him to be one of a rapid progress from a ranked society to a stratified one with the consolidation of the ruling power through their direct access to surplus production and its distribution. His study aims at focussing on the dynamics of socio-political transformation in Andhra and Kalinga in pre-Sātavāhana times and visualises this as a congenial background for the development of early state characterized by the profusion of iron-age settlements, demographic expansion, social groups representing new and complex subsistence patterns and the rise of the elements of leadership.

The period between the third century B.C. to the third century A.D. is important for the study of the processes that led to the transformation of the pre-state situation to that of early state in Andhradesa. Mauryan intrusion into the Deccan during the 3rd century B.C. is well documented giving a spatial dimension to the extent of the Mauryan influence. The Second, Fifth and Eighth rock edicts of Asoka refer to the tribal people of the Deccan. A Rock edict at Eerragudi in Kurnool and a minor rock edict at Rajulamandagiri attest to Asokan rule in Andhradesa. The black and red ware found at Amaravati is said to have graffiti marks similar to the Asokan Brahmi. The small Brahmi inscription found at Malekonda in Prakasam district, according to I.K.Sarma, also suggests the Mauryan
influence. Besides, Mauryan punchmarked coins from Amaravati, Peddabankur and Kondapur reveal that Mauryan influence had been widely felt in the area.

Maharathi coins have been reported from Veerapuram suggesting that the Maharathis might have been prominent here since the Mauryan rule. According to the excavators of Veerapuram, "the stratigraphic sequence of Maharathi coinage of Veerapuram over the Mauryan level suggests the independence of the Maharathis for the first time after Asoka". The Kondapur coins of the Mahisha dynasty attest to the evidence of the local rulers with Swasthika marks and who had Mahāsenāpathi titles. It can be suggested that Mauryan political authority had co-existed with the small independently insulated localities in the Deccan. In the opinion of I.K.Sarma, "Andhras, like the Rathikas and Bhojakas formed an integral part of the Asokan empire and had subordinate status. Small independent principalities must have cropped up after the downfall of the Mauryan empire and the notable among them were the Satavahanas". After the downfall of the Mauryas, no kings with dynastic appellation or an extent of territorial authority like the Mauryas are known from Andhradesa for more than two centuries. One KubTrakaraja occurs on a relic casket found at Bhattiprolu. One Raja Asoka of the first century B.C. occurs in a record found at Salihundam. One Sōmakarāja occurs in an inscription recently discovered on a hillock in the outskirts of Vaddamanu near Amaravati in 2nd century B.C. characters. One A1ra Manasada in the Velpuru epigraph and Aira Sirisakasada on some coins preserved in the Amaravati museum are some more examples which mention chiefs who exercised political authority in the Krishna valley during the pre-Satavahana period. One Sirisada, the Lord of the territory of Kalinga and Mahisaka, possessing the title
Mahameghavahana, occurs in the pillar records found at Guntupalli datable to the 1st century B.C.

In the Telangana part of Andhradesa some coins issued by Kings such as Gobhadha, Samagopa, Kamvaya and Narana have been discovered in the Karimnagar district and these have been ascribed to the pre-Satavahana period. According to B.D.Chattopadhayaya, these kings ruled some Janapada like localities and he further observes that a kind of proto-state formation existed before the rise of a Pan-Deccan empire of the Satavahanas. In the opinion of P.V.P.Sastry in pre-Satavahana times there existed only a kind of Ganaraiva under the name Andhras or Andhrajatiyas, a term applied to an ethnic people and also to a political unit. It can be said that among the small kingdoms that had cropped up notable were the Satavahanas, the earliest indigenous regional rulers of the Deccan who established an empire ruled from about the 1st century B.C. to the 3rd century A.D. The political rise of the Satavahanas as a royal house has been taken to be the first manifestation of the traits of civilization though the pre-Mauryan cultural and material traits continued along in archaeological terms. In the light of the above discussion the growth in the political authority of this dynasty can be highlighted keeping in mind the various sub-regions which we have delineated for Andhradesa.

The Satavahanas established their control first over the central and western Deccan and this then gradually spread to Krishna-Godavari valley. Here it must be stated that though their origin is shrouded in uncertainty, recent archaeological evidence tends to suggest that the early Satavahana chiefs belonged to the Kotilingala region. These kings began to wield
superior authority as is indicated by the high sounding titles, they began
to acquire. Paithan and Dhanyakataka were their earlier and later capital
cities respectively. Early defence buildings and fortifications of the
period have been noticed at Kotilingala and Dhulikatta in sub-region A, at
Dharanikota in sub-region C and at Satanikota in sub-region D and this
gives credence to the fact that the Satavahanas attached great importance
to military control in order to dominate the destinies of various
communities in Andhra for more than three centuries. By the 3rd century
A.D. the fall of the Satavahanas from political power resulted in the
dismemberment of the empire into a number of smaller principalities
occupied by several so-called feudatories. Among the main successors of
the Satavahanas were the Ikshvakus who, under the leadership of Chantamula
I (220-240 A.D.), exercised authority over the fertile area around the
Krishna valley in the present day Guntur, Nalgonda, Krishna and some parts
of Prakasam districts. There were in all, four members in the dynasty who
ruled for 75 years with Vijayapuri as their capital. The excavations at
Nagarjunakonda have revealed that the city was surrounded by a rampart
wall and had a moat with palaces, bathing ghats, houses, roads, soakpits
and water channels inside. In an over view of the transition from pre-
state to state society in Andhradesa it can be said that sub-region A
witnessed the rise of pre-Satavahana kings under the dynastic names of
Mahisha as attested by the Kondapur and Peddabankur coins; sub-region B
witnessed the rule of minor dynasties like Raja Sōmaka and Sirisada as
mentioned in the epigraphs of Vaddamanu and Velpuru; sub-region C was under
the petty chiefs like Raja KubTraka, Asoka and also under Mahameghavahana,
the Lord of Kalinga and Mahisaka dynasty as recorded in the Bhattiprolu,
Salihundam and Guntupalli inscriptions. Prior to their rule and sometimes
contemporaneous to it some parts of all sub-regions were under the
influence of the Mauryas. Later Satavahana rule had co-existed with the rule of minor chiefs in some sub-regions and this was followed by Ikshvākus gaining supramacy in sub-region B after the decline of the Sātavāhanas.

It can be clearly explained that Period II was represented by a well-stratified society which was a fullfledged state society with a sound economic basis and which could support significant religious institutions of the time like those of Buddhism. Writing within the Marxist methodological framework, K. Satyanarayana says that agriculture was the main occupation during the Satavahana period and irrigation facilities were provided to promote agriculture. He also adds that trade guilds played an important part in the life of the community. Groups like the Gahapatis and Kutumbikas which are mentioned in the inscriptions are largely seen to have derived their wealth from agricultural activities. At the same time, the fourfold division of the society based on varna seems to have been propagated by the Satavahana rulers. Further, the Brahmins occupied a place of prominence in the society.

Technological and economic changes were significant during this period and evolved in stages to reflect the increasing prosperity of early historic society. This can best provide the broad chronological parameters within which monumental buildings in particular were constructed since these required large amounts of financial and material support. The gradual change in the economic and social conditions of Period I in Andhradesa, had an impact in moulding the economy and social structure of period II. Agriculture was the main stay of the economy and it has been argued that the state took interest in the extension of agriculture and in
Improving the irrigation facilities. It was iron technology that provided the necessary tools for cultivation of crops, trade and commerce, arts and crafts, mining and metallurgy. The existence of an expanded agrarian economy was clearly visible in the proliferation of early historic settlements with evidence of money circulation and craft production and an organised local merchant group. Many early historic settlements were of the village type being located along the alluvial banks of the major rivers. The agricultural surplus as well as technological developments gave impetus to the rise of urban centres in the period which resulted in the growth of systematic building activity of all kind. The early historic settlements in Andhradesa survived from about the 3rd century B.C. to 3rd century A.D.

Further, with an increased agricultural surplus and specialised craft production there were trade contacts within the sub-continent as also with foreign countries. These settlements were well-connected by inland and coastal trade routes. A significant trade route from Ter went southwards to the Hyderabad-Medak region via Akkanpally in Nalgonda district where a large hoard of Roman coins of the 1st century A.D. has been found. The same route was also said to have continued via Nagarjunakonda, Goli, Renta, Kesapalli and Amaravati all on the southern bank of the river Krishna, to reach the sea-coast. Trade and urban centres were connected to a system of navigation at port towns for ships to land and facilitate communications. At Dharanikota we have the evidence of an inland port where a navigational channel connected to the river Krishna is datable to between 400-100 B.C. and this strongly suggests a brisk trade in early Andhradesa. Occurrence of quite a good number of Roman coins associated with indigenous coinage at Amaravati, Peddabankur, Dhulikatta, Ghantasala,
Veerapuram, Thotlakonda and Bavikonda, is a clear testimony to maritime trade contacts with western countries during the early historic period in Andhradeśa. It can be said that trade transactions gained an ascendancy under the Satavahanas as the potential of the Mediterranean market came to be fully realised. Thus Period II was marked by an agrarian expansion, with considerable surplus production and craft specialisation, growth of trade and money circulation. All this had an impact on the nature of the settlements which became increasingly urban in character with a sound economic background.

Regarding the ideology of the period, the rulers and administrators had an interest in Brahmanism and Bhāgavathism, though Buddhism clearly flourished during this period. The Naneghat inscription of Naganika gives a long list of Vedic sacrifices performed by her husband Satakarni I in the 2nd century B.C. It has been suggested that the early Satavahanas were devoted to Saivism. This is deduced on the basis of the Siva Lingas found at Gudimallam and Amaravati. Besides, early Saivite brick temples have been noticed in the Krishna-Tungabhadra valley datable to the 1st-2nd centuries A.D. At Nagarjunakonda, Saivite temples have been unearthed during the course of excavations datable to the 3rd century A.D. The Astabhuja Narāyana temple at Nagarjunakonda also indicates that Vaishnavism was favoured during the period. However, more importantly Buddhist establishments flourished during this period and can be seen at Amaravati, Bhattiprolu, Dhulikatta, Chandavaram, Thotlakonda and Bavikonda. Buddhism continued to be a popular religion till the 3rd century A.D. A good number of stupas, viharas and other monastic establishments have been unearthed at Nagarjunakonda.
The growth and spread of Buddhist ideology has been seen as the result of the changes that took place in the socio-economic spheres during Period II. In this connection, Max Weber has argued that "Buddhism presents itself as a product of the time of urban development or urban kingship and the city nobles". The religious establishments could not have been raised, reared up and maintained without the active patronage or support of the Gahapatis. Period II represents an increase in the number of settlements both on the coast and on the plateau. The proliferation of the Buddhist monastic establishments along with a growth of urban centres was a very important feature of this period which was directly related to the economy of the period. The kings extended their patronage to the Buddhist establishments for the consolidation of several economic activities. Sites like Amaravati, Bhattiprolu and Ghantasala were thus patronized as mentioned in the inscriptions available from these sites. This shows that the Satavahanas tried to retain their economic hold on these places and effectively used their patronage of both Buddhist and Brahmanical religious ideologies to buttress their power over different sub-regions of the Deccan. A large cross section of society also actively indulged in gift making activities to the Buddhist establishments and this indicates that, along with the royal patronage, Buddhism particularly enjoyed popular patronage.

According to Amita Ray, improved communication routes, mining operations, money economy, establishment of a Provincial seat of administration and introduction of Buddhism, all these together must have created a social situation which provided a good base for the growth of urban centres. It is further suggested that the services of the artisan and
the merchant communities to Buddhism was more important than those of the royal patrons. Most of the epigraphs from Amaravati record the gifts by merchants, artisans besides Upasakas and Upasikas. Many of the Buddhist sites occupied a major part of southeastern Deccan called by Subbarao as an 'area of nuclear attraction' constituting the deltas of Krishna and Godavari rivers and the fertile coastal belt.

We next take a look at different aspects of Buddhism and its spread in early historic Andhradesa and also on the origins of the stupa and vihara structures in India. According to the early Buddhist tradition, Buddhism entered Andhradesa during the life time of Lord Buddha itself. A later Buddhist text, the Kathāvatthu, deals with the Andhras who played a prominent role in the third Buddhist Council. In addition to literature, some archaeological sources also provide information regarding the popularity of Buddhism during the 4th-3rd centuries B.C. in Andhradesa. Recent digs at the Mahastupa at Amaravati have yielded Northern) Black Polished ware datable to the 4th century B.C. Discovery of a fragmentary pillar inscription of Asoka at Amaravati along with a few upright pillars of the granite railing with Mauryan polish attest that an early Buddhist stupa here may have been built by Asoka Maurya. The eighth rock edict of Asoka further mentions that the Andhras were within the Rajya Vishaya of the Mauryas and following the Dhamma.

Andhradesa, however, significantly became the home of different Buddhist schools and sects and they developed their own set of religious practices. All the sects more or less agree in believing that one may attain merit by erecting, decorating and worshipping the chaitvas or stupas.
and hence the building of stupas and viharas gained momentum right from the 4th century B.C. in Andhradesa. This ideological intent was perhaps also responsible for the active participation of different strata in the society in raising Buddhist monuments. This came to be indicated in a plethora of evidence. The Buddhist buildings constructed during this period were mainly stupas, chaityas, viharas, podhis and silamantapas.

The conceptual essence behind the origin of building the stupa in the Buddhist religion is important to emphasize. The word stupa means 'to praise', 'to worship' or 'to heap', in funerary association and was thus primarily a mound containing ashes and charred remains of the dead. Some of the Buddhist texts mention the erection of a stupa over fire embers known as Angara Sthupa. In the Sujatha Jataka, there is a reference to the erection of a Mattika-Stūpa enshrining the relics of Sujatha's grand father. Stupa was also related to the ritualistic and commemorative aspects of social life. The Stūpavādāna describes the commemorative aspect of stupa. We have earliest epigraphical reference to a stupa from the Asokan pillar edict of Nigalisagar which mentions the reconstruction of a stupa. The Buddha himself approved the construction of Stupas on his corporeal remains. As an answer to a question, the Buddha replied "Ananda, that his remains should receive the honours of a universal monarch by stupas being erected over them at crossing of four major highways". According to Buddha four kinds of men were worthy of a Stupa, a Tathagata, a Pratyeka Buddha, a disciple of Tathagata and a Universal monarch. It is interesting to note that the practice of raising stupas at burial places has also been mentioned in Satapatha Brāhmaṇa dated to around 800-700 B.C. We get references to stūpas in the Aswalayana Grhya Sutra and subsequent literature like the Arthasastra and the Manusmṛti.
V.V.Krishna Sastry is of the opinion that the concept of a Buddhist stupa might have originated from the Aryan twin funerary practices of burning and burying the dead. K.Krishna Murthy is further of the opinion that the stupas were originally known to the Brahmanical faith and this idea was subsequently appropriated by the Buddhists with all their appendages.

According to Debala Mitra the Buddhist stupas can be classified into four categories viz., SarTraka, Paribhogika, Uddesika and Votive ones. SarTraka stupas signify those erected over the corporeal relics of the Buddha and his disciples. The Paribhogika stupas were built over the objects used by the Buddha. The Uddesika was commemorative of Buddha's life including the places of his birth, previous births and associated with his visits. Votive stupas were small in size and were erected at sacred places of the Buddhists by pious pilgrims to attain religious merit.

Like the stupa, the vihara, a place of residence of the Buddhist monks must also be seen primarily as a religious structure built by the affluent who financially supported the Buddhist sangha. Vihara structures occupied a prominent place in Buddhist settlements as residential areas with all the building appendages required for a healthy habitation. In the beginning, it is said in Buddhist texts that the monks stayed here and there in the forest, at the root of trees, on the hill side, in glens, on mountains, in cemetery areas, in the open air and on heaps of straw. On the request of the monks, the Buddha allowed them to spend the entire rainy season known as Varshavasa at one place. This gradually led the monks to have permanent habitations such as rock-cut and brick built dwellings called the
vihāras. A place where several viharas were clustered together was called a Sangharāma. During the life time of the Buddha itself since the Buddha was regarded as a teacher of Dharma, his followers began to invite him to their places for his discourses and accordingly, they had to provide some arrangements for his stay in the gardens known as aramas. Bimbisara, the king of Magadha was the first to offer a garden Veluvana for the stay of the Buddha. Ananda Pindada, a merchant invited the Buddha, to Sravasthi and on his request the people built some rest houses for the stay of the master and his disciples on the way to Sravasthi. Ananda Pindada also built dwelling rooms provided with fireplaces along with a gandhakuti intended for Buddha's stay in the Jetavana. A setti of Rajagriha happened to see some bhikkus coming hither and thither from the woods and he took pity on them and offered to build dwellings for them, but the bhikkus refused saying that the Buddha did not agree with this. On the request of the bhikkus the Buddha accepted the building of sixty dwelling places at Rajagriha for use of the sandha of the four directions. Then Buddha delivered a discourse, allowing them five kinds of abodes, viz., vihāra, adhayoga, prāsada, hammiva and guha as Varshavasa retreats.

Building constructions of monuments in Period II were therefore, substantially determined by the support, the followers of Buddhism gave to them. The urban environment of the period fostered trade and commerce and this meant that the merchant community was quite prosperous. These groups were also ardent supporters of Buddhism.

Period III in Andhradesa was distinguished by the formation of new regional kingdoms called 'segmentary' by some scholars and 'feudal' by others. But the majority of scholars continue to characterize these as
centralized empires. These were those of the Brihatpalāyanas, Sālankāyanas and Anandagotrins Vishnukundins, and other smaller 'chiefs' ruling in various localities of early medieval Andhradesa. During the second stage of period III, beginning around the 7th century A.D., there was the rise of regional kingdoms in the Deccan as a whole such as those of the Western Chalukyas, the Eastern Gangas, and the Rāṣṭrakūṭas who ruled over certain areas of medieval Andhra as well.

The Ananda Gotrins ruled over the Guntur region. The Salankayanas ruled over the Vengi region around the 4th-5th centuries A.D. Recent archaeological operations have revealed the existence of an earthen rampart at Pedavegi. The Vishnukundins rose to power in the 5th century A.D. Based on the provenance of their records, their authority may be said to have extended up to Kalinga in the north, the Guntur district was the southern limit of their power and besides the coastal districts a major part of Telangāna formed their kingdom.

The next important epoch in political history of Andhradesa begins with the Chalukyas of Badami who ruled from about the 6th to the 8th century A.D. Their activity in Andhradesa was confined to its western part known as Chālukya vishaya, i.e., the present day Rayalaseema region comprising Anantapur, Kurnool, Cuddapah districts and the Mahaboobnagar district of Telangana as evidenced by the location of their inscriptions. Pulakesin II (610-642 A.D.) was the first ruler who brought this region under the sway of the Chalukyas.

Pulakesin II after his conquest of the eastern Deccan, appointed his
younger brother **Kubja Vishnuvardhana** as his Viceroy. He became the founder member of a separate line of the dynasty that broke away from the main dynasty and came to be known as the eastern Chalukyas of Vengi. They ruled the entire coastal tract of Andhradesa from 624 A.D. to 1026 A.D. Their kingdom comprised the area between the Mahendra mountains in **Kalinga** and the Maneru river in the present day Nellore district and its western boundary ran along the eastern ghats.

The Rastrakutas of **Malkhed**, the successors of the **Chalukyas of Badami** continued to rule over the present day Rayalaseema and **Telangana** regions with their feudatories, viz., the Vemulavada and Mudugonda branches of the Chalukyas. The early Medieval period has been considered as one of transition, with fundamental changes having occurred in the social, economic, political and ideological spheres and these marked a significant turn in the change from an ancient economy. These structural transformations which have often been termed 'feudal' in character have been considered as an outcome of the system of land grants which had prevailed almost all over the Indian sub-continent during the period.

According to **Kulke** the process of the territorially segmented development had entered its formative phase with the fifth century A.D. when donations of villages to brahmins became frequent and this is applicable to a similar tendency which began in Andhradesa also. This phenomenon was fully developed during 7th century A.D. when the inscriptions bear evidence of a steadily increasing number of these **principalities**. From this period onwards, the kings of the loosely structured regional kingdoms, in the absence of a centralised bureaucracy, tried with their traditional patrimonial power, to counter balance the
feudal forces by ritual means achieved through royal patronage of places of pilgrimages, encouraging large scale settlements of Brahmins and construction of new temples. Temples were built for increasing religious merit of the persons responsible for construction.

Kulke also holds that the early medieval Hindu Kingdoms tried to integrate the locally powerful groups through the adoption of the religious cults of various indigenous tribes which enabled the medieval state systems to survive with an expansive social and ideological base. The agraharas being the nucleus of agricultural expansion had a tremendous socio-economic impact by bringing the aboriginals of the neighbouring forests of hill tracts into closer contact with centres of civilised life and gradually absorbing them into the different strata of the society. In the context of medieval Andhradesa this has been elaborately discussed by B.S.L.Hanumantha Rao. Though there was a relative decline in trade and industry during the period 4th century A.D. to 6th century A.D., which coincided with the issue of land grants to brahmins and resulted in the expansion of the agrarian base. An expansion in agriculture led to an increase in rural settlements and there were a concomitant decline in different types of urban centres between 500-1000 A.D.

It has been systematically researched on the basis of archaeological sources that most of the early historic towns which began to disintegrate from the close of the 3rd century A.D., finally disappeared towards the close of the 5th century A.D. In Andhradesa, desertion of towns is said to have taken place at several sites such as Kotilingala, Dhulikatta, Peddabankur and Polakonda in sub-region A; Veerapuram, Yeleswaram,
Nagarjunakonda in sub-region B; Dharanikota and Kesarapalli in sub-region C; and Satanikota and Mandalur in sub-region D. In early Andhradesa, therefore, urban occupation of the early historic period lasted up to the 3rd-4th centuries A.D. only. The nature of decline was similar and all the sites have revealed a lack of ordinary habitations and public utility buildings after this date. The probable causes for the decay, decline and desertion of towns and market centres has been elaborately discussed by R.S.Sharma. As the main proponent of the urban decay theory for this period, he holds that the fall of stable empires, decline of long distance trade, foreign invasions, the kali crisis of social upheaval and widespread unrest caused the decay and desertions of towns during the 3rd-6th centuries A.D.

Some attempts have been made for understanding the process of urban growth and the nature of urbanisation during the early medieval period as well for various regions of India in general, and for south India in particular. In the absence of significant archaeological sources for the study of urban decay and revival of urban centres during the early medieval and medieval periods, B.D.Chattopadhyaya suggests epigraphy as a probable source to understand the nature of early medieval settlements which emerge as urban in character. He emphasizes however, that these are different from urban centres of the early historical times since this period is marked by an absence of structural remains and indigenous currency in large parts of south India.

In contrast to Chattopadhyaya’s view, for the same period, but in the context of western India and based on numismatic data, K.M.Shrimali explains that the cash nexus under the Silaharas was marked by limited use
of money despite the revival of trade, spurt in agricultural activities, growing tendency of urbanisation and multiplication of exchange centres in western India between the 9th and 13th centuries A.D. Similar studies have been made to understand the nature of urban growth in the early medieval period for other regions of India. For example, V.K.Thakur's study for the eastern part of India shows that urban centres in this period were only centres of political and religious consumption without any organic links with the agrarian hinterland. Like Shrimali and Thakur, R.N.Nandi also works within the Marxist framework and in broad terms, agrees with R.S.Sharma's hypothesis of a decline in urban centres between the 3rd and 9th centuries A.D. In fact his study shows how there was a migration away from towns in this period and therefore, new methods of ritual patron-client relations had to emerge in the early medieval period which gradually came to revolve around a temple centre. However, unlike Shrimali and Thakur, his study on Karnataka argues that because of agrarian expansion from roughly around the 6th century A.D. due to the land grant economy, there was a gradual improvement in irrigation techniques and knowledge of crops and this naturally created an increase in agricultural surplus. This in turn is said to have led to a re-emergence of market economy and towns in early medieval Karnataka after the 10th century A.D.

Similarly, for Tamil Nadu, Champakalakshmi's writings show that there was a pattern of urban growth from Pallava-Pāṇḍya to Chola times in early medieval south India but this urbanisation in her opinion was necessarily different from the early historic urbanisation. She does concede that the latter declines because of the decrease in overseas
It must however, be stated that no comprehensive work has been done with reference to the decay and growth of towns in Andhrades'a for the early medieval period which covers aspects of analysis that are related to the growth of rural settlements and the particular nature of the land grant economy of the period. Increase in temple centred market towns and especially after the 10th century, the revival of trade and currency along with emergence of cities in medieval Andhradesa can be suggested on the basis of T.Venkateswara Rao's preliminary study which deals with some aspects of village assemblies, medieval market centres and other such information.

In the transition from the ancient to the early medieval period therefore, scholars generally agree that there was a decline of early historic urban centres. However, there is a difference of opinion on what caused this decline. While the above cited Marxist scholars view it in terms of primarily economic forces like decline in trade, etc., there is an approach that looks at more specific internal reasons for this abandonment of towns and urban spaces. At a general level, one of the earliest scholars who wrote about this was K.A.Nilakanta Sastry who suggested that the burning down of villages with their standing crops and the indiscriminate slaughter of households including that of the Brahmins was a recurring feature of feudal warfare during the early medieval times. The BrhatSamhita, a sixth century A.D. text, has also enumerated drought, scarcity, invasions and shifts in river courses as the reasons for desertion and destruction of towns in the early medieval period. The accounts of the foreign travellers further attest to the desertion of towns. The Chinese traveller, Hieun-Tsang had reported that he could not approach the monasteries at Dhanyakataka because these monasteries had
already been deserted by this time. In excavating one of the famous towns of early historic Andhra, Yazdani attributed the decline of Buddhist religion as powerful reason for the desertion of the site of Kondapur. Many of the above reasons are in fact, interconnected. For instance, decline in trade meant that the merchant groups that patronised and supported Buddhism financially were adversely affected and therefore, the religion could not thrive as it had done earlier. From our point of view this had serious implications for funding building constructions on a large scale which was now not available.

R.N.Nandi suggests that the burning of towns by the invading Kings could have been another cause for the decay of prosperous urban centres. The destruction of towns in his opinion would mean complete snapping of the administrative links between the town and the country. He further elaborates that earlier priests had depended on towns for their dana and were patronised by urban elites. As a result of these changes they now had to turn to a new rural elite for the same patronage. This was linked to their being given remuneration in land by kings of all early medieval dynasties.

The desertion resulted in the migration of artisans and urban elites to small village settlements during the period. The early medieval Agnipurāna says that even a group of five families and the headman could constitute a village. T.Venkateswara Rao, in his survey of Andhradesa gives information on four kinds of villages, viz., Racha Ullu, Navaṁkara, Brahmadeva and Devadeva villages and these villages were grouped and organised into Nadus. To determine the nature and types of
settlements in early medieval period, when archaeological data is absent, 167 B.D.Chattopadhyaya proposes a method which is dependant on the contemporary perceptions contained in the inscriptions. In these inscriptions references to villages and other settlements are made in the context of land grants. He also says that the use of the terms grama, on the one hand, and pura and nagara on the other, in the epigraphs denote two kinds of settlements, viz., rural and urban. A similar attempt in identifying the types of settlements in early medieval Andhradesa based on Vishnukundins records is made by J.Krishna Prasad Babu. According to his study almost all the Vishnukundin records mention grama and village settlements, whereas very few refer to the pura and nagara settlements.

The period between the 5th and 9th centuries A.D. in Andhradesa witnessed the expansion of large scale agricultural operations which formed the basis for the growth of temple towns in the succeeding centuries. However, some scholars suggest that during the early medieval period it is the temple that emerged as a legitimator of political power and an instrument of peasant subordination and surplus accumulation. Many scholars have discussed the growth of temple centred settlements that sprang up particularly around agrahara or brahmadeya grants and in due course became market towns. In her study on Tamil Nadu, Champakalakshmi explains how the temple as the institutional base for socio-economic and political integration, assumes great significance from the period the 7th to 10th century A:D. She further says that the temples as sacred pilgrimage centres receiving money endowments which led to the trade and urban development in the subsequent period.

From the 7th century A.D. onwards in Andhradesa too some temple towns
became important religious and pilgrimage centres. Around them evolved huge urban complexes and subsequently other settlements also rose around them. During the early medieval period, a few of the decaying towns were transformed into *Trthakshetras* or holy centres situated on sacred river banks where important rituals had to be performed. In the *Visnusmrți* it is mentioned that performing *Sraddha* ritual and *dana* at these centres was meritorious. The early *Puranas* also agree with this view. In Andhradesa, *Srisailam* known as *Sriparvata*, *Alampur* and *Tripurantakam*, were the famous *Trthakshetras* during the early medieval period. Some more holy places of local importance included were the *Pañchārāmas*: Chebrolu, Pithapuram and Vijayawada. Most of these centres grew up as market centres with urban settlements.

Between the 4th-5th centuries A.D. Buddhism lost its ground and became practically extinct in *Andhradeśa* by the end of the Vishnukundin period. Most of the rulers started donation of land and *agraharas* to Brahmins. Many agriculturists who were engaged in tilling the land of these gifted lands became loyal to the Brahmanical religion. The process of the acculturation of local tribal cults into the main stream of *Brahmanism* was a complicated process and took a considerable time to manifest itself in various forms of sectarian worship in medieval Andhradesa. *Śaivism* was the predominant system of belief during this period and many Saivite temples were built all over *Andhradeśa* during the period. V.K. Thakur points that the temple building activity was aided by the emergence of certain religious beliefs and this, in a way, tended to provide the very ideological sustenance to the feudal system itself. The *Pāsupatas* were the earliest of the Saivite sects in Andhradesa and were popular during the
7th-8th centuries A.D. and from the 9th centuries A.D. onwards the 186 Pasupatas were replaced by the Kālamukhas.

The Anandagotrins followed Saivism and constructed an apsidal temple 187 at Chejarla. The Salankayanas claimed that they were the devotees of Chitrarathaswamy, i.e., Surya and constructed a Chitrarathaswamy temple at Vengipura. Recent archaeological operations here have also revealed the 188 existence of a Buddhist Stūpa at Vengipura. The Vishnukundins were called Parama Māheśvaras but they patronised Buddhism too. Govinda 189 varma embellished all the quarters of his kingdom by constructing temples, stupas, monasteries, halls, drinking houses, ponds, wells and gardens. Madhava Varman II patronised the Brahmanical order and 190 constructed several temples. The archaeological excavations at Keesaragutta have brought to light a good number of brick temples, palace, residential buildings surrounded by a huge fortification of the 191 Vishnukundin period. Some scholars believe that the rock-cut caves at 192 Vijayawada were excavated by the Vishnukundins. Buddhism disappeared from this period as Brahmanical religion gained momentum and flourished on a large scale henceforth.

The early Chalukyan rulers favoured Vaishnavism until the time of Vikaramāditya, though they were tolerant to Saivism and Jainism as well. The Pāṣupata cult of Saivism was dominant in this aspect. All the nine Nava Brahma temples at Alampur are dedicated to Siva. Sakta and Harihara cults also received due attention during the period. Temples in the Rāṣṭrakūta style were constructed during this period as seen at Kudali 193 Sangamesvaram, Kadamara Kaluva, Mahanandi, Panyam and Satyavolu. Temples constructed in Kadambanagara style, i.e., in stepped pyramidal
order of the period are also located at Panchalingala, Maramunagala, Somasila, etc. The Rashtrakuta temples in Andhradesa are seen at Alampur, Tandrapadu, Sangameswaram, Mallesvaram, Miyapur and Veldurti. In these temples the proliferation of subsidiary shrines indicates the incorporation of lesser deities at the local level.

In political terms, Period IV witnessed the rule of the Chalukyas of Kalyani, the Eastern Gangas, the Chālukya-Cholas and the Kakatiyas of Warangal. The Kakatiyas were a major medieval power in Andhradesa who ruled over it from the middle of the 11th century to the first quarter of the 14th century A.D. Beginning as the Commanders of the Rāstrakūtas in the Koravi region, they slowly rose to imperial position, under the Chalukyas of Kalyana. The Kakatiya government was a monarchy. C.V. Ramachandra Rao analyzes the Kakatiya state to describe it as a metropolitan state which maintained relationships between central, intermediate and peripheral zones. He also argues that this metropolitan state maintained segmentary units of power within the intermediate and peripheral zones. M. Krishna Kumari, following the methodological framework of German scholars like Kulke, opines that with the development of popular Bhakti cult and increase in number of temple festivals which blend the religious ideologies of the elite with those of the masses, the temples became the centres of continuous integration of territories was operated during the medieval period in Āndhradesa.

Between the 10th and 11th centuries A.D., the Brahmanical temple emerged as a landlord on a large scale. This phenomenon went hand in hand with the spread of the bhakti cult and the temples supported by local bases
of power became centres of this devotional ideology. Besides the royal members, the lesser Chiefs also made grants mostly to the temples. By providing patronage to such institutions, the state system could effectively establish its hold over society. Thus "the contributive potential of the temple in the legitimisation of a political power based on social differentiation is clearly discernible with active participation of the agencies of political power with the creation and promotion of a network of temple centred monastic groups".

Besides, urban activity also began to be centred around the Brahmanical temples which became the main focus of the commercial activities for the cluster of villages around it. Politically and economically highly developed nuclear areas yielded sufficient surplus crop for the establishment and the maintenance of a sub-regional power.

Apart from Kulke, several other scholars have tried to characterize medieval Indian polity. Nuclear areas of sub-regional power as conceived by Burton Stein in south Indian context, has been applied to the Kakatiyas of Andhradesa since they superimposed their imperial power on various small kingdoms of the Malyala, Viriyala, the Kondapadumați, the Kanduru Cholas, the Cherakus, the Chalukyas of Vemulavāda and the Telugu Chōdas of Nellore. In this context, a regional kingdom based on an amalgamation of the already highly developed nuclear areas with their own cultural and socio-political loyalties was described by Burton Stein as a 'multicentered system of power'. Kulke agrees that the nuclear areas were regarded as an integral part of a continuous process of political development.
James Heitzman sees a rapid decrease in the penetration of all aspects of royal influences with an increasing distance from the centre of the polity in medieval south India. This is based on his study of state formation in south India with special reference to the Cholas. He further explains that south India during this period was dotted with the landscape of fertile agricultural zones that encouraged ritual manifestations of authority. Studying ritual polity and economy in medieval south India, Heitzman argues that by donating to learned brahmins or to temples, the donors protected dharma, in the manner of a king and thus legitimately shared political power.

The social structure of the Period IV was ideologically permeated by the concept Varna. The Brāhmins occupied a foremost place in the society. They held lucrative posts under the government. However, there were significant changes in the ordering of society. The Ksatriyas had lost their past glory and Sudra rulers also came to power for the first time. The Kakatiyas were sudras. This implies that all warrior groups were not assimilated into the category of the Kṣatriya varna. The ruling Sudras enjoyed power or status in the society whereas on the other hand, the Südras who belonged to the lower strata of society acted as agricultural labourers.

In the economy of this period, the organisation of functional groups such as the Panchanamvaru, weavers, etc. of the society as a viable economic institutin is a significant development. The guilds of the period traded in different kinds of agricultural products and other commodities and had a wide network connected with religious-cum-commercial
centres like Alampur, Tripurantakam, Krishnapatnam, Pedaganjam, Motupalli, and Warangal. The Kakatiya Ganapati deva revived the sea-borne trade of Andhradesa as indicated by the Motupalli inscription known as Abhayasasana of 1245 A.D. The Venetian traveller Marco Polo visited the port of Motupalli during the closing years of Rudramadevi's reign. Besides Motupalli, Krishnapatnam, Chinaganjam, Nellore and Divi also played a very important role in fostering the sea-borne trade. With regard to the craft organisation of the period, mention should be made of the Panchanamvaru or Pañchāli comprising of goldsmiths, blacksmiths, carpenters, braziers and stone cutters. This guild received royal patronage and the economic stability prompted the building of temples in large numbers.

It was the desire to spread a certain religious ideology that also prompted the activity of temple building during Period IV. As mentioned earlier this period covered the rule of the Eastern Chalukyas, the Eastern Gangas and the Kakatiyas. The Eastern Chālukya temples of the period, with a distinct style, are seen at Draksharama, Samalkot, Bhimavaram, Amaravati and Chebrolu. The Eastern Gangas had also constructed temples in their kingdom as noticed at Mukhalingam, Jayati, Narayanavaram, Galavelli, Arasavelli and Simhachalam in their own distinctive style. The religious scene of Andhradesa from about 1000 A.D. to the 14th century A.D. was as momentous as that in the contiguous Karnataka region. The growth of the Kālāmukha centres, viz., Amaravati, Alampur, Srisailam, Tumbalam, Nadendla, Vijayawada, Hanumakonda and Pushpagiri, Vaishnavism spread very slowly and Ramanuja's contribution accelerated the growth of this religion in Andhradesa. Jainism was also in a flourishing state. The rule of the Kakatiya kings saw innumerable temples being built not only by them but
also their subordinate officers all over Andhradeśa. The rise of new religious movements of devotionalism and the general prosperity in the economic conditions of the period was concomitant with a stable political order. That a great amount of public money went into temple building and their maintenance during this period is mentioned prolifically in the contemporary literature. The Pratapa Charitra mentions that the Kakatiya king Prataparudra spent every year one crore of coins for the upkeep and the grandeur of the temples of Ekaśilānagara, besides spending another three crores for the maintenance of Saiva and Vaishnava temples situated inside and outside Andhradesa. The Siddheswara Charitam states that, this monarch set apart 2000 villages, besides the amount mentioned above, for the various expenses of the temples. Saivite temples were predominant in numerical strength during this period. For example, the Pratapa Charitra gives the number of temples situated in the city of Warangal during Prataparudra's time as temples dedicated to Siva being 5500 and to Vishnu being 1300. These numbers however, seem to be an exaggeration but they do indicate the popularity of the former vis-a-vis the latter.

Saivism was the predominant faith during the Kakatiya period. Visvesvara Śivāchārya was the religious Guru of Ganapatideva. Vaishnavism also received equal patronage of the rulers. The Kakatiyas took a special interest in building temples which are distributed throughout the length and breadth of the kingdom. The 1000 Pillared Temple at Hanumakonda constructed during the time of Rudradeva in 1162-63 A.D. was a land mark in the evolution of the Kākatiyan style of architecture. The climax of the Kakatiyan style of architecture is seen at the Ramappa temple at Palampet.
constructed by Recherla Rudra, the Commander-in-Chief of Ganapatideva. Other important temples are Ramanujapur, Katakshapur, Jakaram, Nagulapadu, Nidikonda, Nagunuru and Tripurantakam. All these temples were able to acquire funds mainly from the munificent gifts made by the pious donor which included kings, Queens, subordinate officers, noble and corporate bodies such as guilds of merchant and artisan communities and private individuals both rich and poor.

In an overview of the above discussions on historical space it would be appropriate to highlight the significance of each of the dimensions of interpreting historical change that we have focussed upon. First and foremost, understanding the transition from pre-state to state society provides us the essential background to explain the importance of small kin-based forms of social organization as a precursor to the socially complex and stratified relations during early historical times. This went hand in hand with the growth of a more integrated economic system which was absolutely necessary for the generation of enough surplus wealth in society. Further, the accumulation of political power in the hand of organized ruling elites enabled this to be galvanized in such a way that resources could be effectively used by urban elites. These changes were ultimately linked to, and manifested in, far-reaching ideological implications for society in early Andhradeśa. The institutionally unorganized, but focussed, belief patterns of groups responsible for the megalithic culture gave way to a full-fledged movement of Buddhism flourishing in many parts of the Deccan. Thus, whereas socio-political forces of organisation have a considerable bearing on understanding the particular nature of monumental defence structures, the growth of Buddhism dotted the landscape of early Andhradesa with the first monumental
religious buildings. On the other hand, in terms of the ordinary housing structures and the material used to build them, there is a remarkable continuity from proto-historic times indicative of the fact that some of the community based skills gained in strength and were collectively transmitted over generations.

A major shift in the economic modes of surplus appropriation takes place during early medieval times and the social groups involved in this process, as well as the institutional base of the new ideology, gives vent to the rise of a new socio-political structure of governance. Some of these interesting changes lay the foundation for the new character of the medieval state in Andhradesa. Thus, our discussion on Period III and IV above must be seen together. These have primarily highlighted the possible interpretative angle on the basis of which it is possible to understand the tremendous growth of temple building activity. Agrarian growth during this period also had a great impact on increase in irrigation related structures and improving upon their techniques. What is however, particularly significant in the context of these two periods (III and IV) is that there were powerful local organisational bases to distribute the resources like village assemblies, the temple, trade and merchant guilds and so on. Further, it was crucial to focus on recent interpretations of the integrative forces that led to state organisation as the old images of centralized empires in the medieval context are fast waning in historical writings. By far the most relevant historical interpretations, particularly for Period III, have been those pertaining to the recent debates about the decline on the one hand, and growth on the other, of urban centres which we have focussed upon in our discussions above. They
gain relevance primarily because archaeological data for ordinary housing structures and dwellings is lacking for these two periods. This necessarily raises the question of the nature of early medieval settlements particularly in the context of the growth of temple centred agrarian settlements. Housing patterns and dwellings in such an environment must be located as being almost permanently around these major temple settlements. In our assessment therefore, to explain the total context of historical space we have tried to highlight the key areas of recent historical interpretation on facets of the relationship between the economy and ideology with socio-political developments for the various periods under study.


4. For a most recent discussion on understanding the transition from one historical period to another see B. D. Chattopadhyaya, *The Making of Early Medieval India*. OUP, 1993, Introduction, pp. 3–14.


17. Ibid, p. 142.


36. On the other hand, based on his researches of the megalith sites in the Vidharba region of Maharashtra, Deo suggests that their economy was mainly based on pastoralism. See K. Paddayya and S. B. Deo (eds.), *Op. Cit.* Poona, 1983, p. 77.


44. E.H.Hunt, 'Hyderabad Cairn Burials and their Significance', *JRAI.* vol.54, 1924, pp.140-156.


55. Panini. IV. 2-31, VI. 2-34.


62. Ibid, p.54.


65. Ibid, p.54.


75. E1, vol.XXXI, pp.87-88.


78. E1, vol.XXXII, p.86.

79. R. Subrahmanyam, Guntupalli Brahmi Inscription of Kharavela. Hyderabad, 1968, p.3.


96. V.V. Krishna Sastry, *Roman Gold Coins Recent Discoveries in Andhra Pradesh*. Hyderabad, 1992, pp.3-4.


107. Luders List no. 1229.


112. IAE, 1973-74, p. 4.


123. Aswalayana Grhya Sūtra. Bk.I, 12-13;


125. Manusmrti, X.50.


133. Ibid, p.188.


135. Ibid, pp.159-160.


141. Ibid, p.132.

142. Brhatsamhita. LV.2.


146. R.S. Sharma, Urban Decay in India, Delhi, 1987, pp.132-141; pp.87-100; Also see, V.K. Thakur, Urbanisation in Ancient India. Delhi, 1981, pp.261-320.


149. Ibid, p.15.


160. Brhat Samhita. Ch.XV.42; XIX.7; XLVI.36, 41, 47, 55.


165. *Aanipūrāṇa.* 165.11.


169. *Ibid,* pp.73-78.


171. According to D.N.Jha, in his analysis on 'Temples as Landed Magnets in Early Medieval South India', the grants of lands and villages to temples during this period gave rise to an expansion of temple personnel who were paid in kind or through allotments of land which resulted in the growth of feudal land tenures. He also argues that the endowment of land and village to temples weakened the central authority. See D.N.Jha, 'Temples as Landed Magnets in Early South India (c.A.D.700-1300), in, R.S.Sharma & V.Jha (eds.), *Indian Society: Historical Probings.* Delhi, 1974, pp.202-216.


176. *Visnusmrīti,* Ch. LXXV.

177. R.C.Hazra, *Studies in* the Puranic Records. Delhi, 1975, Ch.IV.

178. M.Rama Rao, says that Srisailam was an important *Tirthakshetra* during the 7th-8th centuries A.D, See his 'Temples of Srisailam', *JAHRS.* vol.XXXVI, pp.103-104.


180. *TI,* vol.11, pp.21,23,26,30.


189. S. Sankaranarayana, 'Two Vishnukundin Charters from Tummalagudem', *EA*, vol.11, Hyderabad, 1974, pp.4-20.

190. N. Venkataramanayya, Vishnukundinulu (Telugu). Hyderabad, 1975, p.27.


204. Ibid. p. 185.


207. Ibid. p. 61.


211. Ibid. p. 54.


213. *£1*, vol. XII, pp. 18-19.


223. Ibid. p. 300.

224. Ibid. p. 301.