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S. SETTAR

RAVI KORISSETAR



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# Brahmagiri and Beyond: The Archaeology of the Southern Neolithic

RAVI KORISSETAR, P.C. VENKATASUBBAIAH  
and DORIAN Q. FULLER

## INTRODUCTION

The 'Neolithic' throughout the Old World is taken to be synonymous with the earliest agriculture, due to the widespread appeal and influence of V. Gordon Childe's concept of a 'Neolithic Revolution' (e.g. Childe 1936, 1942, 1956). While the Neolithic ('New Stone' age) was defined archaeologically on the basis of having ground stone tools and pottery, which set it apart from the Palaeolithic and Mesolithic, these traits were taken, under the influence of Childe and Braidwood (Braidwood and Braidwood 1953), as proxy indicators of settled villages with cultivation and domesticated animals (e.g. Wheeler 1959; Allchin 1963a; Allchin and Allchin 1968; Krishnaswami 1960; Paddayya 1973; Thapar 1974, 1978, 1981-3). However, this Neolithic package has increasingly been shown to fall apart in many parts of the world, such that ground stone tools, pottery, domesticated animals, and cultivation must each be investigated empirically and cannot be inferred one from another (see, e.g. Hoopes and Barnett 1995; Bar-Yosef 1998; Jarrige 1998). As agriculture and pastoralism have formed the basis of the economy for most of the world's population over the past few millennia, it is of great interest to understand the origins of these types of economy. The Neolithic of southern India (Fig. 1), therefore, lies at the historical roots of the social processes by which modern agricultural village life came about on the Indian peninsula.

Although research on the Southern Neolithic began in the first half of the nineteenth century, our knowledge and understanding has expanded greatly in the decades since India's Independence. In an area of southern India covered by the geological surveys of Robert Bruce Foote a large number of Neolithic sites were recorded (Foote 1887a, 1887b, 1914, 1916). This region became the focus of Neolithic archaeology in the post-Wheeler era and the 'Southern Neolithic' was identified as a distinctive regional group in India (see Krishnaswami 1959, 1960; Allchin and Allchin 1968; Thapar 1974, 1978; Sankalia 1977). A particularly distinctive aspect of this ancient culture are 'ashmound' sites which consist of large heaped accumulations of ash and vitrified material, which are now generally accepted as having originated from burnt cattle dung (Zeuner 1959; Allchin 1961, 1963a; Mujumdar and Rajaguru 1966; Paddayya 1973, 1991-2). After summarizing the history of research in this area, we will discuss the expanding geographical scope of knowledge about contemporaneous, 'Neolithic' cultures in southern India and the growth of research through new methods of investigation, in particular through the application

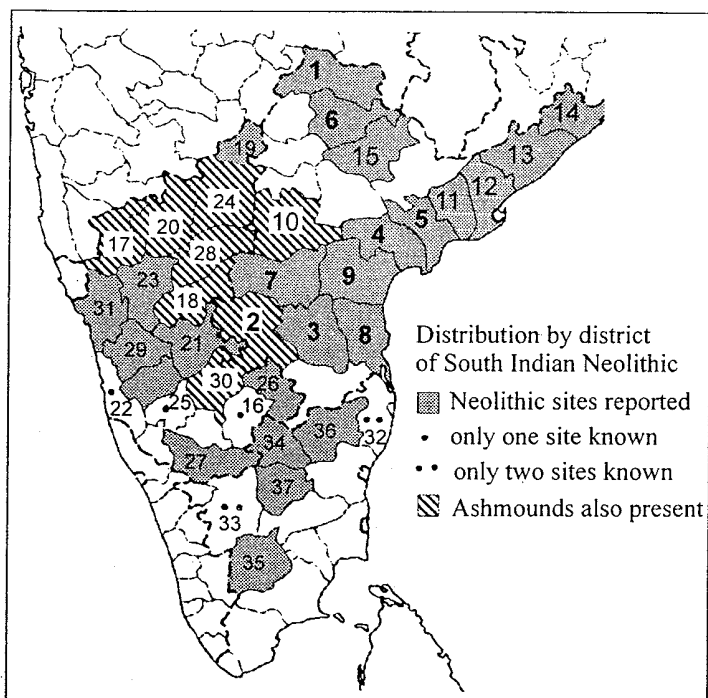


Fig. 1: Map showing districts in the three large south Indian states in which Neolithic sites have been reported. Note that coverage of the various districts in terms of archaeological survey is uneven. Those districts in which ashmounds are present are hatched (also see Fig. 13 showing the rainfall per annum in the area covered by the ashmounds). For a list of sites by district see Appendix III. Districts are numbered: 1. Adilabad, 2. Anantapur, 3. Cuddapah, 4. Guntur, 5. Krishna, 6. Karimnagar, 7. Kurnool, 8. Nellore, 9. Prakasham, 10. Mahbubnagar, 11. West Godavari, 12. East Godavari, 13. Visakhapatnam, 14. Srikakulam, 15. Warangal, 16. Bangalore, 17. Belgaum, 18. Bellary, 19. Bidar, 20. Bijapur, 21. Chitradurga, 22. Dakshina Kannada, 23. Dharwad, 24. Gulbarga, 25. Hassan, 26. Kolar, 27. Mysore, 28. Raichur, 29. Shimoga, 30. Tumkur, 31. Uttara Kannada, 32. Chigleput, 33. Coimbatore, 34. Dharmapuri, 35. Madurai, 36. North Arcot, 37. Salem.

of archaeological sciences. Finally, we turn to a discussion of three areas of interpretation that remain controversial: the nature, origin and meaning of the ashmounds, the organization of Neolithic economy in terms of pastoralism, agriculture and settlement pattern, and the 'origin' of the Neolithic culture. Scholarly tradition argues for maintaining the use of the term 'Southern Neolithic', even though these sites overlap in time with the 'Chalcolithic' cultures of the northern Deccan (Maharashtra), and copper has been found from middle and upper levels on a number of Neolithic sites. In this article 'Chalcolithic' will be used only to refer to the archaeology of this latter, more northerly region, and is

therefore contemporary with the middle and late Neolithic of the region focused on here.

#### THE FIRST CENTURY OF SOUTHERN NEOLITHIC ARCHAEOLOGY (1842-1942)

The beginnings of prehistoric archaeology in southern India revolved around the discovery of ashmound sites and the collection of antiquities which were placed within the 'Three Age System'. The large, intriguing deposits of scoriaceous ash, initially called 'cinder mounds' or 'cinder camps' and now usually called 'ashmounds,' were first reported by Mackenzie in the early part of the nineteenth century and brief notes on ashmounds began to appear with increasing frequency from the early 1840s (Newbold 1836, 1842-3; for the early history of ashmound research, see Allchin 1963a: 1-5). Newbold was the first to report anything like a systematic excavation which he carried out at the Kupgal ashmounds. He argued that the mounds were created by people on the basis of his finds of pottery, animals bones and a rubbing stone. This hypothesis, sustained by subsequent work, was contrary to the beliefs of earlier explorers who had considered the deposits to be volcanic or limestone in origin (e.g. Cole 1838). More generally research on the Southern Neolithic was heralded by the the first recorded collection of New Stone Age artefacts (Neolithic flakes) from Lingsugur in the Raichur Doab by one Primrose in 1842 (Allchin 1960). Although ashmounds were reported as early as the 1830s, the first systematic reporting comes from the 1840s. Among others, Colonel Meadows Taylor (1851, 1853, 1862) and R.B. Foote (1865, 1887a, 1887b, 1895, 1914, 1916) figure prominently during this research phase. Their penetrating inquiry into the cultural-historic past of the region where they were working ushered in an era of discovery and documentation of prehistoric sites. During the second half of the nineteenth century their efforts were largely responsible for shaping Indian archaeology during its antiquarian phase. Col. Taylor, a British Political Agent in the Principality of Shorapur carried out the first orderly excavation of prehistoric megalithic graves at Rajankolur in the present Gulbarga district of Karnataka.

Robert Bruce Foote of the Geological Survey of India (Madras) was a major archaeological pioneer. Among his many firsts was discovering the first palaeolith from this southern region (Foote 1866). Perhaps more significant was his recording of a large number of Neolithic and related sites during his geological tours in different parts of southern India (Fig. 2). The region traversed by R.B. Foote included an area which now spreads over three southern states—mid-eastern Karnataka, south-western Andhra Pradesh and north-eastern Tamil Nadu. In the Principality of Mysore, Foote served as the first Director of the Mysore Geological Department during 1894-7, after his retirement from the Geological Survey of India in 1893. Between 1863 and 1897 Foote discovered as many as 459 prehistoric sites—among them 252 Neolithic sites (including ashmounds). He was the first to employ the Three Age system (Palaeolithic-Neolithic-Metal Age) in India to organize his findings into a culture-historic sequence, although Foote recognized that south India differed from the European prototype as there was no distinct Copper/Bronze Age in south India, but merely the occasional copper finds in an otherwise continuous Neolithic tradition (Foote 1916). He also made the first systematic typology of the lithic technology of the Southern Neolithic. Foote also reported items of adorn-

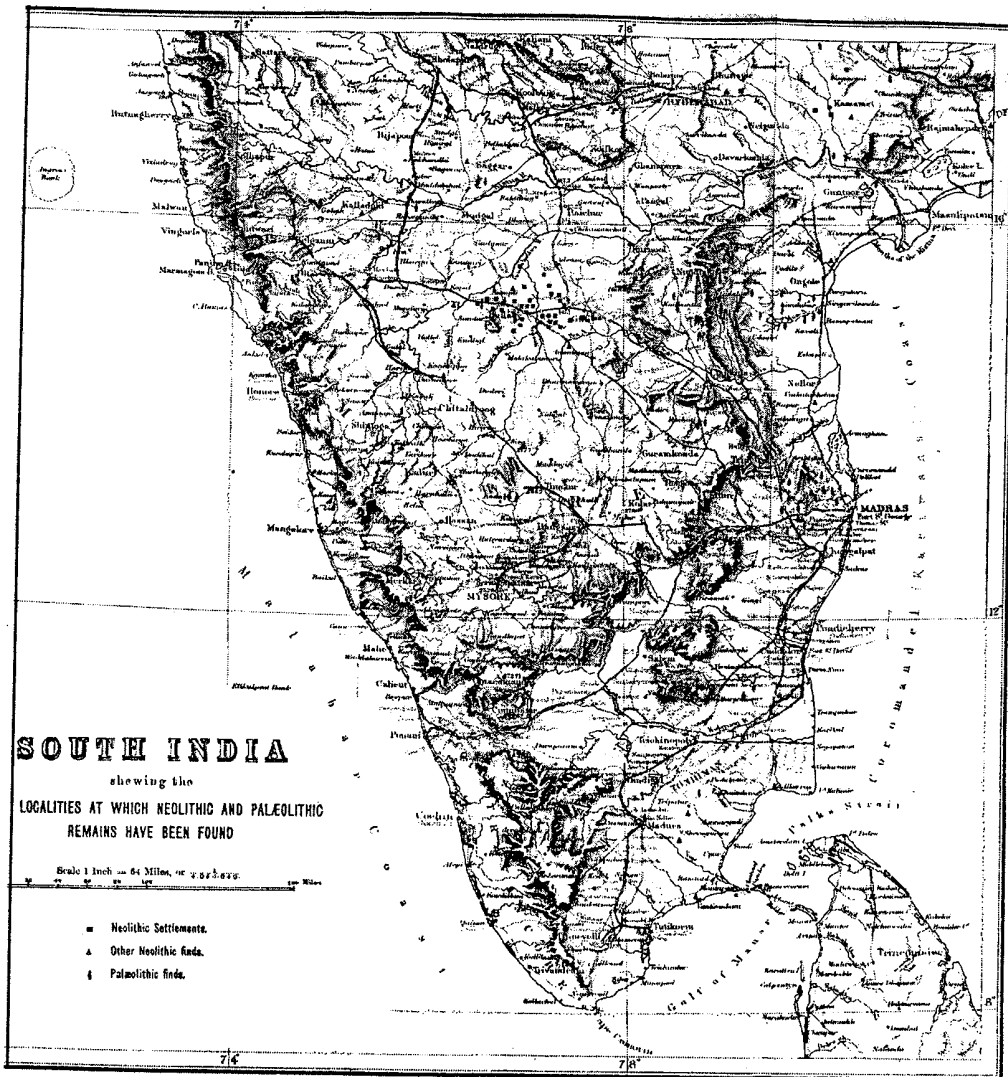


Fig. 2: The first distribution map of prehistoric sites in south India, showing Neolithic sites (squares and triangles) as well as Palaeolithic sites (diamonds) (after Foote 1887a).

ment, such as carnelian beads of 'good workmanship', steatite beads, and haematite that might have been for purposes of skin decoration. He was the first to connect the ashmounds with the Neolithic culture of south India and assert that these were heaps of excessively-burnt cow-dung created by Neolithic cattle-herders on the basis of an excavation at Budikanama (Kudatini) (Foote 1887a, 1916; Allchin 1963a: 2, 52). Drawing on ethnographic accounts from H.M. Stanley's *In Darkest Africa*, Foote formulated the hypothesis that the mounds came from a 'zariba process' in which dung accumulated outside the fences of ancient villages as they did in East Africa. Foote was the first to bring out the relationship between mineral resources, namely, trap dykes used for manufacturing celts, and the location of Neolithic settlements, thus opening up a new area of research into economic prehistory (Foote 1887a, 1895). His meticulous collection of artefacts and intuitive judgement of their significance and function helped him to provide plausible interpretations of Neolithic life-ways. For instance, he identified grooves in the granitic boulders in the vicinity of Neolithic settlements as places where stone axes had been ground. In addition he identified the function of certain ceramic forms, notably the neck (head) rests, on the basis of parallels known from Africa (see also Allchin 1966; Nagaraja Rao 1970).

Five years before his retirement from active service in the Geological Survey of India Foote came out with a seminal paper that set out his understanding of the Neolithic settlements and life-ways (Foote 1887a). He discussed at length the site of Kupgal (Kapgul, Kappagallu, Kapgal), 8 km east of Bellary, a district headquarters in Karnataka. The site of Kupgal was originally found by William Fraser who introduced Foote to this site. Foote noted the habitation site near the summit of Peacock hill, now known as Hiregudda (not excavated by later workers), where he recorded cattle bones that were described by him as 'bones of bullocks . . . within the ashy parts of the made ground' (p. 259). There he located a number of querns, or 'block troughs' and 'mealing-troughs' (p. 259). Foote also attempted to estimate the thickness of the habitation (2-3 ft) on the basis of gully exposures, and he made basic distinctions within the pottery: a black-and-red pottery and a brown ware. He also located a stone axe factory on the basis of a dense scatter of greenstone and dolerite artefacts (including debitage) in various stages of fabrication. A Neolithic hilltop settlement, rock-art on outcrops of a dolerite dyke (Gordon 1951), stone-axe workshop areas and a cluster of three ashmounds (one of which was excavated by Mujumdar and Rajaguru in 1964, published 1966) are all to be found on and around 'Peacock hill.' within the revenue limits of the village of Sanganakallu (Sangankal). Also near this village are two other hills with Neolithic sites, including Sanarachamma Hill (later excavated by Subbarao in 1947, published 1948 and Deccan College in 1965, Ansari and Nagaraja Rao 1969), and the partially terraced hilltop of Choudammagudda, which has a small ashmound and large scatters of Neolithic artefacts (observations by the authors).

Foote also began a form of settlement archaeology by discussing the distribution of Neolithic sites. On the basis of his extensive fieldwork, he observed that within the Bellary-Anantapur region sites clustered around granitic hills and the settlements usually occupied commanding positions overlooking the surrounding plains (Fig. 3). He suggested four

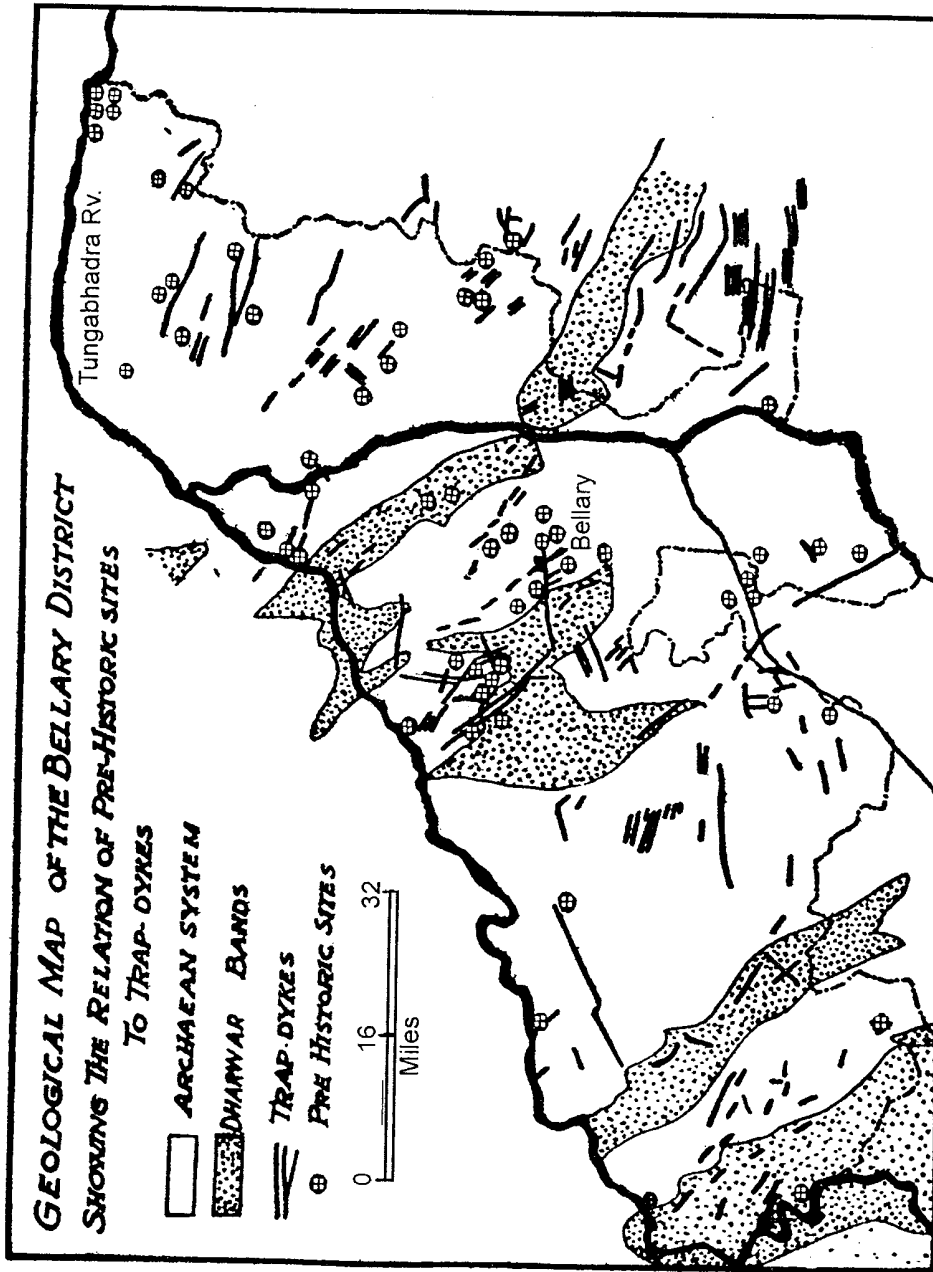


Fig. 3: Distribution of Neolithic settlement sites (excluding ashmounds) in the Bellary district. Note the general proximity of Neolithic sites to dolerite dykes, the source of raw material for ground stone axes (after Subbarao 1948).

criteria that governed the distribution and location of sites (Foote 1887a), including the defensibility of the lone granitoid peaks, the readily available terraces on these hills (as opposed to on schistose ridges), the ease with which water is naturally stored and retrievable from the cracks in the granite hills, and because the potentially cultivable fields begin immediately at the base of the granite peaks (as opposed to the wide skirt of talus slopes surrounding schistose hills). Between 1887 and 1895 he worked out carefully the relationship between raw material and specific craft, and listed the varieties of stones used by the Neolithic folk (Table 1). In the context of the time, without the benefit of excavation, he produced a coherent and fairly detailed understanding of the Neolithic culture that was not to be revised or expanded until the past four decades.

Additional contributions were made in the early twentieth century with increasing contributions from Indians. Munn (1934) compiled periodic notices of Neolithic sites in the dominion of the Nizam of Hyderabad, particularly in the Raichur and Shorapur Doabs, over the previous century and inspired further work. C. Mahadevan of the Hyderabad Geological Survey discovered a large number of later prehistoric sites which have unfortunately remained unpublished. During the pre-War period R. Narasimhachar, on behalf of the Mysore Archaeological Department, which was established in 1884-90, brought to light the archaeological potential of Chandravalli and Brahmagiri through his preliminary excavations and a careful study of the antiquities recovered from these sites (Settar 1976). During the Inter-War period excavations of Neolithic sites at Maski (Ahmad 1935-6, 1936-7), Kallur (Ahmad 1937-40), and Kadkal (Yazdani 1935-6a) in the Raichur Doab were conducted on behalf of the Archaeological Department of the Hyderabad State.

TABLE 1: FOOTE'S LIST OF ROCK AND MINERALS AND THEIR USE BY NEOLITHIC FOLK (After Foote 1895)

Granite	For mealing stones, corn-crushers, mealing troughs, polishing and edging places for celt-making on the rock terraces, deep troughs on big blocks for holding water and rarely for celt.
Epidote-granite	Corn-crushers—brought from outside
Green gneiss	Mealing stones—brought from outside
Green stones	Celts, hammers, chisels, ringstones, mealing stones, corn-crushers, strikers, scrapers, flaking-tools, flakes
Quartz	Corn-crushers, scrapers and strike-a-light
Siliceous breccia	Mealing stone
Hornblend schist	Celts of a flat type, pestles
Steatite	Small ringstone beads
Slate, purple	Figurines
Quartzite	Mealing stones, hones, beads
Haematite-jasper	Mealing stones, corn-crushers
Jasper, red	Beads
Haematite-schist	Bull figurine
Haematite, red, carthy	Pigment
Agate	Cores, flakes and beads
Carnelian	Beads, cores and flakes
Chert	Cores, flakes, scrapers, slingstones, strike-a-light
Clays	Pottery



Neolithic ashmounds continued to attract probing as to their origin, nature and purpose. Few workers during this period accepted Foote's hypothesis of the ashmounds as the camps of Neolithic cattle-herders, and as a result a series of alternative theories were set forth. These theories, however, were often conflicting and often lacked coherent archaeological support. Sewell (1899) for example, maintained that some of the mounds were not cattle camps and might be medieval in date (also Longhurst 1912-13); he therefore sought textual evidence for vast holocausts, such as mass *sati* to which he could attribute the mounds. J.J. Modi (1927-30) connected the south Indian evidence with 'ashmounds' reported from Iran, although these sites are likely to represent regular habitation sites rather than ashmounds in the distinctive sense of those in south India (Allchin 1963a: 70). Foote had already made an attempt to support his argument about the ashmounds with scientific methods, namely, the chemical analysis of ashmound material by Bosworth-Smith (see Foote 1916: 95; Allchin 1963a: 80-6), although this work remained largely unaccepted until similar, more detailed studies were later carried out (see below). Thus Munn (1927-8, 1934: 126ff.) concluded that the origins of the mounds was still unclear. Subsequently Yazdani (1935-6b) attributed the mounds to metal-working of either gold or iron, with the notion of iron-smelting becoming the most popular alternative to Neolithic cattle dung origin (e.g. Woolley 1940; Sundara 1971c, 1975: 178; Rami Reddy 1976, 1977, 1978, 1990; cf. Zeuner 1959; Allchin 1963a: 4-5, 82-5).

Brahmagiri, which was to become a key site in Southern Neolithic studies, was revisited by M.H. Krishna in 1940. Krishna carried out field documentation that emulated Foote's work at Kupgal. The variety and density of artefacts at the site clearly indicated the multi-period complexity of the site. Realizing its potential and being the Director of the Mysore Archaeological Department he had full command of the situation and planned an excavation at the ancient town of Isila, at the foot of Brahmagiri hill. While the year 1941 was devoted to studying the surface collections from the site, he decided to excavate vertical trenches in 1942. The study of surface material from Brahmagiri very clearly indicated a stratified occurrence of later prehistoric cultures from Mesolithic (Roppa Culture) to Early Historic through Neolithic and Megalithic (Isila Culture) phases (Krishna 1943). Krishna made Brahmagiri an important site for understanding the chronology of south India and thus put it at the forefront of work for Mortimer Wheeler.

#### THE WHEELER ERA (1943-1947)

During the 1940s important advances in Neolithic archaeology were made through the first systematic excavations. In particular the excavations at three key sites were undertaken and reported, namely at Maski, Brahmagiri and Sanganakallu. The first account of excavations at Brahmagiri by M.H. Krishna (1943) appeared in the *Annual Report of the Mysore Archaeological Department for the Year 1942*. Wheeler's report on his excavation at Brahmagiri was published in *Ancient India 4* in 1947, the year of India's independence and a year later Subbarao's report of his excavation at Sanganakallu was published (1948) by Deccan College, Pune, the same year that Wheeler relinquished his office.

Wheeler's dig at Brahmagiri laid the foundation for placing the Southern Neolithic in its broader geographical and chronological context. In 1944 (Sir) R.E.M. Wheeler became Director General of the Archaeological Survey of India, on a four year contract. Though his tenure was short (1944-8) he broke fresh ground in many areas of archaeological research and provided a structure for the Archaeological Survey of India. His tenure ushered in an era of excavations directed at building a chronological framework for the whole of the subcontinent. His prompt publication of site reports made available a vast body of archaeological data, which allowed 'planning ahead' (Wheeler 1949). Wheeler placed the Southern Neolithic, which he called the 'pointed-butt axe culture,' into the so-called 'protohistoric' phase of India, a term applied to the Harappan period in the north-west due to the presence of a script, but truly a misnomer for contemporaneous cultures of the peninsula (see Wheeler 1947-8, 1959). The Neolithic and Megalithic/Iron Age really constitute the 'later prehistory' of south India.

The Brahmagiri excavations revealed a continuous occupation from the Upper Neolithic through the Early Historic. The upper levels designated as the Andhra Culture included Rouletted Ware in association with red pottery decorated with criss-cross yellow paintings. Below this was the Megalithic phase characterized by cist-burials, well-polished Red and Black Ware and Red Slipped Ware. Beneath the Megalithic phase was the deep stratified deposit of stone axes, handmade ceramics, burials in crude handmade urns, microliths of quartz, agate, and occasional copper and bronze objects. He also observed an 'overlap' between Megalithic and Early Historic phases. In addition there was overlap between Neolithic pottery types and 'megalithic' pottery types, although Wheeler downplayed this fact, in part because of his belief that the Megalithic burial tradition must have been introduced by immigrant-invaders (Wheeler 1947-8: 203; 1959: 164-7). This excavation provided a relative chronological sequence of 'cultures', although Wheeler had to rely on guesswork for assigning absolute dates. He only allowed a very limited timespan of one millennium for the development of these cultures. In Wheeler's view, the Neolithic culture was dated to the early part of the first millennium BC with the Megalithic beginning in the third century BC, this immigrant culture driven south as part of the historical expansion of the Mauryan empire, subsequently transformed into the Andhra Culture in the beginning of first century AD. Subsequent work and radiometric dating were to seriously revise these dates. Despite his mistakes, Wheeler's chronostratigraphic approach to excavation provided inspiration to the coming generations of archaeologists, who pursued similar excavation programmes on a number of southern prehistoric sites from the late 1950s through the 1970s.

#### THE GROWTH OF SOUTHERN NEOLITHIC ARCHAEOLOGY (1947-1992)

Close on the heels of Wheeler's work at Brahmagiri and coinciding with the dawn of India's Independence research on the Southern Neolithic increased, although still largely with purely cultural-historical aims. A series of Ph.D. dissertations were produced at Deccan College (University of Poona), under the tutelage of the late Professor H.D. Sankalia. Sankalia (1978) had planned this programme even before Wheeler excavated

Brahmagiri, and the late B. Subbarao had begun his research on the Neolithic of Bellary in the mid-1940s (Fig. 3; Subbarao 1947, 1948, 1949). In the 1960s and 1970s five doctoral dissertations were completed in Pune (Poona) on the Southern Neolithic. Surveys by Nagaraja Rao (1966, 1967) and Sundara (1968, 1970, 1971a, 1971b, 1971c, 1971d) of the Tungabhadra and upper Krishna river systems together with Paddayya's (1973) survey of the Shorapur Doab were crucial in expanding the inventory of Southern Neolithic archaeology (Fig. 4). In the following list some important contributions of the past fifty years are given, especially theses and related publications, from Deccan College and elsewhere:

- *Prehistoric and Early Historic Bellary* (Subbarao 1949) was submitted to the University of Bombay, a year after his *Excavations at Sangankallu* (Subbarao 1948) which was part of his research programme (Subbarao 1947). Later revisited by Ansari and Nagaraja Rao (1969). Mujumdar and Rajaguru (1966) excavated a nearby ashmound.
- *The Development of Early Cultures in the Raichur District of Hyderabad* (F.R. Allchin 1954), submitted to the School of Oriental and African Studies, University of London, which included excavation at Piklihal in the same district (F.R. Allchin 1960), subsequently followed up by excavations at Utnur (1961) in Mahbubnagar district, Andhra Pradesh. Evidence from these excavations, other workers, and ethnographic comparisons were brought together in an important synthesis, *Neolithic Cattlekeepers of South India* (Allchin 1963a).
- *The Stone Using Cultures of Pre and Protohistoric Mysore* (Seshadri 1956), submitted to University College, London.
- *The Chalcolithic Cultures of the Deccan (North Karnataka)*, submitted by M.S. Nagaraja Rao to the University of Poona. Tekkalakota and Hallur were excavated and reports of these excavations were published by Nagaraja Rao (Nagaraja Rao and K.C. Malhotra 1965; Nagaraja Rao 1971). Further excavations conducted at Hallur in the 1970s have remained unpublished.
- *Pre- and Proto-historic Investigations in Shorapur Doab* (Paddayya 1968), submitted to the University of Poona. A revised portion of this thesis was published as *Investigations into the Neolithic Culture of the Shorapur Doab, South India* (Paddayya 1973), including the test excavation at Kodekal ashmound.
- *Pre and Protohistory of Southwestern Andhra Pradesh* (Rami Reddy 1968; published 1978), submitted to the University of Poona. Palavoy ashmound excavations were also published (Rami Reddy 1976).
- *Neolithic and Megalithic Cultures of Tamil Nadu* (Narasimhaiah 1980, 1981), submitted as a thesis in 1977 to the University of Poona. Section scrapings were made at Mullikadu, Togarapalli and Dailmalai.
- *Archaeology of Bidar District*, submitted to Karnatak University by R.M. Shadakshariah (1984).
- *Neolithic Culture of Central Coastal Andhra Pradesh (South India)* (David Raju 1985), submitted to Nagarjuna University.
- *Archaeology of Malnad Region* (Poonacha 1990), submitted to Karnatak University.

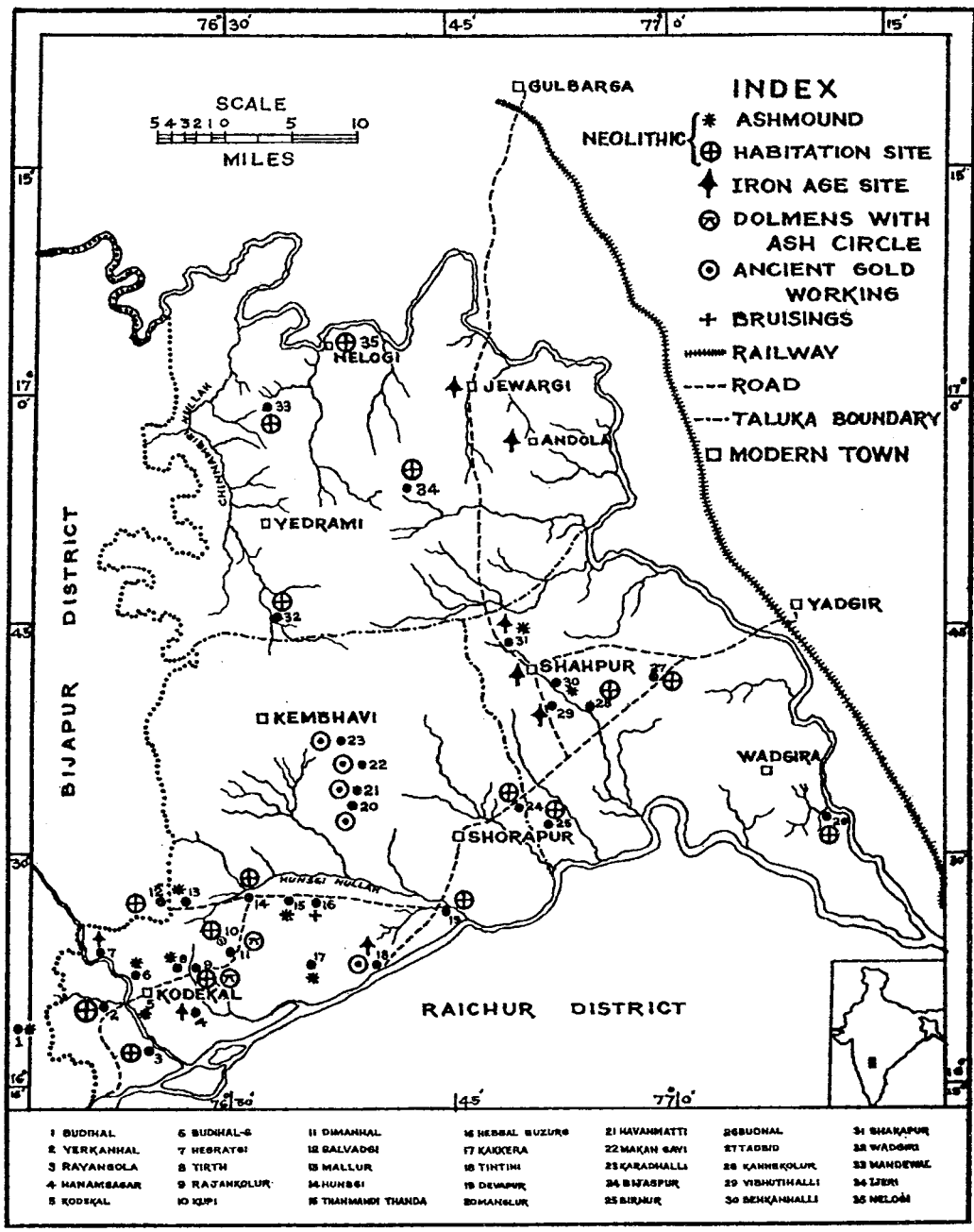


Fig. 4: Neolithic sites in the Shorapur Doab, Gulbarga district Karnataka (after Paddayya 1973).

- *Protohistoric Investigations in the Central Pennar Basin, Cuddapah District, Andhra Pradesh* (P.C. Venkatasubbaiah 1992), submitted to University of Poona.

In the 1950s two British archaeologists, Raymond Allchin and F.E. Zeuner based in England at, respectively, the School of Oriental and African Studies in London and the Institute of Archaeology, University College, London, made contributions to Neolithic archaeology. Both scholars took an interest in understanding the origins and make-up of the Deccan ashmounds, and carried out complementary research. Zeuner (1959) visited Kudatini ashmound and sampled the ash for chemical and microscopic study. Allchin, on the other hand, undertook a more extensive and holistic research programme, including archaeological survey in the Raichur Doab (Fig. 5; Allchin 1954, 1955), and excavation of both a normal habitation site, Pikhlihal (Allchin 1960), and an ashmound, Utnur (Allchin 1961). Zeuner was able to establish beyond reasonable doubt that the ashmounds originated from dung, presumably of cattle, as they were similar in their chemical composition to dung as well as including large amounts of silicified grass cells (which would today be called phytoliths), as one expects to find in the dung of grazing animals (Zeuner 1959; Wheeler 1959: 91). Allchin's excavation evidence from Utnur indicated that the ashmound at that site was associated with a rectangular, post-hole defined enclosure (Fig. 6), interpreted as a pen (Allchin 1961, 1963a, 1963b). Allchin and Zeuner thus established through scientific study the validity of Foote's earlier hypothesis, a hypothesis that had fallen out of favour during the early twentieth century (e.g. Sewell 1899; Longhurst 1912-13; Modi 1927-30; Munn 1927-8; Yazdani 1935-6b; Woolley 1940; ashmounds were excluded from discussions of the Neolithic by Seshadri 1956 and Krishnaswami 1960). In addition, it became apparent that the accumulations of cattle dung had been episodically burnt, perhaps as part of a regular cycle, which may well have had symbolic or ritual significance (Allchin 1961, 1963a, 1963b; Paddayya 1973). On the basis of a detailed study of Neolithic pottery and a comparison with better dated sequences elsewhere, such as Iran and north-western India, Allchin (1954, 1960, 1963a) presented arguments to date the Southern Neolithic to the latter third and the second millennia BC rather than the first millennium date held by Wheeler (1959; concern had also been raised by Seshadri 1956: 57-8). The deployment of radiocarbon dating put chronology on a much more secure footing and proved a much greater time depth, to at least the mid third millennium BC as Allchin had argued (Allchin and Allchin 1968; Paddayya 1971, 1973; Agrawal 1982: 271). In addition to an improved archaeological characterization of the Southern Neolithic culture, some inferences were made regarding the range of activities of the Neolithic folk, including a major pastoral component and probably some agriculture, although hard evidence for the latter was still largely lacking but for a few chance finds of millets and tropical pulses in the later 1960s (see Allchin 1969a; Vishnu-Mittre 1971, 1974; Kajale 1974).

The 1960s were an important decade in terms of intensive explorations of various sectors of southern India. Coupled with dissertation programmes, the village-to-village survey programme of the ASI produced a substantial quantity of data. Exploration and a number of excavations were undertaken by the Archaeological Survey of India and the state departments of archaeology. The Archaeological Survey of India carried out several

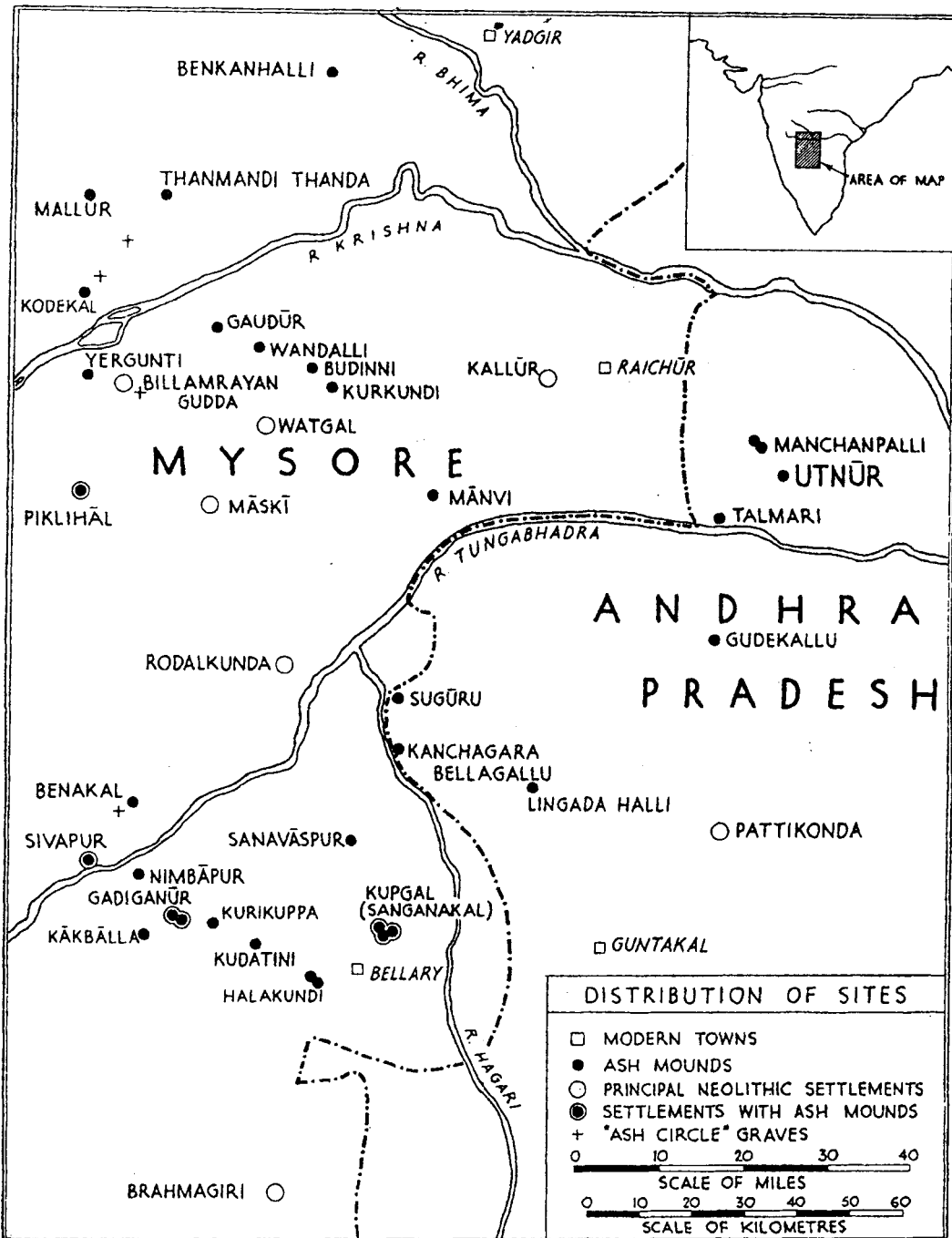


Fig. 5: Distribution of Neolithic sites and ashmounds in the Raichur Doab, Karnataka and adjacent parts of Bellary and Gulbarga of Karnataka, and Mahbubnagar, Kurnool and Anantapur districts of Andhra Pradesh.

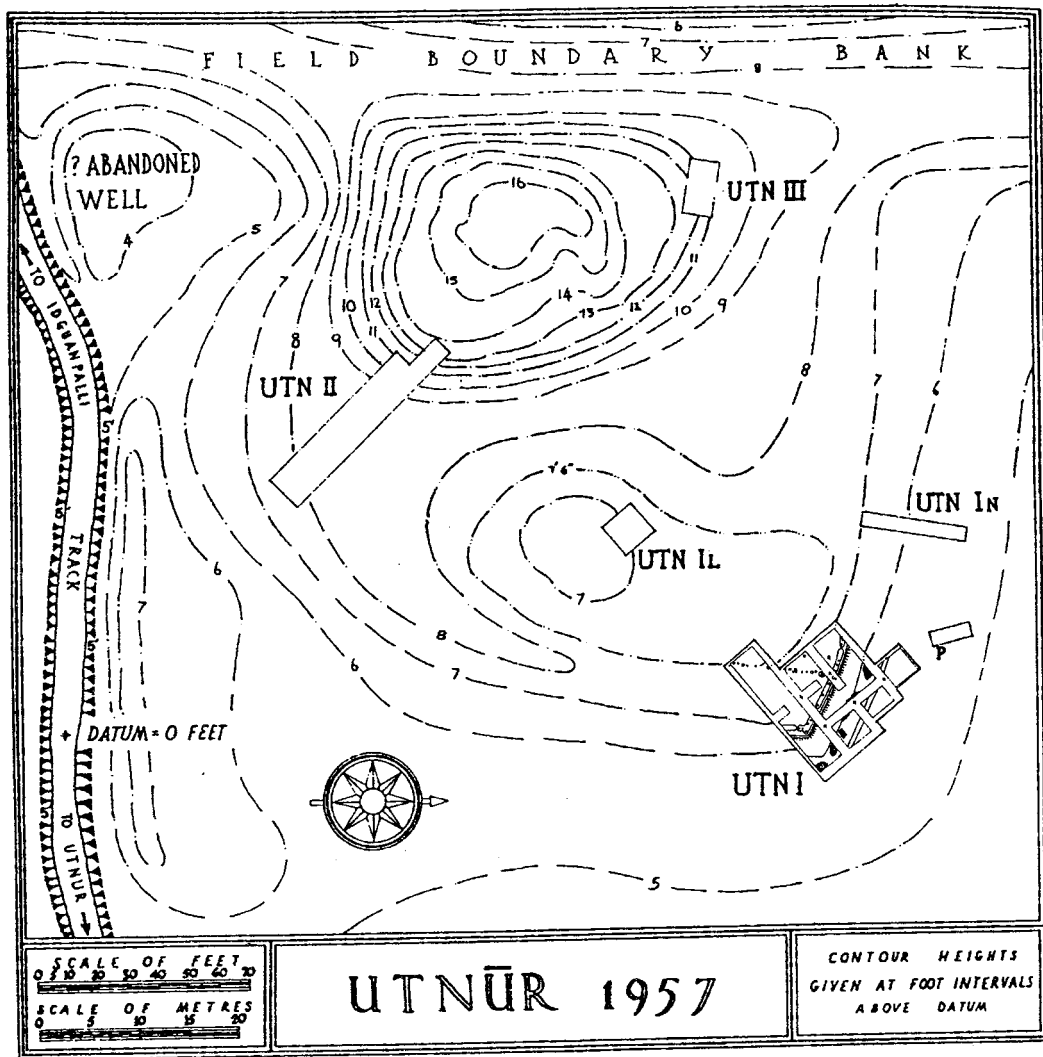


Fig. 6: Plan of Utnur ashmound showing excavated areas, and uncovered features in locality UTN-I, Period IIIA-B. These features include (from right to left) ditch, bank and rows of post-holes of a stockade that surrounded what is thought to have been a cattle-pen (after Allchin 1961, 1963a, note that the plan of the area UTN-I was superimposed on the overall plan and the scales may not be precisely the same). Note that the pen underlies the lower, eastern part of the mound, where some dung accumulated *in situ*. The higher, dung heap of west appeared to have been secondary and modern at Utnur. A generally similar spatial layout has been found at Budihal (Shorapur Doab), although the high mound at this latter site appears to have derived from ancient heaping (see Paddayya 1998).

excavations after independence. First among them was Maski, taken up in the early 1950s (Thapar 1957), a continuation of the earlier work there by Gordon (1943). A series of excavations were conducted at Nagarjunakonda in the lower Krishna valley between 1956 and 1960, with preliminary reports published in the annual bulletin of the Survey (*IAR*), the cumulative report appeared in 1975 (R. Subrahmanyam et al. 1975). Short reports of excavations at Kesarapalle near Ganavaram in the Krishna district, Andhra Pradesh (*IAR* 1961-2: 1-2); Paiyampalli (*IAR* 1964-5: 22-3, 1967-8: 26-30) in the North Arcot district, Tamil Nadu; Budhitittu in the Mysore district in the Kaveri valley (*IAR* 1968-9) and Singanapalle in the Kurnool district, Andhra Pradesh (*IAR* 1967-8: 3-5) are important contributions, although the detailed reports have not been published. Beyond work by the ASI, exploration and excavation was carried out by State Departments of Archaeology and Museums, the Kannada Research Institute, Dharwad and Deccan College, Pune (Nagaraja Rao 1978). Sites explored from the late 1950s to 1980 included, T. Narsipur during 1958-9, 1961-2 and 1964-5 (Seshadri 1971, 1995); Hemmige during 1963-4 (Hanumantha Rao and Nagaraju 1974); Tekkalakota during 1963-4 (Nagaraja Rao and Malhotra 1969); Hallur during 1964-5 (Nagaraja Rao 1971); Sanganakallu during 1964-5 (Ansari and Nagaraja Rao 1969), Kuppal (Mujumdar and Rajaguru 1966), Jami (Ramchandrayya and Subrahmanyam 1976); Paradesipalem (Vijaya Prakash et al. 1994); Elchuru (Thimma Reddy et al. 1990); Banahalli (Krishnamurthy 1971, 1990); Terald (Sundara 1987), and Veerapuram (Sastri et al. 1984).

On the basis of this growing body of evidence, it became possible to formulate coherent patterns of chronological and geographical variation within the Southern Neolithic. Archaeologists initially recognized a lower and an upper phase to the Neolithic (e.g. Wheeler 1947-8; Allchin 1960, 1961, 1963a; Nagaraja Rao and Malhotra 1965; Nagaraja Rao 1971). Subsequently, Allchin and Allchin (1968: 171) identified 'three distinct phases, of which the second and third see a steady increase in the still small number of copper or bronze tools'. These phases could be maintained and somewhat better dated in subsequent syntheses (Allchin and Allchin 1982; Agrawal 1982). Ashmound sites and generally few settlements have been placed in the first phase. Paddayya (1973) compiled a distribution map of all the sites known to the end of the 1960s and on the basis of general differences in the ceramic types present defined five regional 'variants' (Fig. 7; reprinted in Sankalia 1977: Fig. 34). His five regions included two in a core (older, nuclear) zone, including variant 1 (incorporating the Bellary district and the Raichur and Shorapur Doabs) and variant 4 (the Anatapur district). Both of these zones included ashmounds, as did the upper Krishna river basin (Paddayya's variant 2). It is notable that in later geographical extensions of the Southern Neolithic (Paddayya's variants 3 and 5) there are no ashmounds. In this regard it is of interest to understand ways in which the culture in these areas differed from the adjacent and preceding regions in terms of cultural ecology and social organization. Variant 3 was particularly large and its sites were sparse, reflecting the lack of archaeological exploration throughout much of southern Karnataka. Also, variant 5 (Kurnool and Cuddapah districts) was still largely devoid of sites at that time, a situation