CHAPTER I

Potentialities and processes of change in the Megalithic culture of Andhra

The nature and magnitude of the change in the material life as represented by the early historical culture can be gauged only if the cultural advancement of the immediately preceding period is assessed, thus enabling a comparison between the two, and revealing their link to each other.

Archaeological work, the only source of knowledge of this period, mainly includes the excavations of several sites and a great deal of explorations in almost all parts of the Andhra region. However, since only a few of the sites have been excavated scientifically in recent times (Yelleswaram, Nagarjunakonda, Peddabankur and Kesarapalle may be mentioned among them) evidence on the whole is not really sufficient. Nevertheless, a general picture of how far the material culture had progressed prior to the beginning of history emerges out of it. It appears that during the preceding three or four centuries at least, Andhra had formed a significant part of the megalithic culture which ushered in the Iron Age almost all over the Deccan Peninsula excepting its north-western part. Exactly how early it commenced is still a matter of controversy and is irrelevant in this context. Nor is it easy to determine

its latest date. But the fact that at many sites an interesting cultural sequence from neolithic, or occasionally neolithic-chalcolithic to megalithic, and finally to early historical occupation is suggested by the antiquities found in exploration and excavations,\(^2\) throws some light on this problem. Yet this generalisation is not applicable to the entire region, since apparently there were some areas where the earlier culture either continued to exist in the historical period, or faded away without further development.\(^3\) It should, therefore, suffice here to say that at least in the sixth or the fifth century B.C., if not earlier, the late neolithic-chalcolithic phase of occupation\(^4\) overlapped with the beginning of the

\(^2\) Examples of sites with antiquities ranging from neolithic to megalithic and finally early historical culture are Donabanda (Krishna district), Amaravati (Guntur district), Vemulapadu (Kurnool district), Timmapuram (Anantapur district) and Kambaduru (Anantapur district). A similar sequence with a slight variation in the character of the neolithic occupation, namely a chalcolithic colouring, is available at Nagarjunakonda (Guntur district) and Kesara-palle (Krishna district).

\(^3\) A glance at Map I will show the existence of numerous megalithic sites which have yet to reveal any habitational deposits of the early historical period.

\(^4\) The neolithic industry of Nagarjunakonda is associated with bits of copper, thus hinting at a neolithic phase which had a chalcolithic colouring; see K.V. Soundara Rajan, 'Studies in the Stone Age of Nagarjunakonda and its neighbourhood', *Ancient India*, No. 14, 1958, pp. 49-113; F.R. Alchin (Painted pottery from Patapadu, Andhra Pradesh', *Antiquity*, Vol. XXXVI, 1962, pp. 221-24) postulates the presence of intrusive elements from the chalcolithic sites of northern Deccan in the neolithic phase at the neolithic-megalithic site of Patapadu (Kurnool
megalithic culture at a number of sites in Andhra. On the other hand, some evidence regarding the closing date of the megalithic culture is forthcoming from certain excavated sites. At Yelleswaram in Nalgonda district, this seems to have happened around 300 B.C. Megalithic occupation of the site in Kesarapalle (Krishna district) ended in the mid-first century A.D. Similar evidence is available from Piklihal in Raichur district of the neighbouring Mysore State. Though the date was not uniform everywhere, it seems that on the whole the features of the early historical culture began to appear in

Cont'd... f.n. 4. district). A similar conclusion has been reached regarding the neolithic, megalithic and early historical site of Kesarapalle (Krishna district); see Indian Archaeology - A Review, 1961-62, pp. 1-3 and also H. Sarkar, 'Kesarapalle 1962', Ancient India, No. 22, pp. 37-74. For the diffusion of the neolithic-chalcolithic culture of the upper Krishna valley along the river into the Raichur doab and further east, see A. Sundara, 'Chalcolithic phase of the Upper Krishna Valley', Studies in Indian History and Culture, Prof P.B. Desai felicitation volume (Dharwar, 1971), pp. 13-30.

5. The earliest date for the beginning of the south Indian megalithic culture is a much disputed question. The suggestion dates range from the eighth century B.C. to third century B.C. As regards Andhra, H. Sarkar (Megalithic Monuments of the Lower Krishna Basin', Seminar papers on the problem of Megaliths in India (Varanasi, 1969), pp. 12-26 feels that the culture of the Lower Krishna valley falls within the time bracket of fifth century B.C. to first century A.D. The neolithic-chalcolithic phase overlaps with the megalithic at Nagarjunakonda and Kesarapalle just as it does at many sites in the other parts of the Deccan.


the existing socio-economic structure around the beginning of
the Christian era in certain parts of Andhra. 9

The long life span of the megalithic culture before the
beginning of history is indicated by its diffusion over almost
the entire region of Andhra and the variety of its burial
methods. It has been conjectured with some justification, that
each type of burial represented a phase of occupation. 10 Yet
it has not been found easy to work out any chronological scheme
on the basis of this suggestion; indeed, some scholars are in-
clined to give different interpretations to the variety of
burial practices. 11 Nearly all the districts excepting the
delicaic ones of West and East Godavari and coastal Visakh-
apatnam and Srikakulam, have been found to possess the remains
of this culture. 12 In other words, clusters of megaliths have

9. Closing dates of the megalithic culture in Milgriris have
been found to be as late as the fourth century A.D.; see
K.S. Ramachandran, 'Chronology of the Indian Megaliths -
107ff.

10. Chronological schemes for the various types of burials
have been proposed by a number of archaeologists. For
instance, see H. Sarkar 'Megalithic Monuments of the
Lower Krishna Basin', loc.cit.

11. See S.S. Sarkar, Ancient Races of the Deccan (New Delhi,
1972), p. 184. According to him the diversity in the
burial methods was due to social stratification during
the megalithic period.

12. The exclusion of the Godavari districts as well as Visa-
khapatnam and Srikakulam districts from the megalithic
zone in Andhra is significant. Permanent settlements in
these areas were difficult at this stage since they were
been reported from Guntur, Krishna, Ongole and Nellore districts on the eastern coast, Khammam, Warangal, Nalgonda, Mahbubnagar, Karimnagar, Hyderabad, Medak and Adilabad in Telangana; Kurnool, Anantapur, Cuddapah and Chittoor in Rayalaseema. Yet a district-wise break-up of the distribution pattern shows uneven growth of the megalithic culture over different parts of the region. Thus more than ten megalithic sites have been reported from each of the districts of Krishna, Guntur, Ongole, Nalgonda, Kurnool, Anantapur, Mahbubnagar and Chittoor, while the highest number of sites from other districts is only about eight. It is significant that parts of many of the districts in the first group lie in the Krishna basin, and Guntur which is partly deltaic has yielded no less than twentyfive such sites. It is possible to suggest, therefore, that the development of the lower Krishna Valley as the nuclear region in the early historical period had its roots in the megalithic settlements of the same area, which appears to have been more intensively settled than other parts of Andhra.

Clearly this distribution pattern holds a key to an understanding of the essential nature of the megalithic economy. The growth of a large number of settlements in the Krishna Valley implies a step forward from the earlier neolithic-dolcholithic phase, as is actually proved by the extensive use...
of iron by the megalithic builders. At the neolithic stage man had known only occasionally the use of metals such as copper and bronze, either due to trade contacts or due to local availability. Consequently, on the basis of their predominantly stone technology the neolithic communities could practise - if at all - only primitive agriculture. They were primarily dependent in the Deccan on stock-raising, due to its geological-geographical conditions. On the other hand it has been suggested that the existing evidence related to the megalithic stage indicates the development of a new economy which, with the help of iron technology, came to be based on settled agriculture, specialisation of labour, and expanding trade relations. It has even been assumed to have had a "bias for urban life." However, this statement seems to be too generalized, not taking into account the noticeable ecological differences within Andhra itself which must have modified the uniformity of the material culture. It has been observed in the case of Piklihal on the Andhra-Mysore border that the people possessing the knowledge of iron-working introduced neither a new system of agriculture, nor new crops in place of the earlier neolithic ones. In the opinion of the excavator, the basically pastoral nature of the economy remained unchanged. This could

15. Ibid.
also be true of at least the megalithic communities in the adjoining territories of Andhra. To some extent the diversity in the economic activities of megalithic communities in different parts of the country is borne out by the distribution pattern of the sites. Thus, almost as many sites occur in Chittoor district as in Krishna, even though ecologically the two are entirely dissimilar. The former area has much greater agricultural potentialities than the latter. Again, megalithic remains have been found to be fairly frequent in Telangana (i.e. Hyderabad, Medak, etc.), despite its generally bleak topographical picture. The possibility of pastoralism having continued even at the megalithic stage in certain parts of Andhra, thus somewhat lessened the overall impact of iron technology on the economic pattern of this culture. Nevertheless the density of megalithic settlements in the lower Krishna basin shows that the settlers had begun to comprehend the economic potentialities of this area with its comparatively abundant agricultural resources. Presumably here the knowledge of iron had a greater and more significant use. As will be shown later, this was precisely the region where the first signs of change leading to the beginning of history were perceptible.

Thus, the role of iron technology can not be minimized. On the whole the proliferation of settlements all over Andhra shows that the Iron Age settlers were better equipped than their megalithic predecessors to deal with the generally harsh
and desolate landscape of most of the Andhra region. This is also borne out by the large quantity of iron tools and implements recovered from the excavated burial sites. The acquaintance with and the wide use of iron were possible because of the rich, accessible deposits of iron ores not only in Maharashtra, Karnataka and Tamil Nadu, but at a number of places scattered all over Andhra. There are iron deposits in the Guntur-Ongole region, in Kurnool, Anantapur, Cuddapah and Chittoor, in parts of Telangana such as Khammam, Warangal and Nalgonda and also in Nellore. According to one scholar, though not all of the deposits are rich and workable from the modern point of view at least some of them may have been worked in pre-historic (i.e. megalithic) times. Unfortunately, it is not possible to ascertain the exact sources of the iron implements used by the megalithic people at various places in Andhra without a spectrographic analysis, i.e. a study of the ore-implement relationship. Perhaps some of the local iron deposits were exploited while in other cases the iron objects themselves were imported from elsewhere. The occurrence of abundant iron slags and primitive iron-furnaces at Chandrayya in Nalgonda district, probably dating back to this period, 18

points to the first alternative. On the other hand, the proximity of the Kurnool-Mahbubnagar settlements to Piklihal on the Mysore Plateau, where again iron slags and smelting areas have been found, and which is within the iron-zone of Karnataka, strengthens the second alternative.

The technique of iron-working was primitive. It has often been noted that this was probably the same as the so-called Wootz method of manufacturing iron or steel, in vogue at a very early date among south-Indians. Wootz is actually held to be the distorted form of укку (Kannada) and урукку (Tamil) which stand for steel. This technique, i.e. producing steel by the fusion method in clay crucibles, was prevalent from Andhra Pradesh to Mysore and the southern districts of Tamilnadu. It has been proposed that this region produced the two fine steel swords which were presented to the Persian King, Artaxerxes Mnenon in 450 B.C. and were traced by Ktesias to India.

Cont'd... f.n. 18. Andhras. (New Delhi, 1975), pp. 36, 38, reports two recently discovered sites in Anantapur district, namely Kalamedunur hill and Palavoy, where evidence of iron smelting during the megalithic phase has been found. Unfortunately however, as this work is not properly documented, I was unable to check the source of this reference.

22. Ibid.
23. Ibid.
A large portion of the implements produced on the basis of this technology consisted of tools for the production of food. It is because such iron agricultural tools as sickles, hoes, axes, hooks etc. have been found from burials all over the south that the economy is supposed to have been based on settled agriculture. 24 Except for proving the existence of some kind of cultivation, sickles and axes by themselves do not throw any light either on the method of production or on the kind of cultivation. In Andhra, however, apart from the fairly large number of sickles and axes, two implements of potential importance have been found - an object resembling an iron plough-share from Yelleswaram (Malgonda district) in the Krishna valley, 25 and the prong of a hay-fork from Hashmatpet, near Hyderabad. 26 If the identification of the object from Yelleswaram as a plough-share is accepted, it would seem that the use of iron-tipped plough for cultivation by the megalithic folk constituted a major step forward from primitive method of agriculture followed at the neolithic stage. Corroborative

24. K.S. Ramachandran, 'Some Aspects of the Economy of the Indian Megalithic Builders', Indian Historical Quarterly, XXXVIII, 1962, No. 1, pp. 60-64. Sickles and axes have been found at a number of excavated sites in Andhra such as Hashmatpet (Hyderabad district), Pochampad (Adilabad district), Yelleswaram (Malgonda district), Nagarjunkonda etc.

25. Md. Abdul Waheed Khan, op.cit., p. 48. Plough-shares have also been found at Janampet (Warangal district); Cf. L.S. Leshnik, 'Early Burials from the Nagpur district, Central India'; Man, Vol. 5, No. 3, 1969, pp. 498-99.

evidence for this suggestion is available from Brahmagiri, where a curious iron tool, recognised as a plough-coulter, was found in a megalithic tomb. Yet plough-cultivation, even if known, could not have been prevalent extensively, and it was possibly introduced during the later or mature stage of the megalithic culture. Otherwise, such tools would have been found in greater number. It is to be noted that the plough-share from Yelleswaram was found at a level which could not be dated very much earlier than 100 B.C. As such, it perhaps represented a transitional stage. In the earlier phase agriculture was probably of the 'shifting' or 'slash and burn' kind and there may have been few permanent settlements. This seems to be borne out by the frequent occurrence of hoes, if not in Andhra, at least in the burials on its peripheries. Moreover, due to ecological variations from region to region, it may be that this method of cultivation continued to be used in many areas simultaneously with the employment of the plough.


28. One such site is Jadigenahalli (Mysore). At Adichanallur (Tamilnadu) 44 hoes were discovered in burials; see Purushottam Singh, Burial Practices in Ancient India (Varanasi, 1970), p. 96. Hoes are reported to have been discovered during the excavation at Peddabankur, Indian Archaeology - A Review, 1970-71 (cyclostyled copy), pp. 3f; but whether they belonged to the 'megalithic' level or the early historical has not been mentioned. Even if they are dated to the early centuries A.D., the prevalence of primitive agriculture during the preceding period in this region may be reasonably assumed.
elsewhere.  

The hay-fork from Hyderabad gives a different kind of evidence, though again subject to its correct identification. As will be presently shown, it suggests a variety in the crops cultivated. The greater part of Andhra has red soils, poor in organic matter and unable to retain moisture. This, along with a low to moderate rainfall in this area, makes wet cultivation such as that of rice very difficult. The red soils are actually held to be suitable mainly for pasture and forage crops including the millets. A particular type of red soil locally known as Chalkas, which are located at higher levels in Telangana, produces the millets, the predominant crops in a large part of Andhra. Of these, ragi (elusive cerecane) which is food for both man and beast, was produced from very early times. Of African origin, this grain was cultivated by neoli-

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29. Even as late as the early twentieth Century A.D., district gazetteers refer to the prevalence of this mode of production amongst a number of forest tribes in this region. Chief among these tribes were the Koyas whose economic occupation was a combination of primitive or podu agriculture with cattle-breeding, the cattle also being known as 'Koya'. The Koyas lived at this time in the country on either side of the Godavari from the point where the Indravati joins it down to the apex of the delta. They were seen as far south as Khammameth. In 1907, they formed at least one quarter of the inhabitants of Bhadrachalam taluk (Khammam district) which, significantly is also an area fairly rich in megalithic remains. In fact, the gazetteers refer to shifting cultivation as being frequently applied on bad soils, which are so common in many of the districts. See District Gazetteer of Godavari, Vol. I (Madras, 1907) for the information on the Koyas and other tribes of that region; for other similar tribes and the prevalence podu cultivation elsewhere in Andhra, there is District Gazetteer of Anantapur, (Madras, 1905).
thic inhabitants of Karnataka and Paiyampalli (North Arcot district, Tamilnadu). That it continued to be grown even in the megalithic period is attested by the discovery of similar grains from a megalith in Coorg. Since ragi cultivation seems to have become well established by this time in the close neighbourhood of Andhra, in all probability it had spread into this region as well. That some such crop producing straw for the cattle was grown here, is implied by the hay-fork. The other grain, for the cultivation of which some evidence may be cited, was rice. Rice-cultivation was well-known at that time, and rice-husks, even rice-grains have been reported from excavated burials in other parts of the south Indian megalithic zone. That a variety of millet (perhaps ragi) and rice formed the main diet of the people may also be inferred from the shapes of their characteristic black-and-red pottery which include a shallow tray-bowl, probably for eating rice, and a deep bowl which may have been used for partaking


32. Ibid. There is no extant evidence of rice cultivation by the megalithic communities of Andhra. But B.R. Branfill mentions in his report of excavations of megalithic burials in Cuddapah district ('Old slabstone monuments in Madras and Maisur', Indian Antiquary, Vol. X, 1881, pp. 97-100) the assertion of the local villagers that they had seen ancient vessels filled with rice amongst those burials earlier.
a gruel made of *ragi* or *jowar*. Steam-cooking an essential method for preparing rice or gruel, is indicated by the pottery with lids - another innovation of the megalithic people. But there is no evidence regarding the nature of rice-cultivation, i.e. whether it was wet or the dry, hill variety. It is possible that at the initial stage the latter was grown in terraced plots, requiring not a plough but only hoes, and not entailing effective control over the drainage of water. However, at some stage during the transition from megalithic to early historical period, wet cultivation of rice must have been introduced and one is tempted to associate this development with the occurrence of a plough-share at Yelleswaram.

Nevertheless, the raising of rice as a wet crop could not have been extensive, except in areas where fertile land, high temperature and good rains or alternatively adequate irrigational facilities were available. The only areas where these suitable conditions exist are the deltas of the Godavari and the Krishna which are covered with alluvium and have good rain fall. Even now these regions raise rice as the principal crop. Composed to other areas, moreover, production could ensure a surplus. During the historical period these deltaic

tracts came to be known as the "granaries of the South". Other places where the megalithic folk could have produced rice are the narrow alluvial soils, except in gorges, along the big rivers such as the Godavari and the Krishna. In these areas, however, irrigation would have to be resorted to since there is not adequate precipitation.

Irrigation must have been a necessity even where a dry cultivation was undertaken. At present tank-irrigation is practised on a large scale in Telangana and the coastal areas south of the Krishna delta. In these areas, ragi, the most important food, is cultivated both as a dry as well as an irrigated crop. Furthermore, geologically the Archaean terrain of Andhra is particularly suited to tank-irrigation. The present system of irrigation may well date back to great antiquity. Ancient tanks have actually been noticed in the vicinity of megaliths at places in South India (e.g. the megalithic site in Chingleput district, Tamilnadu. But strangely enough, no similar discovery has been made within Andhra in association with megaliths. However, since this may be due


36. Ibid., p. 231.

37. Ibid., p. 239.

to the limited archaeological work done in this area so far, tank irrigation may be assumed to have been practised here too. This irrigational system of the megalithic folk has been described in the following manner: "Selecting a suitable portion of a sloping ground, a bund of convenient length, away from the gradient, was put up to impound the rain water from the upper elevated regions. The arable lands were beyond this bund and were watered through convenient sluices opening in this eastern barrier". But from the analogy of modern tanks it appears that they were far from satisfactory. As in modern times, relatively few tanks could have held water throughout the year; the water-surface being large in relation to volume, loss by evaporation and seepage was high. Thus, the problem of a new supply of water was to be faced from time to time. This perhaps affected adversely any sustained effort at agricultural production.

Irrigation with the help of wells may also have been known to the megalithic people. Three brick wells, ostensibly for domestic purposes, have been found inside a massive brick-structure of this period at Peddabankur (Karimnagar district).

40. See Spate and Learmonth, op.cit., p. 232, for a discussion of the defects inherent in the modern system of tank-irrigation as practised in Andhra Pradesh.
41. *Indian Archaeology - A Review*, 1968-69, pp. 1ff. According to the excavator these wells along with other structural remains belong to a cultural phase which should be
It may be supposed that irrigational wells were also dug.

Apart from the food crops, rice and rāgi, land was also cultivated - wherever possible - to raise cotton. Indirect evidence for cotton-weaving in Andhra can be adduced from the terracotta spindle whorls found in a Nagarjunakonda megalithic burial. 42 This is further corroborated by the occurrence of traces of cotton in a pot found in a grave at Adichanallur (Tamilnadu). 43 Cotton is grown profusely on the regur or the black soils of the Deccan trap, parts of which extend into a large section of Telangana. The soils in the Kurnool-Mehbubnagar area comprising the Raichur doab and those of the northern part of Anantapur district, together with those found in the Godavari Valley are particularly deep and fertile. Hence moderate rainfall or irrigation in areas of less precipitation would have assured a good crop of cotton. Moreover, since cotton is a rabi crop and millet a kharif one, they would be combined together appropriately, without incurring any loss of land through its diversion to the cultivation of a non-edible crop.

The agricultural areas as described above generally conform to the distribution pattern of the megalithic sites indi-

Cont'd... f.n. 41. termed 'megalithic'. But the evidence cited for this conclusion is not entirely convincing.

42. Indian Archaeology - A Review, 1959-60, pp. 5-12.

cated previously. It seems that at least in the transitional period the large number of sites in the lower-Krishna basin, namely, Guntur-Krishna districts and parts of Ongole and Nalgonda districts, subsisted on a flourishing agriculture, while the clusters of megalithic settlements in parts of the Kurnool-Mahbubnagar region are probably largely explained by their location in the fertile Raichur doab. The density of settlements in the Guntur-Krishna region may have been partially due to the cultivation of rice in that area. For land under paddy cultivation can produce twice as much as does that growing the millets, and a surplus production in such an area is thus not difficult. Ultimately, this would lead to population and economic growth.

Similarly the group of sites in the eastern part of Kurnool district, i.e. around the foot hills of the Nallamalai hills, was located in the broad valleys of the Kunderu river, a tributary of the Pennar. In spite of their meagre resources, there is at present a fair amount of cultivation consisting mainly of jowar and other millets and some irrigated paddy as well. Indeed, the topography of the longitudinal valleys is particularly suited to tank-irrigation on a large scale. In the southern part of this valley were also located some of the Anantapur-Cuddapah sites.

44. Spate and Learmonth, op.cit., p. 236.
45. Ibid., p. 725.
46. Ibid.
On the eastern side of the Nallamalai ranges is the big group of burials in Ongole district. Here again a dry cultivation, combined with paddy-growing based on tank-irrigation, constitutes today's agriculture.\(^{47}\) The same is largely true of Nellore and Atmakur taluk where some megaliths are situated. This area, however, being located near the mouth of Pennar river, would have been more fertile after rainfall. In the north, the agricultural pattern does not vary for the sites in Hyderabad, Medak and parts of Nalgonda districts. On the other hand, in the favoured basins along the Godavari valley with their deep black soils, the settlements of Karimnagar, Warangal and Khammam probably saw some prosperity.

On the whole, there seems to be no doubt that the agricultural output could not have been high outside the lower Krishna valley and probably the area enclosed by the Krishna and Tungabhadra. Ecologically the rest of Andhra (excepting the fertile basins of the Godavari valley) were unsuited to large scale agriculture, especially since tank-irrigation would have been only temporarily effective. This leads one to question as to what degree the economy had changed since neolithic times particularly in those poor, inhospitable tracts of the country such as Chittoor, Cuddapah and parts of Anantapur districts in Rayalaseema, or Hyderabad, Medak etc. in Telangana, which were even devoid of any substantial mineral resources.

\(^{47}\) Spate and Learmonth, op. cit., p. 737.
It would seem that here at least animal breeding continued to be an essential economic occupation. Pastoral life was favoured by the topography itself, as the red soils are more suited to pasture and the cultivation of forage crops than anything else, and a large part of Andhra has been labelled by geographers as grass lands. Hence, if animal remains consisting of cattle, sheep and goat at Piklihal led F.R. Allchin to assume the continuity of the earlier pastoral economy in the megalithic period, it could well have been true of the adjoining sites in Andhra too. Interestingly enough, the megalithic graves in parts of Chittor district adjacent to Tamilnadu are locally known as the Kurumbar-Kudis, Kurumbar denoting "a race of shepherds, not highly advanced, living in the border-land between Andhra and Tamil-nadu and Karnataka in its neighbourhood. They rear sheep and manufacture blankets from the wool of their sheep". Further, a Brâmi inscription of the third

48. S.P. Raychowdhuri, Land and Soil (New Delhi, 1966), p.34.
49. Ibid., p. 108.
50. F.R. Allchin, op.cit., p. 137.
51. N. Venkataramanayya, 'Pre-historic Remains in Andhra Pradesh', Journal of Andhra Historical Research Society, XXXII (Parts I-IV) 1971-72, p. 21. To substantiate this suggestion one may again consult the relevant volumes of Imperial Gazetteers and Madras District Gazetteers which contain a wealth of information on the pre-industrial society in Andhra. Even during the nineteenth and twentieth century animal-husbandry seemed to have been important in most of the districts. For instance, a tribe called the Kurubas who reared sheep and wove woolen blankets lived in almost all parts of Anantapur and Kurnool districts.
or fourth century A.D. was found at Ganga-peruru (Cuddapah district) - known for its megaliths - which records the raising of a memorial pillar for an individual who died in a cattle-raid.

However, the dearth of substantial archaeological evidence inhibits any positive statement regarding the proposed regional variations of the megalithic economy. Animal-bones including those of cattle are often found in megalithic graves. But cattle-breeding (as e.g. in the settlement of Nagarjuna-konda) was also essential in an agricultural economy. On the other hand, excavations at the habitation site of Kesarrapalle revealed as many animal bones from the neolithic-chalcolithic phase as from the megalithic. Horse-breeding also appears to have been known as horse-bones have been found at Jaggayyapeta and Yeleswaram, while objects, seemingly,

52. For the megaliths at Gangaperuru see N. Venkataramanayya, op.cit., p. 39. For the inscription see P.R. Sirinivasan, 'A Brahmi inscription from Gangaperuru', Epigraphia Indica, Vol. XXXVI, 1965-66, part V, pp. 207-08.

S.P. Gupta (‘Gulf of Oman: The original home of Indian Megaliths', Puratattva No. 4, 1970-71, p. 9), also holds that the megalithic people were partly nomadic pastoralists and partly agriculturists.


horse-bits, were discovered amongst the grave-furnishings at Janampet (Warangal district) and Guntakal (Anantapur district).56

On the basis of the above discussion, it is possible to divide the Andhra region into four main economic zones, which started taking shape in the megalithic and Iron Age, and became the foundation of the early historical economy. These are as follows:

(A) The lower Krishna valley, particularly the alluvial delta of the Krishna river, comprising Guntur and Krishna districts and also parts of Nalgonda. This area, along with the Godavari delta to some extent, emerged as the nuclear region during the early historical period, being the potential agricultural heartland of the country.

(B) Andhra portion of the Raichur doab and its neighbourhood comprising parts of Anantapur-Kurnool-Mahbubnagar districts. This was another fertile pocket where agriculture could be practised with fruitful results.

(C) The fertile basins along the Godavari Valley, having a rich, black soil and consisting of parts of Adilabad, Karimnagar, Warangal and Khammam districts.

(D) The rest of the Iron Age settlements were located in the greater part of Andhra, now thriving on a dry, even meagre cultivation. Agricultural production in this zone would have supported settlements of a much smaller scale than in the Krishna-Guntur region, or for that

56. B.K. Gururaja Rao, op. cit., p. 266.
matter in the Raichur doab and its neighbouring areas. Consequently, animal breeding would perhaps continue to be a prominent occupation in this zone which also included the western parts of Guntur district.

The difficulty of raising a surplus output in agriculture was probably partially mitigated in some parts of Andhra by the existence of not inconsiderable but scattered mineral resources which could have been exploited by the local megalithic communities as far as their new technology allowed. It has been pointed out that the occurrence of megaliths in the ancient goldmining region of Maski (Raichur district, Karnataka) for example, was not a mere coincidence. According to Allchin, though gold-mining was known at the neolithic stage, deep-mining operation was undertaken only with the arrival of iron and particularly carburised steel, as is indicated by the presence of iron crowbars, gauges, and pick-axes in the megalithic burials of the region. Like Maski, several other gold mines of Karnataka may well date back to the south Indian Iron Age, if not earlier. In western Andhra too, the gold-bearing Dharwar schists occur from the north to the south across Anantapur district and extend into Chittoor district.


Some of these mines also show evidence of old workings. Though the earliest date for the beginning of mining operation in this area is uncertain, it would not perhaps be unreasonable to suppose that a few of them were contemporary with Maski, Kolar and other mines of Mysore. How else could the existence of a fairly large number of megalithic clusters in Anantapur and Chittoor districts be explained? Ecologically the area has nothing special to offer, except for what is available in the greater part of Andhra (i.e. zone D) too. The existence of megaliths at Moodhuguloor and a now-extinct gold mine at Ramagiri, both in Dharmavaram taluk looks quite significant in this context. It would indeed be interesting to make a detailed survey of the distribution and contents of megalithic burials in the gold-mining zones of Anantapur-Chittoor districts, in order to substantiate this conjecture.

Other minerals possibly handled by the megalithic settlers of Andhra were various kinds of semi-precious stones, out of which beads were made. Such beads are frequently found amongst grave furnishings in megaliths. Beads made of carnelian, jasper and crystal were reported from Peddabankur in Karimnagar district. They were also found in frequent

60. Allchin, 'Upon the Antiquity and Methods of Goldmining in Ancient India', loc. cit., p. 204.
association with female skeletons in the burials of Hyderabad-Medak region. The largest number were excavated at Maski in the neighbourhood of Kurnool district. It is not possible to determine whether the beads were locally made or not. Agate, Carnelian, jasper, garnet, crystal etc. are profusely found not only on the Mysore plateau, but at many places in Andhra. The verdict of archaeologists seems to be that semi-precious beads were worked mainly in the Cambay region in north western Deccan and the raw material was easily available either on the spot or in the immediate neighbourhood. But the possibility of local production on a limited scale in Andhra cannot be ruled out. Chalcedony and jasper tools belonging to neolithic communities have been found in Kurnool district. One interesting example is the large number of neolithic jasper tools discovered in the vicinity of the megaliths opposite the town of Kurnool.

66. For instance, agate and chalcedony are found in the Palnad area of the Krishna valley and near Rajamundry in the Godavari basin. Carnelian and jasper occur in the hills west-north-west of Cuddapah. Agate, onyx and carnelian can be found near Buzurg and Ferozabad in Hyderabad district. Garnets are available in Nellore and Visakhapatnam districts. For a full description of these mineral deposits see the relevant volumes of Wealth of India, and Meher D.N. Wadia, op.cit.
68. Indian Archaeology - A Review, 1959-60, p. 11.
If, however, it is supposed that the bulk of the semi-precious beads found in Andhra originated in Cambay, they could have arrived here via trade-channels only. That at this stage trade contacts had become fairly widespread compared to those of the earlier neolithic stage, may be gathered from other indications as well. Indirect evidence is provided by the practice of breeding horses, which must have been used both for the transportation of goods as well as for military purposes. Stronger and far more direct proof may be adduced from, for instance, the uniformity of the iron-industry over the entire megalithic cultural zone of south India. As already mentioned earlier, in all likelihood a considerable section of the megalithic sites in Andhra acquired their iron tools from outside. Similarly, the numerous gold and silver beads in a Nagarjunakonda burial, and other occasional finds of gold objects could have reached these sites through trade, possibly from the Karnataka mines or the Anantapur-Chittoor workings.


70. A few gold and silver ornaments were recovered from the burials of Raigir in Hyderabad district (see E.H. Hunt, 'Hyderabad cairn burials and their significance', Journal of Royal Anthropological Society of Gr. Britain and Ireland, No. 54, 1924, pp. 140-56; also G. Yazdani, Annual Report of the Archaeological Department of H.E.H. the Nizam's Dominion, 1915-16, pp. 6-10). A gold ring together with stirrup-like iron objects was reported from a burial at Janampet in Warangal district by Khwaja Muhammad Ahmad, (Preliminary excavations at the Pre-historic sites near Janampet referred to by Purushottam Singh, op. cit., p. 85).
To this first possibility the Kurnool-Mahbubnagar sites may have owed some of their importance and proliferation. Among other items, which were imported into Andhra, were the bronze ferrules found at Hashmatpet (Hyderabad district), and copper ornaments from the contemporary settlement site of Peddabankur (Karimnagar district). Though the latter probably came from the region of the copper mines in Rajasthan, the copper objects from a Nagarjunakonda burial may have been of a local origin. The adjacent taluk of Vinukonda has been known for its anciently worked copper deposits and it is possible that they were exploited even as early as the megalithic period. This area (i.e. Vinukonda taluk) and its surrounding areas abounds in megalithic remains.

Of far greater significance were the trade contacts between Andhra's megalithic communities and the regions lying to its north-east. The remarkable uniformity of the megalithic ceramic industry was not limited to the Deccan only. The occurrence of a black-and-red ware associated with the use of iron and with a probable affinity with south-Indian megalithic remains.

73. Ibid., 1959-60, pp. 5-12.
thick pottery in the middle and lower Gangetic valley\textsuperscript{75} may be explicable in terms of trade relations with the Deccan. It will be shown gradually that in these relations Andhra soon came to play a prominent role, when they received an impetus during the reign of the Mauryas from the last quarter of the fourth century B.C. onwards.

It appears from contemporary literature that around the third century B.C., the mineral wealth of the Deccan, particularly its precious metals and stones, was attracting the traders and prospectors of the Gangetic valley. Thus various references in the \textit{Arthasāstra}, much of which was possibly written at this time, reveal an awareness of these massive mineral deposits of the Deccan. At one place Kauṭālya declares that the route to \textit{Daksināpatha} or the south was to be preferred to the northern route (\textit{Uttarāpatha}) as the former produced conch-shell, diamond (\textit{vajra}), gemstones, pearls and gold.\textsuperscript{76} He also states explicitly that the southern route passed through many mines.\textsuperscript{77} Again, elsewhere he mentions the various kinds of gold obtained from different localities which, however, are no longer identifiable.\textsuperscript{78} But as sugges-

\textsuperscript{75} Bridget and Raymond Allchin, \textit{op.cit.}, pp. 232. See also B.K. Thapar in K.S. Ramachandran, \textit{A Bibliography on Indian Megaliths} (Madras, 1971), p. V.

\textsuperscript{76} \textit{Arthasāstra}, VII, 12.

\textsuperscript{77} \textit{Ibid.}

\textsuperscript{78} \textit{Ibid.}, II, 13.
ted by a scholar, these mines should be identified among the south Indian gold mines. The Mauryan expansion into the south and annexation of Andhra and Karnataka, therefore, easily understandable. Asokan inscriptions are found at a number of sites in association with, or in the immediate neighbourhood of, ancient gold mines and diamond workings. Thus the Maski edict is right on the gold field, while the inscriptions at Yerraguddi and near Pattikonda (both in Kurnool district) are in the heart of a country, long known for diamonds. Yerraguddi is within 20 miles of Vajra-Karur, a famous diamond mine, which has signs of old working. Even now diamonds are found in the area surrounding the inscription itself, particularly at Jonnagiri, which is significantly also a site of early historical culture.80

In all likelihood the northern traders made transactions for gold and also perhaps diamond with the local megalithic settlers, since the possible link between the latter and ancient gold-workings has already been indicated. That gold was transported from these mines down the Krishna Valley for

He has also suggested the link between the Asokan inscriptions, and gold and diamond mining, as described above in the following lines of the text.

80. For the early historical site at Jonnagiri see Indian Archaeology - A Review, 1957-58, pp. 5-9.

81. The occurrence of gold objects at the Nagarjunakonda burial suggests that the Krishna valley provided a route linking the interior with the coast.
being exported from settlements in the deltaic region, is implied by the discovery of a goldsmith's mould from Period II (dated to about the second-first century BC) of the riverine port of Dharanikota near Amaravati. Apart from gold and diamond what other products of Andhra might have attracted the traders from outside is difficult to determine. But there is no dearth of other conclusive evidence to testify to the close trade contacts existing between some of the Andhra megalithic communities and north India.

Thus, sherds of the Northern Black Polished ware, which may be presumed to have started travelling down to the south during the Mauryan occupation, have been found at three different sites in coastal Andhra. At Kesarapalle (Krishna district) with the deposits of the megalithic occupational stratum, they were found mixed, succeeded by the early historical culture. While it was collected from the surface at Chebrolu (Guntur district), the profuseness of the ware at Amaravati-Dharanikota in association with the typical megalithic Black-and-Red ware is, indeed, of great interest.


It appears that in this respect Amaravati occupied a unique position amongst the contemporary sites of the Deccan.\textsuperscript{86}

The discovery of this north Indian pottery in the Krishna-Guntur region in sizeable amount assumes added significance in the light of the fact that not long ago a fragmentary inscription in Asokan Brāhmī character was found at Amaravati too.\textsuperscript{87}

The presence of elements representing economic interests from outside Andhra in the Lower Krishna basin is, thus, proved beyond any doubts. Any explanation for this phenomenon must necessarily take into account the possibility that, for the traders of the Gangetic valley, direct access from eastern India to the reputed mineral deposits of the central and eastern Deccan may have been provided precisely by this area.

That the Krishna river and its valley had been discovered as the ideal natural highway running into the interior, is indicated by the mercantile character of the contemporary settlement at Dharanikota. It is likely that Amaravati-Dharanikota stood at a point where this route intersected the main highway running in from north India. There is, at present some evidence to suggest that this settlement was in contact with the eastern Gangetic valley by way of central


\textsuperscript{87} D.C. Sircar, 'Fragmentary pillar inscription from Amaravati', \textit{Epigraphia Indica}, XXXV, 1963-64, pp. 40-43.
India where early Buddhist settlements arose at Bharhut, Sanchi etc. Support for this hypothesis also comes from the recent excavations at Pauni in the Vidarbha region where a small quantity of Northern Black Polished ware was discovered. According to the excavators, therefore, it was from this direction that Buddhism and the Northern Black Polished ware travelled down to coastal Andhra. There may have, however, been an alternative route, as NBP sherds have not been found to occur anywhere between Pauni and Amaravati. On the other hand, their intriguing abundance at the latter place and its neighbourhood, together with the evidence given by other associated antiquities tempts one to suggest that the distinctive character of this settlement evolved as a consequence of its proximity to the sea, from this direction, perhaps, entered the cultural influences of the Gangetic valley. The fact that no Northern Black Polished ware sherds occur anywhere between the three sites in the Krishna-Guntur area and Sisupalgarh far to the north-east on the coast of Orissa, may further indicate the existence of a coastal sea-route rather than that of a coastal land-route.

All this thus indicates that the Mauryan control over Andhra and the consequent expansion of trade with the north,

89. S.B. Deo and Jagat Pati Joshi, op.cit., pp. 60-62.
together with the inherent potentialities for economic expansion in the ecology of the lower Krishna basin and in the cultural attainment of the megalithic burial builders played a catalytic role in the process of transition from pre-history to history. An attempt will be made to establish this hypothesis on firmer grounds in the following pages.

II

It is in the region comprising the districts of Guntur and Krishna that the first signs of a major change in the material life started appearing during the two centuries before the beginning of the Christian era, thus heralding the early historical culture. An indication of this may be seen in the appearance of a new cultural feature, characteristic of this period of transition - local inscriptions written in early Brāhmī script in association with the rise of the first Andhra Buddhist centre at Amaravati in Guntur district. Buddhism appears to have been introduced in coastal Andhra following the arrival of northern traders whose activities received an impetus during the Mauryan rule. Gradual acceptance of this new religion, as evidenced by the increasing number of Buddhist sites belonging to the pre-Christian era, such as Bhattprolu, Guntupalle, Kesanapalli, Jaggayyapeta, Goli etc. in the Krishna-Guntur region, was a manifestation of the slowly changing
pattern of the contemporary socio-economic structure. The role of trade with north India in activating the forces of change is also stressed by the fact that a script was now being used by a people, hitherto illiterate.

The rise of Buddhist stupas and monasteries presupposes the existence of a hinterland producing surplus. Thus, the inscriptions from Amaravati and Bhattiprolu which may be dated around C. B.C. 300-200 and which recorded donations made there by individuals, and communal bodies, such as gāma (village) and nigama (commercial centre), sufficiently testify to the

91. See J.A. Burgess, The Buddhist Stūpas of Amaravati and Joggayyapeta (London, 1887). Apart from the discovery of the Asokan inscription with Mauryan Brāhmi characters from Amaravati, several other inscribed pieces of architecture of the third or the second century B.C. have come to light in recent years, thus helping to fix its date. See A. Ghosh, 'Early inscriptions from Amaravati, south-east Asia', Proceedings of the Second Conference on Asian Archaeology, (Colombo, 1969, cyclostyled paper). A pre-Christian origin may be attributed to Jaggayyapeta on the basis of the inscriptive evidence cited by D. Barrett, 'The early phase at Amaravati', British Museum Quarterly, XXXII, 1967, p. 45.

For Guntupalle see Madras Archaeological Report (Southern Circle), 1916-17, pp. 30-36, Indian Archaeology - A Review, 1968-69, p. 64.

There is also Md. Abdul Waheed Khan, A Monograph on An Early Buddhist Stūpa at Kesanapalli (Hyderabad, 1969).

For the stūpa at Goli see T. N. Ramachandran, Buddhist Sculptures from a Stupa Near Goli Village, Guntur district (Madras, 1929).

A. Rea, South Indian Buddhist Antiquities (Varanasi, 1969) gives an account of the stupa at Bhattiprolu and its inscribed caskets.

A general survey of the Buddhist centres of Andhra is given in K.R. Subramaniyam, op.cit.

beginning of surplus production in the neighbourhood of these stūpas and also presumably the other Buddhist centres of the pre-Christian era. A few of the gāmas and nīgamas are identifiable. The place-name 'Kudūra', which also occurs in later inscriptions and literature is identical with Guduru (or Gilduru) near Machhhipatnam (Krishna district). Existence of other apparently surplus-producing villages may be established with the help of archaeology. Excavations at Kesarapalle (Krishna district) revealed a cultural sequence stretching from the neolithic-chalcolithic to megalithic and finally to the early historical stage ending around the middle of the fourth century A.D. A comparison between the megalithic and the succeeding early historical culture shows that from the middle of the first century A.D. onwards when the megalithic occupation came to an end, Kesarapalle gradually developed into a large flourishing village. The seeds of this subsequent expansion were embedded in the latest phase of the preceding culture, as is indicated by the presence of Northern Black Polished ware amongst the deposits of the upper layers. Economic expansion during the early centuries A.D. is represented

Cont'd... f.n. 92. Inscriptions from Bhattiprolu are included in Prof Lüders List of Brāhmaṇ Inscriptions from the earliest times to about A.D. 400 (Berlin, 1912).

93. A. Ghosh, loc.cit. No. 27.


by a distinctive ceramic industry consisting of the Rouletted ware which suggests Roman contacts, and brick structures of the Ikṣvāku period, in the vicinity of which an Ikṣvāku lead coin, terracotta, glass and semi-precious stone beads including one of lapis lazuli were found. Corroborative evidence is available from Chebrolu (Guntur district) where surface-exploration resulted in the discovery of Northern Black Polished ware along with other contemporary pottery. Also reported were antiquities belonging to the first three centuries of the Christian era, including many Sātavāhana coins. Thus, this was the site of another village with potentialities for further growth.

Like Kesarapalle there must have been other settlements having a surplus production at this time which belonged to the same cultural milieu as the megalithic communities. It is noteworthy that Amaravati, Jaggayapeta and Goli - important Buddhist sites with a pre-Christian origin - have also yielded the remains of megalithic graves. Some urn-burials were


97. *Ibid.*, 1962-63, pp. 65f. A large number of terracotta figurines and Sātavāhana coins, beads, inscribed sealings, toys and limestone sculptures of the Ikṣvāku period were found.


Similar sites with megalithic as well as post-Christian
actually discovered beneath one of the smaller stupas at Amara-
vati. In fact, megalithic burials have been noticed in the region between Amaravati and Guntur, especially near the foot of the hill-ranges.99 Significantly, the lowest levels of Dharanikota and the Mahāchaitya site at Amaravati yielded material belonging to the same megalithic culture.100 The earliest settlers of these sites, therefore, formed a part of the large megalithic community that occupied an extensive area in the region before the advent of Buddhism. This was in contrast to most other sites of similar cultural remains, where the early historical period began from about the first century A.D. onwards.

In the context of the assumption that these new settle-
ments required an agricultural base, references to the nigama of Dhānyakaṭaka in the early Amaravati inscriptions101 and the mention of an unnamed nigama in Bhattiprolu inscriptions102

Cont'd... f.n. 98. historical remains have been shown on Map I. Prominent amongst these are Nagarjunakonda and Yellawarām.

99. H. Sarkar and S.P. Nainar, Amaravati (New Delhi, 1972), p. 5. Exploration of some of the sites in this area have been reported in Indian Archaeology - A Review, 1960-61, pp. 1-3. Of these Lam and Motadēka have been shown in Map I.


102. Lüders, op.cit., p. 1335 and 1337.
become meaningful. The term 'nigama' at this time meant a 'commercial centre'. In the existence of such centres of commerce lay the genesis of urbanization in Andhra which took place later during the early centuries of the Christian era. Dhānyakaṭaka's identification with Dharanikota seems acceptable not only because of the latter's proximity to Amaravati, but also due to the fact that its habitational deposits belonging to this period characterize it as a riverine market-centre. It is quite likely that the unnamed nigama mentioned in the inscription from Bhattiprolu also refers to Dharanikota, since there is at present no evidence of the existence of another contemporary commercial-centre in this locality.

Andhra's participation in the growing trade of the sub-continent, during the Mauryan period and after, may be inferred from another source. Signifying the tentative beginning of a money economy, coins began to appear in this area during the third century - second century B.C. A very large hoard of nearly 8000 silver punch-marked coins was unearthed in the Amaravati-Dharanikota area. It is said to have been deposited around the last quarter of the third century B.C. Another hoard of 418 silver punch-marked coins, probably deposited in


the late second century B.C. or early first century B.C., was found in the Karimnagar district of Telangana. 105

The location of the Karimnagar coin hoard is interesting. When viewed in connection with the recent excavations of a rich site at Peddabankur in the same district, it shows that apart from the significant pocket in the lower Krishna basin, this was another area in the Godavari valley where the roots of the early historical culture could be traced back to a comparatively early date. Peddabankur is reported to have yielded a cultural sequence from the megalithic to the early historical period. 106 The earliest settlement, dated the third century B.C., appears to have been of some importance, with large brick structures and various antiquities including objects evidently obtained through trade. Hoards of coins - punch-marked and Sātavāhana - occurred among the deposits of the succeeding period of occupation constituting the early historical period, when the settlement expanded considerably. 107


106. Excavations at Peddabankur have been briefly reviewed in Indian Archaeology - A Review, 1967-68, p. 2; ibid., 1968-69, pp. 1f; 4 ibid., 1970-71 (cyclostyled copy), pp. 3f.

107. Though a proper and complete assessment of the archaeological evidence from Peddabankur is not possible at present due to the lack of any systematic report of the excavations, the presence of a large number of semi-precious glass and terracotta beads, terracotta figurines and seals amongst the antiquities attributed to the early historical period may indicate economic expansion; Cf. Indian Archaeology - A Review, 1968-69, pp. 1ff. Several large brick
Settlements also grew in the upper reaches of the Godavari valley comprising the modern district of Nizamabad as is attested by contemporary literary references. The Suttanipata places the janapada of Asmaka on the Godavari. Asmaka was also known to Panini as well as several Buddhist and later Brahmanical texts like the Anguttara-Nikaya and the Puranas. Later, Pliny refers to Asmagi which possibly corresponds to the same territory. Asmaka has been identified with roughly the region of Nizamabad district, while its capital - styled differently as Potali, Potana, Podana, etc. in literature and inscriptions may have been at modern Bodhan lying south of the confluence of the Godavari and the Manjra.

To sum up, the last two or three centuries B.C. represented a stage of transition when the features of a new culture associated with the beginning of history started to appear primarily in the Krishna-Guntur region and to a lesser extent

Cont'd... f.n. 107. structures together with foundations of rubble-houses, walls and cisterns were also exposed, but their dates are not clear from the brief notice in ibid., 1970-71, pp. 3ff.


109. Ibid.


in selected parts of the Godavari Valley. Elsewhere the predominant megalithic culture continued to exist without any perceptible change till at least the first century B.C. - first century A.D. Thus, the nascent early historical culture was unmistakably based on settled agriculture, some amount of crafts production and exchange which led to the inception of a market-economy. The culture, however, attained maturity during the early centuries A.D., when the way was paved for the emergence of an urbanized economy, attended by major changes in the social structure. The broad aspects of this change, viz., agriculture, commodity - production, trade, urbanization, the rise of new social groups and finally the organization of political control in the form of dynastic rule have been discussed in the following chapters.