CHAPTER 3

THE CITY OF ANURADHAPURA

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3.1 Introduction

As detailed in the preceding chapter, the city of Anuradhapura is located in the low, undulating plains of North Central Province on the western bank of the Malvatu Oya, close to a series of shallow valleys which have been utilized as tanks or reservoirs. While a number of scholars, most notably Wickremaratne, have suggested that either the Bodhi tree or the Mahathupa represent the central focus of the city (Wickremaratne 1987), others have identified the fortified urban core known as the Citadel as the axis (Deraniyagala 1972) (Fig. 6). Conversely, it is also possible to suggest that one could identify the primate monastic establishment, or vihara, as the sacred or ritual centre of the city. The latter identification, established by royal recognition and support, would provide a mobile centre-point, reflecting the movement of political and ritual ascendancy back and forth between the orthodox Mahavihara and the heterodox Abhayagiri and Jetavana viharas (Geiger 1960: 209). It is also quite feasible to accept any one of these, or indeed all of them, as the central point of the city, reflecting the various overlapping aspects of power, authority and legitimization contained within the entire complex. For the purposes of this chapter, however, we have decided to accept Seneviratna's fourfold division, which identifies the Citadel as the centre of the settlement (Seneviratna 1994: 82) (Fig. 7). The centre of Seneviratna's city is the fortified Citadel or inner city, which is surrounded by a zone of large monastic establishments. This monastic zone is in turn surrounded by an outer zone of villages and tanks, which is itself surrounded by the outermost zone, a zone of forest and hermitages (ibid.). Before commencing a description of these various zones we offer a summary of the history of archaeological research at the site in order to establish the research aims and questions which were the prime reason for the excavations at ASW2 to be undertaken – and indeed funded!

3.2 History of archaeological research

Although it was abandoned as a capital in AD 1017 by Mahinda V (*r.* 982–1029) in the face of increasing pressure from southern Indian polities, the city of Anuradhapura was never fully forgotten before its 'rediscovery' by the first British administrators of the region. Indeed, the Citadel's archaeological sequence suggests that Islamic and Chinese glazed wares were still being imported in sizeable quantities in the thirteenth century, two and a half centuries later (see Volume II, Chapter 5: Glazed Ceramics). This evidence appears to be supported by the Pali chronicles, which record that a number of later dynamic kings extended their rule to the old Sinhala homeland, the Rajaratta. King Vijayabahu I (*r.* AD 1055–1110) retook Anuradhapura from the Cholas and briefly occupied it (*Cvs*.lviii.59); Parakramabahu I (*r.* 1153–86) again retook the city and had it restored (*Cvs*.xxiv.1–14); King Parakramabahu II (*r.* 1236–70) began the restoration of the Mahathupa (*Cvs*.xxxvii.66), which his successor, Vijayabahu IV (*r.* 1270–72), completed (*Cvs*.xxxviii.83). The latter placed the protection of the complex in the charge of the Vanni kings (*Cvs*.xxxviii.89), suggesting that the central authority was itself too weak at the time to guarantee the region's safety. The city was not mentioned again in the chronicles until the eighteenth century, when it reappeared as an important royal pilgrimage site. This re-emergence coincides with the absorption of the Tamil kingdom of Jaffna and the Vanni chiefdoms by the Portuguese and Dutch, suggesting that the later Kandyan kings took advantage of this power vacuum. The Kandyan kings Narendra Simha (Narindasiha; *r.* 1707–39) (*Cvs*.xcvii.33), Vijaya Rajasimha (Vijayarajasiha; *r.* 1739–47) (*Cvs*.xcviii.85) and Kirti Sri Rajasimha (Kittisirirajasiha; *r.* 1747–82) (*Cvs*.xcix.36) all visited Anuradhapura and made offerings at the various monuments. Indeed, when Robert Knox passed through the town during his escape from Kandy in 1679 he recorded that it was important enough to have its own governor, who paid allegiance to the Kandyan king (Knox 1911: 232). Although the area, scattered with stone ruins, was still known as 'Anarodgburro', the character of the inhabitants appears to have changed greatly in that none that Knox met spoke or understood Sinhalese (ibid.). Under Kandyan rule the governor of this small jungle settlement was known as Nuvaravanniya, 'Vanni of the City' (Dewaraja 1988: 237), illustrating knowledge of the history of the site despite the fact that it had been reduced to a small settlement in the jungle.

Archaeological research at Anuradhapura can broadly be divided into two main phases: first, the identification of the historical topography of the city, and the clearance and restoration of recognizable monumental structures; and second, the designation of problem-oriented excavation and survey.

The first phase can be dated to between the last two decades of the nineteenth century and the year 1957. It encompasses attempts to transfer topographical descriptions of translations of the *Mahavamsa*, available since its first translation in 1837, onto the numerous

ruins surrounding the new provincial headquarters established at Anuradhapura in 1873. Accordingly, a number of the major features were identified almost immediately owing to their immense size in combination with topographical descriptions from the *Mahavamsa*, inscriptions and the presence of a number of monuments, such as the sacred Bodhi tree, which were still venerated. The dry Basavakkulam was, for example, identified as the Abhaya tank built by King Pandukabhaya through the assistance of a reference in the *Mahavamsa* to the position of the tank to the east of the city (*Mvs*.x.84) in combination with the discovery, close to the tank, of a tenth-century AD inscription prohibiting fishing at a tank of that name (Parker 1909: 360). Similarly, the largely dry tank to the south of the ruins of Anuradhapura known as the Tissavava was confirmed as the ancient tank of that name, originally constructed by King Devanampiya Tissa (*r.* 250–210 BC), by its presence to the southwest of the Mirisavati stupa as recorded in the *Mahavamsa* (*Mvs*.xxvi). Thus, by the time that Anuradhapura was established as a major pilgrimage and tourist centre, the visitor was provided with guidebooks which switched back and forth between the *Mahavamsa* and *Culavamsa* and the restored ruins among the dwindling jungle. Henry Cave therefore begins the chapter on Anuradhapura in his book *The Ruined Cities of Ceylon* with a tour of the religious monuments built by King Devanampiya Tissa, including the Thuparama, the Bodhi tree, the Isurumuniya vihara and the Brazen Palace (Cave 1907). Mitton's *Lost Cities of Ceylon* used a similar identification and even provided a map to identify the major monuments (Mitton 1917: 72).

Not all of these early identifications were successful, and a number were quickly refuted. One of the most drastic misidentifications was the attribution of the Abhayagiri vihara to a stupa and monastery on the eastern side of the city, and the Jetavana vihara to the stupa and monastic remains on the north of the city. Only in 1924 was the misidentification fully reversed, although as early as 1888 there had been suggestions that this should be done (Hocart 1924: 10–14). A further example is afforded by Ayrton's identification of a structure comprising a series of monumental stone pillars close to the Lankarama as the 'Elephant Stables', the building where Mahinda first preached to the townsfolk of Anuradhapura (*Mvs*.xiv.61–64). The structure was first excavated by Burrows between 1884 and 1886 in order to 'test the truth of the local nomenclature' (Burrows 1886: 3). A new hypothesis was then put forward suggesting that the monument was one of the most important ecclesiastical buildings in the Abhayagiri vihara – the Ratanpasada – rather than a stable for elephants (Hocart 1924: 1). Ayrton also worked on the clearance of a number of monastic structures with double platforms close to the old Arippu road, which were referred to in guidebooks as the Western monasteries. He believed that they were the residences of a strict ascetic sect of monks known as Pansukulika, who came to prominence in the chronicles in the eighth to tenth centuries AD (Hocart 1924: 45–6). Often even the identifiers of such sites were not completely convinced. Thus Wickremasinghe (1912a: 11) states: 'As to the identification of this site with that of the Vessagiri Vihara, stated to have been built by King Devanampiya Tissa in the third century BC, we have only tradition'. In addition, there are some monuments that have never been identified among the ruins, the Pathama ceitiya, for example, which was raised over the cremated remains of Mahinda (*Mvs*.xx).

It was also during this period of archaeological development that the first chronological techniques were being investigated. Thus Parker started his study into 'the archaeological value of bricks' by demonstrating that it was possible to attribute broad chronological bands to certain sizes of brick (Parker 1909: 209–20), and soon afterwards Codrington prepared the first comprehensive numismatic sequence for the island (Codrington 1924). The clearance of sites for their identification with monuments mentioned in the chronicles therefore continued at Anuradhapura until 1957, when the first scientific, research-oriented excavation was carried out. This phase of archaeology should not be treated lightly, as might be the temptation, since it represented an essential foundation stage for the development of techniques and methods and was carried out under extreme conditions in 'terra incognita' as the following quotation illustrates (Karunaratne 1990: 7):

> Exploration commenced on July 15, 1890 with a gang of twenty coolies in charge of a Kangany, who had gained some experience in such work under Mr S.M. Burrows in 1886. Obviously it was undesirable, with the very limited labour force at command, to waste time in 'parking' the forest and jungle examined. Parallel lines were, therefore, run through each area from up to 40 and 60 feet apart, the undergrowth being cut and burnt on any ruins being met with so as to open them up for better examination.

The second phase of archaeological research at Anuradhapura began in 1957 with the excavations of P.E.P. Deraniyagala and P.C. Sestieri within the Citadel of Anuradhapura itself as part of a distinctive research strategy designed to discover the depth and antiquity of occupation at the site (Deraniyagala 1957; Sestieri 1958). This problem-oriented excavation replaced earlier haphazard clearances of surface ruins and can be divided into three distinct sub-phases.

The first sub-phase mirrors Sir Mortimer Wheeler's activities within the Indian subcontinent, that of excavating vertical trenches in order to construct a culture sequence for the investigated sites. Indeed, the research goal of Sestieri's work was clear: 'A commencement has been made in 1957 to work out the archaeological pottery sequence for Ceylon and levels at Anuradhapura near the Gedige were investigated' (Sestieri 1958). Deraniyagala and Sestieri's trench

differed from Paranavitana's work of 24 years earlier in that, while Paranavitana cleaned and cleared floors of monumental structures encountered, the former cut through them in order to examine the sequence below.

This foundation work was then developed into a second sub-phase which began in 1969 with the excavation conducted by Codrington and S.U. Deraniyagala (Codrington 1969; Deraniyagala 1972). Four sondages were cut into the base of Sestieri and Deraniyagala's trench and excavated contextually down to bedrock at a depth of 7.6 m (Fig. 8). By concentrating on depth, rather than the recovery of architectural remains, the excavation succeeded in providing a long cultural sequence for the site. The contextual excavation thus provided the first collection of provenanced artefacts for a cultural sequence stretching for over a millennium, amply illustrated and tabulated in Deraniyagala's 1972 publication. In answering the research question 'When was the Citadel first settled?', the excavation provided a series of fresh archaeological questions such as 'When did the settlement first become an urban site?'; 'What subsistence strategies supported the population?'; and 'Was the urban development at the site part of the north Indian urban florescence or was it a later diffused development?'.

The Archaeological Survey Department continued to clear and conserve areas of the Citadel, Godakumbura excavated the southern gate in 1960 (Godakumbura 1961) and Silva excavated the eastern city gate in 1975 (Coningham 1993, 1994c), but in 1984 the Anuradhapura Citadel Archaeological Project (ACAP) was established, with S.U. Deraniyagala as Director, in order to further develop the research questions raised by Codrington and Deraniyagala's 1969 excavation at the Gedige. Since that date the project team has excavated a total of fourteen sondages at various localities within the Citadel in order to trace the development of the site over time (Fig. 9). As a small sondage was unlikely to produce an adequate structural or artefactual sequence for the site, a British sub-project was invited to excavate a 100 metre square trench in the centre of the site, adjacent to sondage ASW1 (Pl. Ib). The open-area excavation at trench ASW2, using the context system, was hoped to produce structures as well as artefacts in order to present a fuller anatomy of the primate early urban complex in Sri Lanka. The present volume is the report of these excavations.

Having briefly outlined the general trends of the development of archaeology at Anuradhapura, it is now necessary to introduce the four concentric zones of the city as identified by Seneviratna (Seneviratna 1994: 82). For further information about the development of archaeology within Anuradhapura and the island as a whole, please refer to works by Karunaratne (1990) and Bell and Bell (1993).

3.3 The Citadel zone

The Citadel represents Seneviratna's innermost zone and is defined by a surrounding fortification consisting of an eroded rampart and a silted moat (Coningham 1993, 1994a) (Fig. 10). Although textual descriptions of the Citadel had been available from 1837 following the publication of George Turnour's translation of the Pali text, the *Mahavamsa* (Guruge 1989: 11), the secular centre of the monastic complex of Anuradhapura was not successfully identified until the early twentieth century, when Parker traced the southern city wall through a combination of surface observations and the *Mahavamsa*'s historical topography (Parker 1909: 274; Coningham 1993b). Following the identification of the Citadel, a series of trial excavations were carried out by the first Archaeological Commissioner, Bell, who cleared and investigated surface features. In 1897 he had cleared a stone pillared structure which he interpreted as an audience hall but which was later named the Tooth Relic temple or Daladage (Hocart 1924: 48–9). This work was continued in 1898 (Karunaratne 1990: 24). Bell's successor, Ayrton, later identified their specific names and functions with the help of the Pali chronicles and hypothesized that they were the sites of the royal palace, the almshall and the Temple of the Tooth (Ayrton 1924: 49). Ayrton also excavated a street in the north of the Citadel and found house foundations close to the surface on its eastern edge, but he died before this work could be published (Hocart 1924: vii) (Fig. 11). These buildings were constructed from re-used bricks and ashlar elements and were dated to the sixteenth century AD on the grounds that a stone with an inscribed cross had been found within one of the excavated rooms. However, Hocart later noted that it might be earlier, as Nestorian communities were present within South Asia as early as the sixth century AD (Hocart 1924: 52). Furthermore, the cross is a symbol which is not the prerogative of Christian symbolism as it frequently occurs in pre-Christian Brahmi non-scriptural graffiti. As a 'fragment of the base of a white porcelain vase' was recovered from another room, it is possible that some of the debris within the houses dates to the early Islamic period, as suggested by finds of other glazed ceramics at ASW2 (see Volume II, Chapter 5: Glazed Ceramics) and the remains of buildings constructed of re-used material (see Chapter 5 below). Note was also made of a two-storeyed brick-built structure of unknown function called the Gedige, which was first recorded by Burrows (Hocart 1924: 49), and the remains of a large stone vihara in the north of the site (ibid.: 51).

Following a gap of 15 years, excavations at the Citadel recommenced under the direction of Paranavitana (Paranavitana 1936). Concentrating in an area just to the south of the centre of the site he successfully exposed six important large monuments. One of the most spectacular results of Paranavitana's excavation was the confirmation of Ayrton's identification of the royal almshall or Mahapali. In 1897 Bell cleared the vegetation surrounding a 'stone-canoe' which was exposed on the surface within the Citadel (ibid.: 25). Ayrton later examined the canoe and assumed that it was an example of what the Pali

chronicles referred to as 'stone boats for gruel'; he then corroborated this evidence with various descriptions of the central location of the Mahapali and concluded that he had found the Mahapali (Hocart 1924: 50). The canoe was a stone trough measuring 8.4 x 1.6 m and formed by four ashlar slabs. On excavating its immediate surroundings Paranavitana revealed that the trough lay at the western end of a substantial building measuring some 39 x 36.5 m, delineated by a brick and ashlar foundation wall and containing the stumps of 33 pillars (Paranavitana 1936: 26). Unfortunately, the building, buried under 2.6 m of overburden, had been subject to substantial robbing, removing any evidence of internal partitions or doorways (Pl. IIa). An 8 m deep well was excavated on the structure's northwest corner (ibid.: 28). Excavations below the building's foundations revealed a sequence of other structures following the same alignment; however, apart from attributing a date of the tenth century AD to the exposed upper structures, no further postulations were made as to the age of the underlying structures (ibid.: 27). Paranavitana succeeded in exposing a larger structure to the immediate east of the Mahapali or almshall which had also been examined in 1897 by Bell (ibid.: 14) and later identified as the Temple of the Tooth, or Daladage, since a nearby inscription referred to a temple of that name (Hocart 1924: 50). Here Paranavitana excavated and identified a substantial complex of four buildings contained within a large, cardinally oriented brick enclosure measuring 65 x 60 m (Paranavitana 1936: 14–20). The enclosure had a single entrance on the northern side through a large porch 3 m wide and 14.6 m long. A structure measuring 50 x 51 m was exposed in the enclosure's northwest corner, and the remains of a similar building were identified in the northeast corner. A further structure, measuring 13.7 x 23.3 m and defined by brick and stone foundations, was located to the south of these two buildings. The southern building's superstructure had been supported on a framework of ashlar pillars 4.7 m high, of which 40 still remained. Paranavitana identified a series of phases of construction ranging from the fourth century AD to the tenth (ibid.: 19) and, as to its identification as the Tooth Relic temple, he suggested that it was reasonable to continue to accept Ayrton's identification until 'more decisive evidence is forthcoming to disprove his hypothesis' (ibid.: 20).

Paranavitana also excavated a further series of structures between this complex and the Gedige in an area where the tops of a number of stone pillars were exposed (ibid.: 3). In this location he exposed the remains of three buildings, A, B and C, within a badly damaged enclosure wall (ibid.: 4–8). Building C was identified as the enclosure's northern gatehouse and stood some 10 m north of a shrine, Building A, which possessed a very similar ground plan to that of the building known as the Gedige (ibid.). Building A consisted of a cruciform cella, with projections, measuring 10.2 m square, with an entrance porch and door to the north (ibid.). The doorway led to an inner sanctum measuring 4 m square, separated from the outer cella by a circumambulatory passageway 1 m wide. A platform or altar measuring 2.4 m square stood at the centre of the inner sanctum (ibid.). The third structure excavated, Building B, stood less than 2.5 m to the northwest of this shrine and measured 15 m square, defined by brick foundations. The stumps of 20 ashlar pillars, some of which were 3.7 m in length, were exposed – all that remained of an estimated 40 from the original plan (ibid.: 4). Paranavitana attributed dates of the eighth century to these structures (ibid.: 7) and suggested that they may have made up part of 'one of the religious edifices which were located within the limits of the royal palace' (ibid.: 13).

In parallel with the clearance and identification of stone and brick-built structures using chronicles and inscriptions, Hocart began the first formal evaluation of the city's layout, which he published in two articles on town planning (Hocart 1928, 1930). He complained of a lack of structural remains, which led him to believe that only the king and monks had used durable building materials. He did note, however, that the few visible streets that had been excavated all ran north–south and east–west (Hocart 1928: 151). By drawing inferences from later, better preserved Sri Lankan capitals he suggested a formula to which such cities conformed: that the proper shape of a city was a square; that the streets ran north–south and east–west; and that the king's palace was located in the eastern part of the city. He concluded that the 'doctrine of the four quarters ... has had a considerable influence on the planning of cities' (ibid.: 156). In his next article Hocart further pursued the underlying concepts behind the Sinhalese urban pattern. He supported his analysis by comparing Kautilya's *Arthasastra* with this formula. In this Sanskrit text, widely believed to have been compiled in the third century BC with some exceptions (Trautman 1971), Kautilya advocated that cities should be square, that streets should be laid out cardinally, and that the palace should be located in the east or the north (Hocart 1930: 86). Hocart concluded that, in layout, the cities and moated monasteries of Sri Lanka were essentially the same and that they owed this to the fact that they came from the same original model (ibid.: 88). Hocart's initial hypothesis has been accepted and developed by a number of scholars (Wheatley 1971: 256; Hettiaratchi 1988: 190). One of the most recent, Wickremeratne, has argued that Anuradhapura was specifically constructed as 'the essence of the cosmic mandala' (Wickremaratne 1987: 45).

This claim that Anuradhapura as a city 'was no casual cluster of buildings but a cosmography that reflected the universe' (ibid.: 45) appears to be supported by both textual and archaeological evidence. The site is unique in Sri Lankan history, having been founded three times. The first was the reputed foundation of Anuradhagama by one of King Vijaya's ministers, Anuradha, soon after the conquest of the island (*Mvs.*vii.43). The second foundation was when one of the northern Indian brothers of Queen

Subhaddakaccana, Prince Anuradha, chose to live at the site and built a tank and palace close by (*Mvs*.ix.11). The third, and most descriptive, was the foundation of the site as the Sinhalese royal capital by King Pandukabhaya following the defeat of his uncles. He kept its name because it had served as a dwelling for two Anuradhas and had been founded under the constellation of Anuradha (*Mvs*.x.77). The city that he founded appears in the chronicles as a planned city, not only spatially but also socially. The *Mahavamsa* records that he founded the city on the site of the existing village and describes the plan in detail (*Mvs*.x). Four *Yakkhas*, or spirits, were located in the city, one in the east, one in the west near the Abhayawewa, one at the south gate and one within the royal compound (*Mvs*.x.84–86). Four suburbs were built around the city, each outside one of the cardinal gates (*Mvs*.x.88). On the side of the western gate Pandukabhaya located the common cemetery, the execution place, the chapel of the western queen, the banyan tree of Vessavana (Kubera), the palmyra palm of the demon of maladies, the great house of sacrifice and the *yona* (foreigner) quarter (*Mvs*.x.89–90). He allocated *candalas* (scavengers) to clean the town and its sewers, to carry the dead and be cemetery keepers. They were housed in a separate settlement northwest of the cemetery (*Mvs*.x.91–3) and had their own cemetery, again northwest of the common cemetery. To the north of their cemetery he built a street for huntsmen (*Mvs*.x.95), and to their north he established dwellings, chapels and hermitages for Brahmins, various ascetics and religious people (*Mvs*.x.96–102). The foundation of the city is also briefly described in the *Rajavaliya*, a composite Pali chronicle which covers the island's history from the earliest times to the coming of the Europeans: 'he cleared a piece of ground, four gaw in length and the same in breadth, rooted out the trees, made streets, and constructed other works. He also built a rampart 16 gaw (in extent)' (*Raj*.22).

Hocart was most impressed by the similarities between the description of the city and the *Arthasastra*'s description of an ideal city (Hocart 1930: 86). This theme can be further extended by a comparison of the two textual descriptions. The *Arthasastra* advocated the clearing of the site and its division into squares by the city boundaries and the various north–south and east–west roads (*Arth*.2.4.1). Following this division into a grid or mandala, the allocation of people and buildings within this grade is made. The placing of guardian deities at the side of each wall is advocated (*Arth*.2.4.18). It also appears from the *Mahavamsa* that Pandukabhaya's city conformed to this allocation (*Mvs*.x.84–8):

> He settled the Yakkha, Kalavela, to the east of the city and the Yakkha, Cittaraja, below the abhaya-tank. The maid servant, who had helped him in his past and who was reborn a Yakkhini, the grateful king settled at the southern gate of the city. Within the royal precincts was housed the mare-faced Yakkhini. Annually he made offerings to them.

Guruge interprets *Yakkhas* as aboriginal peoples and reads the king's epithet, Yakkhabhuta-sahayava, as 'he who had the friendship of the *Yakkhas* or aborigines' (Guruge 1989: 789). This epithet is rather reminiscent of that of King Tissa, Devanampiya or 'he who had the friendship of the gods'. It is possible to identify at least three of these *Yakkhas* as deities placed at the cardinal points of the city: Kalavela in the east, the *Yakkhini* in the south, and Cittaraja in the west beside the Abhaya tank. The allocation of such guardians at the four quarters was intended to strengthen the power and defence of the city. The *yona*, *yavana* or foreigner quarter was on the west of the city, outside the walls, presumably because foreigners were not of suitable origin to be allowed to live within the settlement itself. The settling of foreign merchants in separate areas is also advocated by Kautilya (*Arth*.2.4.16). The placing of the *candala* settlement on the outskirts of the common cemetery is again in direct agreement with the *Arthasastra* (*Arth*.2.4.23). Similarly, heretics were to be housed away from the settlement, on the outskirts of the common cemetery (ibid.), as had been done by King Pandukabhaya.

The extent and complexity of the spatial and social planning at Anuradhapura and its conformity with early Indian planning treatises may be explained by the presence of three specialists at the founding. Both Pandukabhaya and his chaplain, Canda, were instructed in their youth by the latter's father. This man, Panda, was a Brahmin 'rich and well-versed in the Vedas ... he taught him [the king] the art' (*Mvs*.x.18–23). The chronicle also records that Pandukabhaya 'had a soothsayer as well as a site specialist consulted and had an excellent city constructed' (*Mvs*.x.75). The presence of such specialists is not directly advocated by Kautilya for the founding of a city but is similarly described in his passage on the laying out of an army camp (*Arth*.10.1.1).

Whilst the above description may be referred to as fanciful, there is a strong physical architectural base at Anuradhapura to support many of Hocart's and Wickremaratne's claims (Hocart 1928, 1930; Wickremaratne 1987). Much of this evidence comes from the later periods of occupation at the site, because the earlier structural periods are buried under more than eight metres of deposits. According to the *Arthasastra*, the major temples were to be located in the centre of the city (*Arth*.2.3.17), the palace in the north (*Arth*.2.3.7) and the *kshatriyas*, or warrior *varna* (caste), in the east (*Arth*.2.3.9). Of the stone and brick structures excavated in the Citadel none has been identified as the royal palace. However, Bandaranayake has suggested that the building known as the Daladage can be identified as the royal palace and that the function of the Daladage, or Tooth Relic temple, can be ascribed to Building A and the Gedige (Bandaranayake 1974: 383–4).

As noted above, the Daladage's initial identification was made by Ayrton based upon the discovery nearby of a royal edict of Mahinda IV (*r.* AD 956–72) which refers to terms concerning royal lands given to the Tooth Relic temple (Ayrton 1924: 49). Ayrton assumed that the edict was located in the precincts of the temple itself (ibid.). Bandaranayake has argued that it could equally, however, have been erected within the precincts of the royal palace, considering that it was a royal edict concerning the donation of royal lands (Bandaranayake 1974: 383–4). Further evidence for the latter theory is found in the various descriptions of the city in the chronicles (*Mvs*.liv.45; *Mvs*.xx.23; *Cvs*.xli.28; *Cvs*.xliv.11) and in the memoirs of visiting Chinese pilgrims (Legge 1886: 101–107), who recorded that the palace was located next to the almshall (Bandaranayake 1974: 383). This new identification led to the conclusion that, although the palace was not in the north of the city, the location of the ruling *kshatriyas* was in the auspicious eastern quarter of the city in accordance with the *Arthasastra* (*Arth*.2.4.8). Having located the palace in the east, Bandaranayake re-identified Building A (Fig. 13) and the Gedige (Fig. 14) as Tooth Relic temples (Bandaranayake 1974: 383). He suggested that there were two of them because they were built by different rulers, similar to the successive Tooth Relic temples at the later capital of Polonnaruva. One can further advance these identifications by noting that the Tooth Relic temple is recorded to have been located in the centre of the city: 'He restored the burnt Temple of the Tooth Relic in the centre of the town ... and the Mahapali Hall' (*Cvs*.liv.36). Moreover, the centre of the city is where the *Arthasastra* allocated the main temples (*Arth*.2.4.17). The chronicles also stated that Pandukabhaya settled heretics and *niganthas* in a quarter to the northeast of the city (*Mvs*.x.96–102). This location appears to be confirmed by the later reference concerning the pledge made by King Vattagamani (*r.* 103 BC), when fleeing from a battle in the north of the city, to build a Buddhist monastery on the site of a *nigantha* monastery (*Mvs*.xxxiii.44). The king fulfilled his pledge and built the Abhayagiri monastery, which is indeed located to the north of the city (*Mvs*.xxxiii.82). The original allocation of heretics and *niganthas* to an area north of the city is attested too by the *Arthasastra* (*Arth*.2.4.23). The planning text also advocates the division of square-shaped cities into a gridboard of smaller squares using cardinal roads (*Arth*.2.4.1). A contour survey of the entire mound was completed by Masaki Choya in 1992, and subsequent mapping was carried out by the British team in addition to geophysical and coring surveys in 1992 and 1993. These confirmed that the city has a relatively square shape. It is also possible to interpret various individual surface features which appear to be integral to the city's layout. In 1936 Paranavitana published a plan of the Citadel showing the course of ancient streets which could still be traced (Paranavitana 1936). Three parallel roads ran from the north wall of the city to the south and a single road from the middle of the western wall to the Gedige in the centre of the city (Fig. 12).

From our own survey we have been able to identify the course of further roads and the locations of breaches, or perhaps gates, in the city ramparts. Two east–west roads were identified. The first was the main cardinal road running from the eastern central gate through the city to the largely undocumented Hindu temple complex just outside the centre of the western city gate. The second road was identified running from a breach in the southern half of the western wall, through the Vijabahu complex on a central alignment to the eastern wall. Three north–south roads were identified. The first appears to be the cardinal road, the Green Path or Sanghamitta Mawatha, which runs from the Citadel's western southern gate along the path of the modern metalled road or a breach in the northern wall. To its east is a road which runs from the western side of the vihara in the north of the city to the west of the Gedige and to the central southern gate identified by Godakumbura (Godakumbura 1961). Ayrton partially excavated this road close to the northern vihara in 1913 (Ayrton 1924). The third north–south road runs parallel to Ayrton's street, from the northern vihara, to the east of the Gedige and the royal palace, to the southern wall. Thus we may hypothesize that the entire city was divided into a cardinal grid and that monumental buildings were placed within the grid.

Although it is accepted that the surface survey is likely to pick up only the most recent phases of occupation at the site, there is evidence to support the phenomenon of cardinal planning in the city from the third century BC onwards at trench ASW2. Before this date the evidence is unclear, mainly because the earlier structures were round. During structural period I, when the city occupied some 67 hectares, the circular structures were replaced by eight phases of cardinally oriented rectangular or square ones. While this small sample suggests that these structures might be filling an overall grid plan for the city, no roads or alleyways were identified in the trench. However, during structural period G the settlement reached its full extent of 100 hectares. ASW2 was occupied by five phases of rectangular or square, cardinally oriented limestone and brick structures. The main structure's northern edge was defined by a brickbat wall, beyond which ran a 0.5 m wide brick-paved alley. It may be assumed that, if the alleyways of the settlement were cardinally planned, it is likely that the main roads were also planned in this manner.

As noted above, Ayrton excavated a late structural-phase street and house complex in the north of the Citadel (Ayrton 1924: 51). Despite the collapse of the Anuradhapura polity in the face of Chola invasions and the shift of power and population to the new capital, Polonnaruva, Anuradhapura appears to have kept its planned format. Although the area occupied was reduced to some 70 hectares, only a fraction larger than the Early Historic settlement at the site, the street that Ayrton excavated in 1913 was perfectly oriented north–south. He also excavated five or six houses on the

eastern side of the street and, although they were very small structures with only one or two rooms each, all of them were cardinally oriented (ibid.).

Although the above pieces of information are somewhat insubstantial, our excavations at ASW2 have made us aware of the continuity of occupation at the site through space and time. The city was continually rebuilt and restored along the lines of its original plan, partly because, once the city had been established, rebuilding mostly occurred piecemeal within individual blocks and not in one massive structural period after another. This continuity is illustrated by the *Culavamsa*'s description of the partial restoration of Anuradhapura while it was reoccupied by the Sinhalese after the Chola occupation. A high official of Parakramabahu I was ordered to Anuradhapura to repair the city. Within the walls of the old capital he restored the walls, streets, gate towers, ponds and gardens (*Cvs*.xxiv.8–10). Having also restored the surrounding monastic complexes, he then restored his own dwelling place, a *pasada* with gates, towers, royal courtyard and moon chamber (*Cvs*.xxiv.11). It is tempting to find strong parallels in the chronicle's description of restored Anuradhapura with the *Arthasastra*'s description of a model city (*Arth*.2.4.1). It may be possible to identify the restored *pasada* with the 'palace of Vijayabahu', which represents one of the last monumental constructions in the city in the eleventh century AD (Figs 15, 16). At this time a monumental palace complex was constructed in the southwest corner of the Citadel. In form and orientation it is very similar, although smaller, to the palace complex at both Polonnaruva and Pandunuwara. Unfortunately the excavation, carried out by the Archaeological Department between 1949 and 1950, has never been published, apart from a small description in the administrative reports of the Archaeological Commissioner. The complex consists of three units: an outer enclosure, an inner galleried enclosure and a central edifice. The large, cardinally oriented outer enclosure measures some 200 x 200 m and had a gatehouse measuring 10 x 10 m at the centre of its eastern side, presumably through which the main street led. The inner enclosure measured 67 m east–west and 40 m north–south and it had a 5.8 m wide gallery running all around its perimeter forming a single open courtyard measuring 55.5 m east–west and 29.3 m north–south. The eastern half of the compound was left open, while the palace, measuring 22.5 m east–west and 20.4 m north–south, occupied the western half. The palace was raised above the courtyard level on a 1 m plinth and access was via stone staircases on the western and eastern sides flanked by guardstones with 'pot bellied, well-dressed and profusely bejewelled Yaksha' (Paranavitana 1950: 18). The building consisted of three halls; the easternmost measured 15.87 x 6.1 m and was decorated with coloured plaster panels. From it a flight of stairs led up to the central hall, which measured 9.45 x 6.40 m. Flanking the hall on either side were three rooms or cells and a staircase leading to the first floor on the southern side. A staircase led down from the central hall which measured 11.6 x 3.6 m. The latter hall had a walled chamber measuring 1.2 x 1.5 m, interpreted as a treasure-room or a lavatory. The pair of Yakshas depicted on the guardstones to the palace have been identified as Bahirava figures or dwarfs, and in particular as Sankha and Padma (Paranavitana 1955: 122; Godakumbura 1982: 20). Sankha, bearing the conch, and Padma, with the lotus, are the attendants of the god of wealth, Kubera, and their specific duty is to protect the god's treasure. The placing of Kubera's guardian attendants at the entrance of the palace building surely must have a rather obvious symbolic meaning (Coningham 1994a).

3.4 The monastic zone

This zone of Anuradhapura is often referred to as the sacred city and consists of four major monastic establishments and a number of smaller ones. The visible remains are the result of over a thousand years of donations and as such represent an organic, rather than a formally planned, growth. It would also be true to state that while some monuments, like the Thuparama, which were founded by King Devanampiya Tissa (*r.* 250–210 BC), may actually be reported as the oldest Buddhist monuments within the zone, they are not the original structures themselves. Over a millennium of rebuilding and remodelling has greatly enlarged and altered the original constructions. Indeed, many of the monuments owe more to the building and architectural styles of the late nineteenth and early twentieth century AD rather than the end of the first millennium BC. It is also necessary to state that the enormous stupas, the focus of present ritual, were not always the focus of ritual in the past. Bandaranayake has suggested that the initial third-century BC practice of stupa veneration and worship was replaced in the fourth century AD by other forms of devotion (Bandaranayake 1974: 52). Anuradhapura's monastic complexes appear in plan as a bewildering combination of structures, as they housed not only stupas but also buildings for other functions. Many of them can be attributed to specific functions, and thus we can begin to simplify and understand the division of the areas within the major viharas.

Bandaranayake has divided the monastic monuments at Anuradhapura into three main groups: shrines and sanctuaries designed for individual use; ecclesiastical buildings designed for congregational devotion; and residential buildings designed to facilitate daily life within the complex and thus including hospitals and refectories as well as dwellings (ibid.: 27–8). The first group – shrines and sanctuaries – is subdivided into five separate monument groups: stupa; *cetiyaghara* or stupa temple; *bodhighara* or Bodhi tree shrine; *asanaghara* or throne sanctuary; and *patimaghara* or image house (ibid.: 27). The second group – ecclesiastical buildings – is subdivided into eight groups: *uposathaghara* or building for the performance of acts of *Vinaya*; *upatthanasala* or hall for clerical assembly; *padhanaghara* or meditation house; *cankamanaghara* or

promenade meditation house; *sannipatasala* or convocation hall; *dhammamandapa* or hall for the preaching of the Dhamma or law; *catussala*, a square/rectangular hall of uncertain purpose; and *potthakalaya* or library (ibid.: 28). Bandaranayake's third division of function – residential buildings – is divided into seven groups: vihara, a complex of monastic units within boundaries, forming self-contained autonomous units; *parivena* or monastic school or sub-monastery; *pasada* or rectangular dwelling; *kuti* or smaller monastic dwelling; *bhojanasala* or refectory; *jantaghara* or bath-house; and finally *arogyasala* or hospital (ibid.). While such divisions and subdivisions are frequently applied to structures, we have evidence that the function of these buildings occasionally altered over time; for example, the *bodhighara* in the Abhayagiri vihara was later altered to allow the presence of a new focus of devotion – the Samadhi image (ibid.: 164). A further problem is that the conserved monuments today present a homogenous appearance although the development of these establishments was, of course, piecemeal and organic. The Jetavana vihara complex, for instance, is the outcome of almost 900 years of donations (Seneviratna 1994: 115–22).

In addition to the identification of major structures within these complexes, it is also important to recognize the provision of secular structures. Indeed, these monasteries were also, to a large extent, major temporal establishments whose daily needs were supported by the allocation of land revenues, villages, water channels, customs duties, slaves, cultivators and craftsmen (Coningham 1994a). This is not altogether surprising, as many such establishments were granted to royal or noble *bhikkhus* (monks). Mahanamman, son of King Kassapa I (*r.* AD 473–91), for example, was appointed head of a vihara which contained 600 monks, seven supervisory officials and five groups of servants and assistants versed in handicrafts (*Mvs*.lvii.12). Such establishments contained administrators, craftsmen, workmen and slaves as well as monks. The full extent of this secular element is illustrated by the slab inscription of Mahinda IV (*r.* AD 956–72) at the nearby complex at Mihintale – the rainy-season residence of many of the monks of Anuradhapura. The inscription lists the vihara's 158 servants: one administrator, one steward, one casket registrar, one casket keeper, one almoner, one lay warden, one watchman, one master of festivals, one servant who attended to calf-rearing, one servant of the royal household, four paymaster servants, one head keeper of granaries, one keeper of granaries, one refectory warden, one head physician, one physician, one astrologer, one keeper of the relic house, one district headman in charge of relic houses, one registrar of shrines, three shrine superintendents, three *dagoba* watchers, one chief of attendants, one head of servants, twelve cooks, one servant who cooks and brings firewood, one servant who brings firewood but does not cook, one servant who cooks, one chief master artisan, two master artisans, eight carvers, two bricklayers, two woodworkers, two master lapidaries, two blacksmiths, two lime-burners, one head painter, eleven painters, one chief thatcher, eleven thatchers, five potters, six cartmen, one overseer of workmen, twelve workmen, one alms- and water-bowl supplier, two florists, one waterlily keeper, one almsbowl supplier, one barber, twenty-four hired female servants, sweepers (Wickremasinghe 1912b: 101–112). That many of these functionaries were actually formally attached to viharas is supported by the rather later copperplate grant of Bhuvanekabahu IV (*r.* 1341–51) recording that he had built a new shrine and perimeter wall at the Lankatilaka vihara and that 'On the western side he laid out streets for those engaged in the service of the vihara, including the male slaves, female slaves, workmen and others to reside in' (Paranavitana 1960: 6). A similar reference is found in the description of the restoration of the Polonnaruva viharas by Vijayabahu I (*r.* 1055–1110): 'a splendid vihara ... provided with a wall and trench, beautified by a splendid five-storied pasada, well equipped with charming rows of dwellings round about, filled with people' (*Cvs*.lx.11–13). To this list one may add structures for storage, wells and bathing ponds, and even manufacturing areas such as the metal-working complex identified at the Abhayagiri vihara (Wickramagamage 1984).

The plan of the largest and oldest of Anuradhapura's monasteries, the Mahavihara, covers an area of 1.6 square km and is bounded on the west by the Basavakkulam, on the north by the Citadel's southern wall and on the east by a branch of the Malvatu Oya. Although not fully excavated or conserved, major identified structures include two *bhojanasalas* or refectories, one *upatthanasala*, one *uposathaghara* or chapter house, a convocation hall, one *bodhighara* complex, at least twelve monastic units and three stupas, the largest of which following restoration stands at 106.5 m high and 91 m in diameter (Pl. IIb) (Seneviratna 1994: 104; Bandaranayake 1974: 45). Originally a royal pleasure garden known as the Mahamegha park, the Mahavihara was founded by Devanampiya Tissa in the third century BC (*Mvs*.xv.24), and during his reign (250–210 BC) and that of his brother the first major structural foundations and plans were begun. They included the Ruvanvalisaya stupa; the Bodhi tree shrine (Fig. 17); a *lohapasada* or 'brazen house'; an *uposatha* hall; a refectory; the Thuparama stupa (Fig. 18), built over the Buddha's collar-bone; and a stupa constructed over Mahinda's remains (*Mvs*.xv–xx). The location of most of these monuments has been identified, but clearly the original structures have been greatly altered and the gaps between them filled with a number of smaller residential monastic structures or *parivenas*, structures which Bandaranayake has attributed to the great monastic developments of the fourth century AD (Bandaranayake 1974: 49).

The Mirisavati vihara is a later religious establishment founded in the second century BC by King Dutthagamani (Duttugamani; *r.* 161–137 BC)

following a successful campaign for the kingdom. Although it is sited to the south of the Basavakkulam, it is still part of the Mahavihara complex, and the *Mahavamsa* records that it took three years to build, centred on a great stupa (*Mvs*.xxvi.13–14). The restored stupa rises to a height of 58.5 m and measures 43 m in diameter (Fig. 19); it stands among twelve self-contained residential monastic blocks, two *upatthansalas*, one *uposathaghara* or chapter house, and one *bhojansala* or refectory (Seneviratna 1994: 191; Bandaranayake 1974: 45).

Traditionally the most powerful and orthodox of Anuradhapura's monastic establishments, the Mahavihara temporarily lost its influence when the Jetavana and Abhayagiri viharas were constructed, but it eventually regained its position of authority. The latter establishment, the Abhayagiri vihara, was founded at the beginning of the second century BC by King Vattagamani Abhaya (*r.* 103 BC, 89–77 BC) on the foundation of a Jain monastic residence. Although it was originally only an addition to the Mahavihara, the *Mahavamsa* records that the newly established monastery soon became the focus of a new, independent community of monks who had left the Mahavihara (*Mvs*.xxxiii.95–99). The community achieved a pre-eminent position during the reign of King Mahasena (*r.* AD 274–301), who was advised by one of the monks from Abhayagiri that the Mahavihara monks were opposed to the true *Vinaya* (the rules of discipline that governed the *Sangha*). The king accordingly removed the Mahavihara's means of support, leading to its general abandonment (*Mvs*.xxxvii.3–7). The abandoned site was plundered of building materials and structures which were then reconstructed in the Abhayagiri monastery (*Mvs*.xxxvii.10–16). This was, however, only a temporary reverse, and the Mahavihara was later reocccupied and rebuilt. The Abhayagiri monastery, with its strong links to other Buddhist communities within subcontinental South Asia, continued to be a centre for international pilgrimage and patronage. In the fifth century AD the Chinese monk Faxian (Fa Hsien) recorded that it held more monks than the Mahavihara and that it was closely involved in the Tooth Relic and Almsbowl cult veneration as well as having its own cutting of the Bodhi tree (Legge 1886: 102–110). Developed over a number of centuries, it reached a maximum coverage of 200 hectares (Bandaranayake 1974: 55). Centred on a stupa measuring 71.5 m in height and 94.5 m in diameter (Pl. IIIa), this vast area has three main *bodhigharas*, an *uposathaghara*, a *bhojanasala* and an *upatthanasala*, as well as over twelve monastic residential units (ibid.: 45). The complex contains a self-contained unit known as the Lankarama in its southwest corner, also built by Vattagamani Abhaya (*r.* 103 BC, 89–77 BC). Again centred on a stupa, this latter complex included a *bodhighara*, *patimaghara* and *bhojanasala* (ibid.).

According to the *Mahavamsa*, the last of the great monasteries, the Jetavana vihara, was also founded as the result of a schism, this time between rival groups within the Abhayagiri community who had already moved from the northern monastery to the Dhakkhina or southern vihara (*Mvs*.xxxiii.98). King Mahasena (*r.* AD 274–301) established a new vihara for one of the latter groups in a garden called Joti within the eastern boundaries of the Mahavihara (*Mvs*.xxxvii). The construction of this new monastery, the Jetavana vihara, led to the temporary abandonment of the Mahavihara by its monks, but it was soon reoccupied (*Mvs*.xxvii.38). The vihara is centred around the largest stupa in the island which survives to a height of 160 m (Fig. 20) and includes an image house, a *bhojansala* or refectory, two *upatthansalas*, one *patimaghara*, one *uposathaghara* and one *bodhighara*, and over thirteen monastic units (Bandaranayake 1974: 42–5). For further details concerning the major establishments within Seneviratna's monastic zone please see Bandaranayake (ibid.).

3.5 The tank and village zone

We may make a similar comment on the provision of tanks within the next zone, the zone of tanks and villages, as the visitor to Anuradhapura sees a series of enormous tanks, linked by canals and controlled by an elaborate system of annicuts, flues and cisterns. These, however, like the enormous monastic complexes, are the result of over two millennia of occupation of the site. Although the history and development of water management in the region has already been commented on in Chapter 2.4 above, it is worth summarizing the main chronological development again. It should be noted that most of our understanding of the chronology of this zone is based on a combination of epigraphical evidence and references in the *Mahavamsa*. The first reference to water management in the vicinity of Anuradhapura in the latter chronicle concerns the construction of a tank by Prince Anuradha (*Mvs*.ix.11). It is interesting to note that during the monsoon of 1891 all the low ground in Anuradhapura was reported to have been flooded (Wijesekera 1990: 13), suggesting that the initial selection of the site had not been through chance, but that the low-lying nature of the area was significant in the containment and management of water resources. Prince Anuradha's great-nephew, King Pandukabhaya, is recorded as having augmented this provision by constructing a further two tanks, one to the west of the new city, identified by Parker as the Basavakkulam, and another to the south of the city, identified by Parker as the Tissavava (Parker 1909: 360–400). While the Basavakkulam covers some 91 hectares (ibid.) (Fig. 21), we are unclear what extent was originally covered by the Tissavava, or Jayavapi as it was then known. The next addition to the system is recorded as having occurred during the reign of Devanampiya Tissa (*r.* 250–210 BC), when this contemporary of Asoka had the Tissavava expanded and renamed (ibid.: 364) (Fig. 22). The newly expanded tank covered 160 hectares (ibid.: 360–400). The final addition to the system was the Nuvaravava tank, which was constructed in the first century AD and covered

1288 hectares (ibid.) (Fig. 23). These initial foundations were augmented in the fifth century AD by a system of channels and canals to further guarantee water supplies (Brohier 1934: map 8). No dates are available for the other tanks within the city. Similarly, we do not know when they were abandoned or whether they were all in operation at the same time. There are a number of references to the restoration of tanks and channels in the *Mahavamsa* (Geiger 1960: 88), leading one to assume that they were often abandoned. Parakramabahu (*r.* AD 1153–86), for example, is recorded as having repaired the Kala-vapi tank (*Mvs*.lxxix.31) and the canal known as the Jaya-ganga (*Mvs*.lxxix.58). The effect on the irrigation and cultivation system of Anuradhapura of the loss of the major feeder tank to the Nuvaravava and the major feeder canal to the Tissavava must have been cataclysmic! Indeed, the importance of irrigation cannot be overstressed, as the provision of water for irrigation agriculture at Anuradhapura was crucial, as I have indicated elsewhere (Coningham 1995b: 67). The dry-system yield of rice is only between 180 and 230 kg of grain per acre, in comparison with the wet-system yield of some 2267 kg per acre. Rice irrigation thus dramatically increases the restricted carrying capacity of the natural resources of the Dry Zone from a mere 0.4 individuals per km^2 (Deraniyagala 1992: 412) to a massive 2400 individuals per km^2 (Coningham 1995b: 67).

In addition to the evidence which can be gleaned from the *Mahavamsa* and *Culavamsa*, it is possible to recover further information concerning the irrigation systems of Anuradhapura from epigraphical sources. In doing so, however, we face the drawback that since they have a tendency to record donations to the *Sangha*, the Buddhist order, the resultant pattern is not wholly representative. Still, it is interesting to note that the *Sangha* owned substantial amounts of land, villages and water rights in the area immediately surrounding the city. This monastic ownership of temporal resources appears to have been a relatively late phenomenon, as the early Brahmi inscriptions record the donations of caves to the *Sangha* while inscriptions recording the donation of land, villages and water rights tend to date from the first century AD (Jayewardene 1990). The water management system was crucial for the support of the city's inhabitants, their cattle and crops. The importance of this system and its workings may be illustrated by an inscribed slab erected by King Mahinda IV (*r.* AD 956–72) in order to solve a dispute over water from the Tissa tank between the steward and monks of the Tissarama in Mahamevna (Mahameghavanna), presumably the Mahavihara, and the steward and monks of the Isuramenu Bo-Upulvan-Kasub-giri, perhaps the Issurmuni vihara (Wickremasinghe 1912a: 34–8). The edict stated (ibid.: 36–7) that:

> The fields around the Vihara, in sowing extent 144 kiri and one paya, cultivated by means of this water [of the Tissa tank] shall be supplied with water [from the same tank] through the medium of a distributing tank, [the flow of water being continued] without interruption, until the top of the aqueduct-stone, set up in front of the Moholnanga royal sluice at [a depth of] 4 cubits of water, appears [above water] ... By leading the water from the distributing tank to the fields and gardens adjoining the vihara all round, sinhinati [oryza sativa] paddy shall be raised, but not mungati grain [leguminisae].

The inscription suggests that there were detailed administrative records precisely setting out the quantity of water allocated and even the crops which could be raised on land thus irrigated. A further example is provided by the rock inscription of King Vasabha (*r.* AD 67–111) in the vicinity of the Perimiyankulam tank, north of the Lankarama stupa. This inscription (Wickremasinghe 1912c: 70) stated that the king:

> ... granted the revenue derived from the water of Palinakaraka tank in Tihalaka-karisa, situated in the locality of Tiragama, unto the thera Majibuka, for reason of the function of looking after the dilapidated (buildings) situated at (his) place of sojourn, Patangala.

Similarly, the slab edict of Mahinda IV (*r.* AD 956–72) at Mihintale recorded (Wickremasinghe 1912b: 104) that:

> One third of [the produce of] trees and plants on the Kirband-pavu, the house rent of the sang-valla here, the tank Manuvasara, the two tanks in the upper-side and in the lower-side of Lahiniya-pavu (the Swallow rock) together with the sang-valla thereof, the land around the pond Pahana-vil and the land around the pond Porodeni-pokhuna – the income derived from all these places shall be appropriated by the vihara. From the householders who live on the vihara lands, ground rent shall be levied in a fitting manner on behalf of the vihara, but not from the vihara serfs and employees.

The income derived from such rights enabled the monasteries to pay the necessary servants and officials as well as provide the flowers, oil, wicks and whitewash needed for the maintenance of the physical and ritual elements of the establishment (ibid.: 107–110). This is not, of course, to suggest that all water from the tanks was used for the purely utilitarian purposes of washing, drinking and agricultural irrigation. Indeed, the royal pleasure gardens, or Ranmasu Uyana, beside the northern bund of the Tissavava, are somewhat reminiscent of the hydraulic exploitation at Sigiriya, albeit on a less grand scale (Seneviratna 1994: 204–5). Furthermore, the tanks and their contents played an important ritual role for both the clergy and lay folk. This point can be illustrated by references in the

Mahavamsa, one of which refers to the consecration of Pandukabhaya with water from the Jayavapi pond of Anuradhapura (*Mvs*.x.77–79), another to the consecration of King Dutthagamani (*r.* 161–137 BC) in the Tissavava (*Mvs*.xxvi.6–13).

In addition to the presence of tanks, Seneviratna also allocates farming communities and their fields within this, the third zone of the city of Anuradhapura (Seneviratna 1994: 83). As indicated in section 3.2 above and elsewhere (Coningham 1994b), archaeological research in Sri Lanka has tended to concentrate on the excavation of major structures built of brick or stone. Structures of other materials have therefore been greatly neglected, as illustrated by Paranavitana's summary treatment of wattle and daub structures encountered during his excavations within the Citadel (Paranavitana 1936: 3):

> Remains of buildings belonging to two different periods of occupation were laid bare during the operations. Of these, the upper stratum, which was revealed immediately after the subsoil was removed, consisted of vestiges of ephemeral mud structures in the foundations of which fragments of the older buildings were freely used. In this stratum there was not a single clear structure of which enough remained for a ground plan to be made; and these fragments of foundations had to be removed in order to lay bare the remains of more substantially built edifices of an earlier age.

One of the few exceptions to Paranavitana's approach is represented by Ayrton's excavation, with 'the greatest care', of a small street of similar buildings in the northern part of the site (Hocart 1924: 51). Ayrton commented on the similarity between the construction of these buildings and those of 'the modern peasant type' (ibid.), and in so doing provided one of the fullest records of such structures available within Sri Lanka to date. As a result of the preoccupation with monumental structures it is true to state that, with the exception of the excavations at ASW2, since Ayrton's report there have been no publications of similar structures. While, undoubtedly, Seneviratna is correct in attributing simple farming settlements to this zone, they have never been studied archaeologically. This is a problem which affects not just the archaeology of Anuradhapura but that of the whole island. As noted elsewhere (Coningham and Allchin 1995: 170), the combination of the monsoon climate, the use of organic building materials and the density of scrub or jungle has made most rural settlements archaeologically invisible. Indeed, apart from the postulated association of such settlements with tanks or 'megalithic' cemeteries we have few other indicators. The clear successes of detailed settlement surface survey, as illustrated by the University of Jaffna's survey in the Jaffna Peninsula (Ragupathy 1987) and the University of Kelaniya's Postgraduate Institute of Archaeology's survey in the Sigiriya–Dambulla region (Bandaranayake, Mogren and Epitawatte 1990), suggest that it is only the lack of archaeological survey activity in the Anuradhapura region which is responsible for this lacuna.

For further details of the irrigation system of Anuradhapura, please refer to works by Parker, Brohier, Leach and Gunawardene (Parker 1909; Brohier 1934; Leach 1959; Gunawardene 1971, 1982).

3.6 The forest and hermitage zone

Seneviratna's outermost zone of the city of Anuradhapura is one of encircling forest containing nine small communities of forest monks (Seneviratna 1994: 81). These nine are Vessagiri, Isurumnumi, Pacimarama or the Western monasteries, Toluvila, Pacinatissa Pabbata, Puliyankulama or Pubbarama, Pankuliya or Asokarama, Vijayarama and Kiribat vihara (ibid.).

The majority of these establishments, namely Toluvila, Vijayarama, Puliyankulama, Pankuliya and Pacinatissa, are late developments dating to the final phase of the Anuradhapura period, the ninth and tenth centuries AD (Bandaranayake 1974: 58), and are located on the north and east sides of the sacred city. They are all enormous, square or rectangular, moated and walled constructions, generally consisting of a number of residential buildings and *jantaghara* centring on an inner, sacred quadrangle containing a *bodhighara*, *patimaghara*, *uposathaghara* and stupas (ibid.: 67) (Fig. 24). Bandaranayake has classified them all as *pabbata vihara*, or mountain monasteries, and notes that their distribution is either provincial or on the outskirts of Anuradhapura and as such they may represent *Vanavasin*, a forest-dwelling sect (ibid.: 69).

Other late examples are provided by the series of structures known as the Western monasteries and which Bandaranayake has termed *padhanaghara parivena*, or abodes of meditating *bhikkhus* (ibid.: 102, 118). These monasteries, over fourteen in number, centre on a double-platform plan, consisting of a *malaka* or terrace attached to a *pasada* or hall by a short stone gangway (ibid.: 120), and have been dated to between the eighth and tenth century AD (ibid.: 130) (Fig. 25). A number of scholars have identified these sites as residences established by a group called *Pamsukulins*, 'those clothed in rags from dustheaps', who in the seventh century AD appear to have attracted substantial royal patronage (*Cvs*.xlviii.3, 73, 80; *Cvs*.l.63; *Cvs*.li.52; *Cvs*.lii.21, 27; *Cvs*.liii.48). Most notably Geiger identified the Western monasteries as the 'Tapovana', or grove of penitents, of the *Culavamsa* (Geiger 1960: 203). Similar structures, possibly belonging to similar ascetic groups, have also been noted in large numbers at Ritigala and Vessagiriya (Bandaranayake 1974: 115). While many are tempted to attempt to divide even the early *Sangha* into rural or urban sects (ibid.: 69), we believe that originally such divisions were not so apparent but that, as part of the state formation processes that the island underwent, this division was formalized (Coningham 1995a).

Our remaining sites, Vessagiri, Isurumnumi and Kiribat vihara, are of much older foundation. The monastic complex currently known as Vessagiri was originally called the Isurumuni vihara (Bandaranayake 1974: 19) and is located at the southeast corner of the Tissavava. Founded by Devanampiya Tissa in the third century BC, the complex straddles a ridge formed by three large gneiss rocks; among its major structures are a *bodhighara*, a *bhojanasala*, an *uposathaghara* (ibid.: 68), and a *pabbata vihara* precinct containing a *patimaghara*, *bodhighara*, stupa and *uposathaghara* (ibid.: 44). Clearly, like the major monastic establishments of the inner zones, it has developed organically. The central core of the complex is provided by a series of caves with early Brahmi drip-ledge inscriptions dedicated to the *Sangha* dating to the second century BC (Coningham 1995a) (Figs 26, 27). It is surrounded by a variety of later monastic structures, the latest of which is a small *pabbata vihara* probably dating to the ninth and tenth centuries AD (Bandaranayake 1974: 58). The monastery currently known as the Isurumnumi vihara has been misidentified and should be termed the Meghagiri vihara, its ancient name (Seneviratna 1994: 198–202). Again, this complex, situated to the east of the Tissavava, represents an organic composite with evidence of occupation in the last quarter of the first millennium BC, sculpture in the style of the fifth and seventh centuries AD, and a number of very modern monastic constructions (ibid.) (Fig. 28). The final monastic complex is the Kiribat vihara, located north of the Abhayagiri vihara, close to the Malvatu Oya. Little of this complex has been excavated, but it is recorded to have contained a *patimaghara* (Bandaranayake 1974: 194) dating to the sixth or seventh century AD (ibid.: 212) and a stupa measuring some 9 m in height (Seneviratna 1994: 182).

In addition to those for Buddhist monks, the *Mahavamsa* records that a number of structures for ascetics, ranging from *niganthas* to mendicant monks and Brahmins, were also present within this zone (*Mvs*.x.96–102). The zone also contained the burial grounds and dwellings of the scavengers, although no archaeological evidence has ever been recovered for such activities. Indeed, the majority of our knowledge of their location within this zone is offered by the *Mahavamsa*'s description of the freshly planned city of King Pandukabhaya. He allocated the village for the *candalas*, employed to clean the city's streets, bear the dead and watch the cemetery, to the northwest of the cemetery (*Mvs*.x.91–93). The presence of human remains within the sequence at trench ASW2 represents an alternative pattern to this literary description (for further details please see Volume II, Chapter 11: Human Remains). To the northeast of the *candala* settlement Pandukabhaya established a village of hunters (*Mvs*.x.95). This was another important element in the subsistence base of the entire city, as supported by the results of analysis of the faunal remains from trench ASW2 (see Volume II, Chapter 12: Botanical Remains). It is interesting to note the high counts of both wild and domestic fauna present within the Citadel, reputedly a Buddhist urban centre. It contrasts interestingly with the slab inscription of King Nissanka Malla (*r.* AD 1187–96) at the Ruvanvalisaya stupa which records (Wickremasinghe 1928: 82–3) that:

> Ordering by beat of drum that no animal should be killed within a radius of seven gav [1 gavuva is 3.5 miles] from the city [of Anuradhapura], he gave security to the animals. He gave security to the fish in the twelve great tanks, bestowing on Kambodin gold and cloth and whatever other kind of wealth they wished, he commanded them not to catch birds and so gave security to birds.

3.7 Conclusion

This is not, of course, to suggest that the city was not embedded within the region, as perhaps evidenced by the provision of feeder canals, tanks and bridges in its vicinity. Indeed, many of the enormous irrigation works provided within Seneviratna's third zone depended upon water directed from elsewhere. The Nuvaravava, built in the first century BC, was fed, for example, by a channel 4 miles long from the Nachchaduva tank (Brohier 1934: map 8). It should be noted that, although the latter tank was only constructed between AD 866 and 901, the feeder channel is undoubtedly older, having been constructed first to tap the Malvatu Oya further upstream through the use of an annicut (ibid.) (Fig. 29). Similarly, the Tissavava, constructed in the fourth century BC, was fed by the Jaya Ganga (Pl. IIIb), a 30 mile long channel cut in the late fifth century AD from the Kalavava (ibid.) (Fig. 30).

Communications also embedded the urban centre within its region, although they were restricted to land routes as the Malvatu Oya is unnavigable. Limited aspects of such routes are suggested by the remains of six bridges within the city's environs. Three of the bridges are found to the north of the city in Seneviratna's fourth zone (Seneviratna 1994: 82), and the remaining three are close to the eastern wall of the Citadel itself. The former bridges appear to provide communication routes in a northern and northeastern direction over the Malvatu Oya and other smaller channels. Two of these, close to the Kiribat vihara, appear to have actually served a single route (Pl. IVa). Indeed, attempts to reconstruct these routes were made as early as 1924 in a plan of Anuradhapura and its environs by the Archaeological Survey (Hocart 1924: 64). The latter three bridges all cross the Malvatu Oya in an eastern direction, two to the north of the Citadel and one to the east of the Citadel's eastern gate (ibid.). Little has been written on the possible dates of these structures, and Hocart states that 'There is little to say about Sinhalese bridges: they are perfectly simple in structure: tenoned pillars supporting cross beams on which rest the slabs that form the road way' (Hocart

1928: 163). Seneviratna believes that two of the northern examples at Anuradhapura only date from the late Anuradhapura period (Seneviratna 1994: 183). In addition to the stone bridges, it is probable that tank bunds also provided further routes. The presence of such communications was necessary for the movements of large numbers of pilgrims, Anuradhapura containing seven of the sixteen places of greatest Buddhist sanctity in the island (Geiger 1960: 207), as well as providing a suitable infrastructure to support the trade between the inland capital, its hinterland and the coast, the latter being the source of exotic goods.

Now that we have introduced the physical and cultural environment of Anuradhapura, the next three chapters will concentrate on presenting the results of our six seasons of fieldwork there.

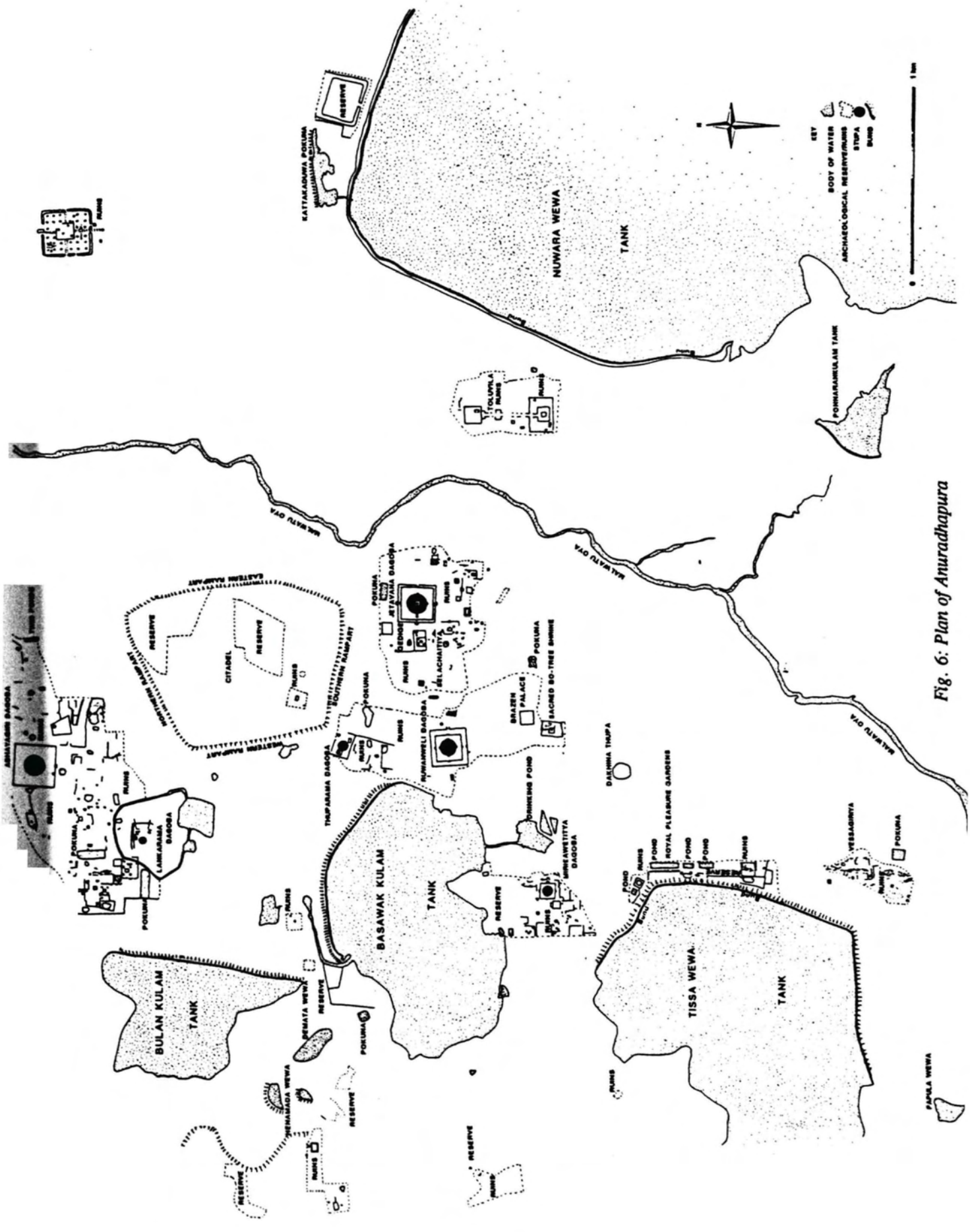

Fig. 6: Plan of Anuradhapura

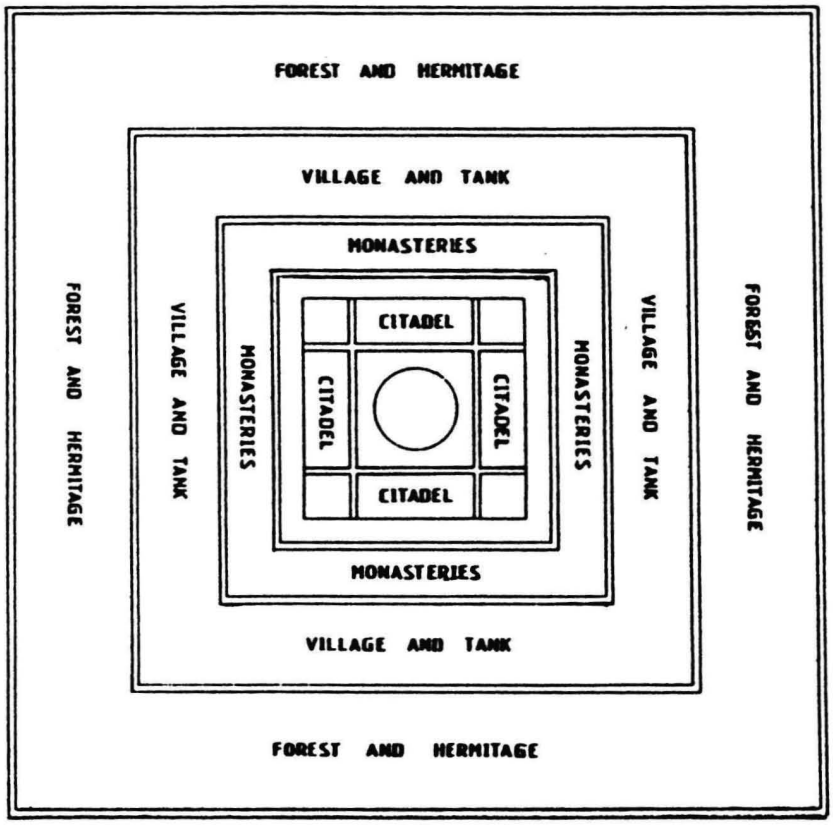

Fig. 7: Schematic plan of Anuradhapura (after Seneviratna 1994)

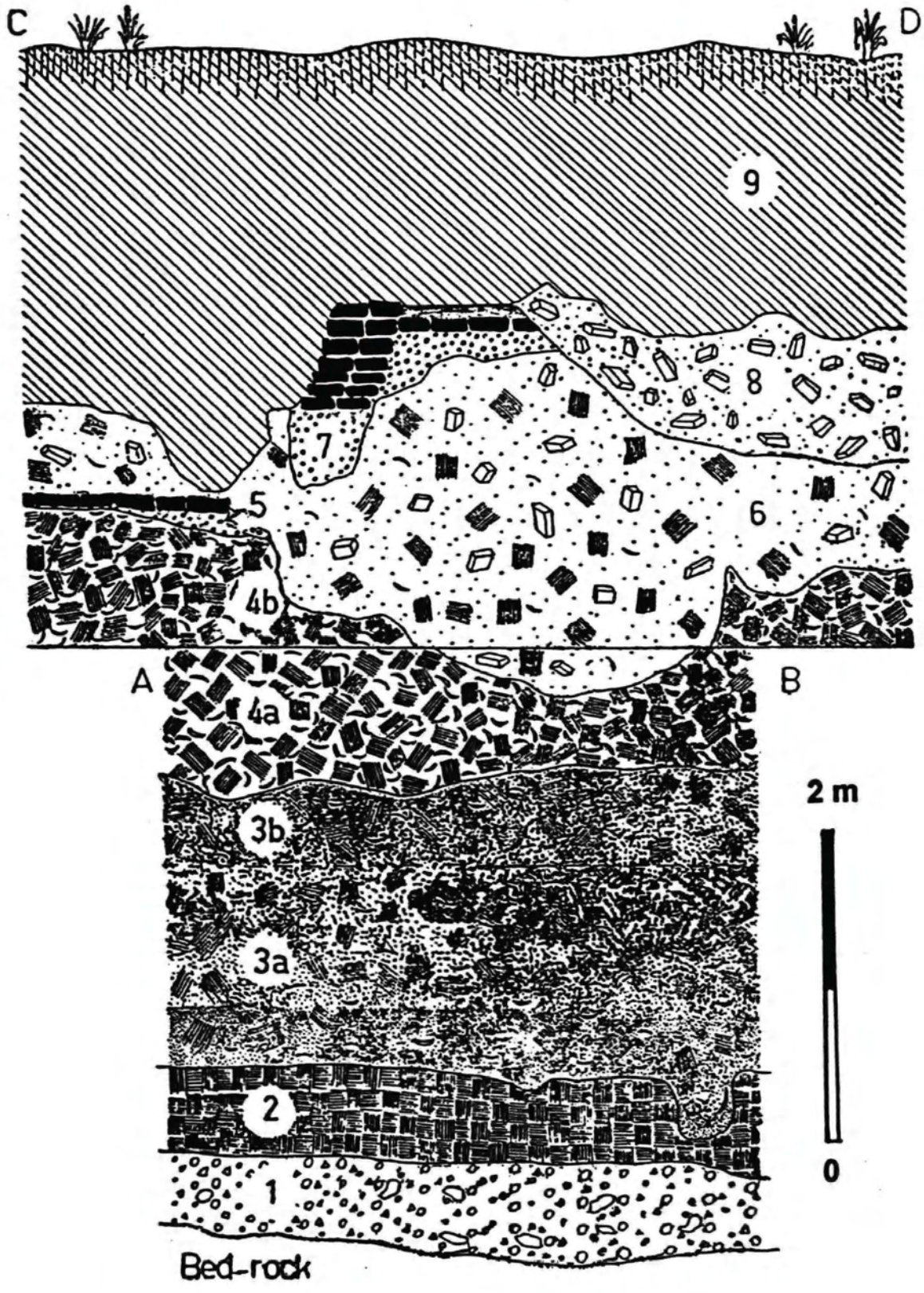

Fig. 8: Section of sondage AG-69 (after Deraniyagala 1972)

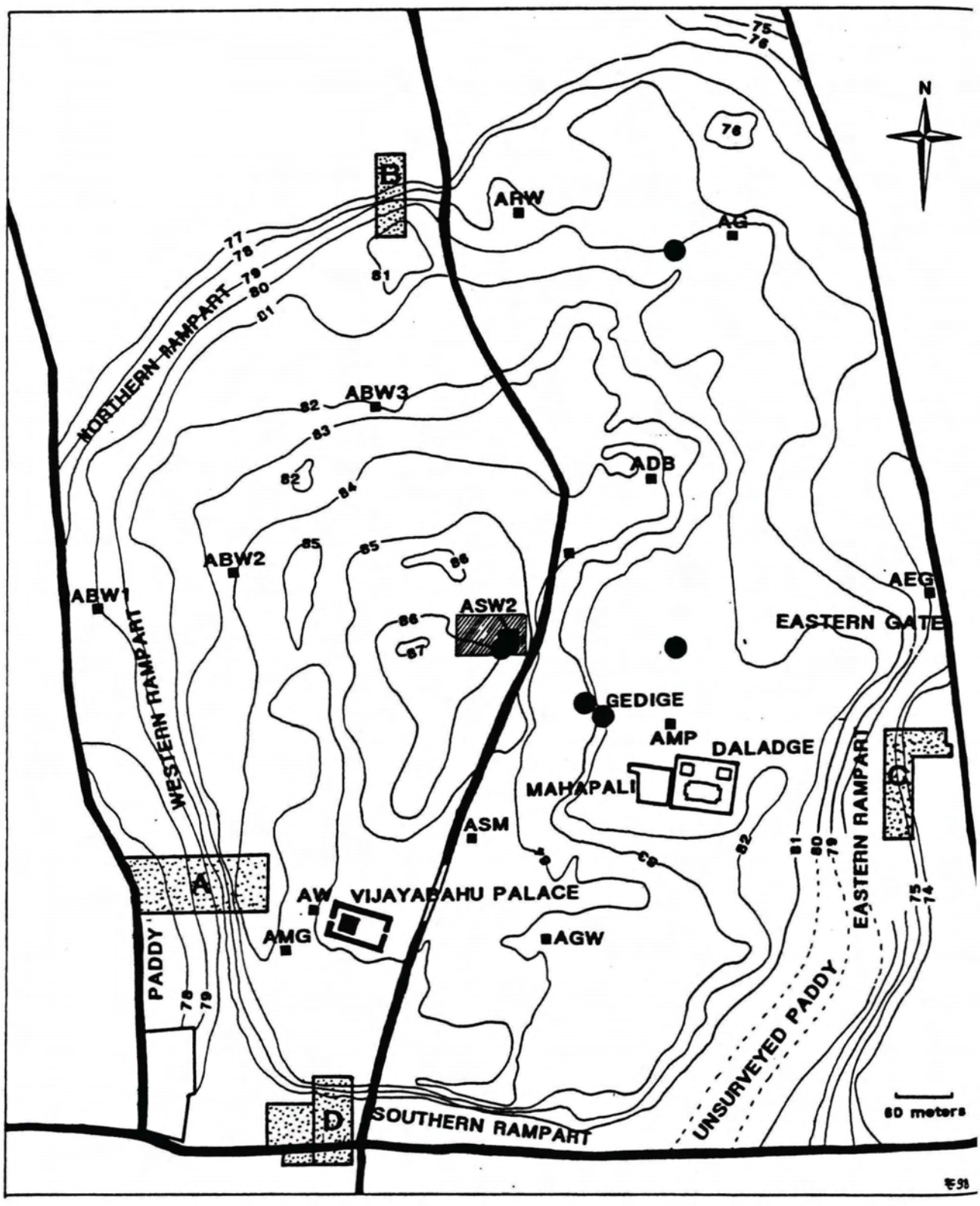

Fig. 9: Plan of the Citadel showing the location of sondages

Fig. 10: The western defences of the Citadel showing ramparts on right and silted moat in foreground

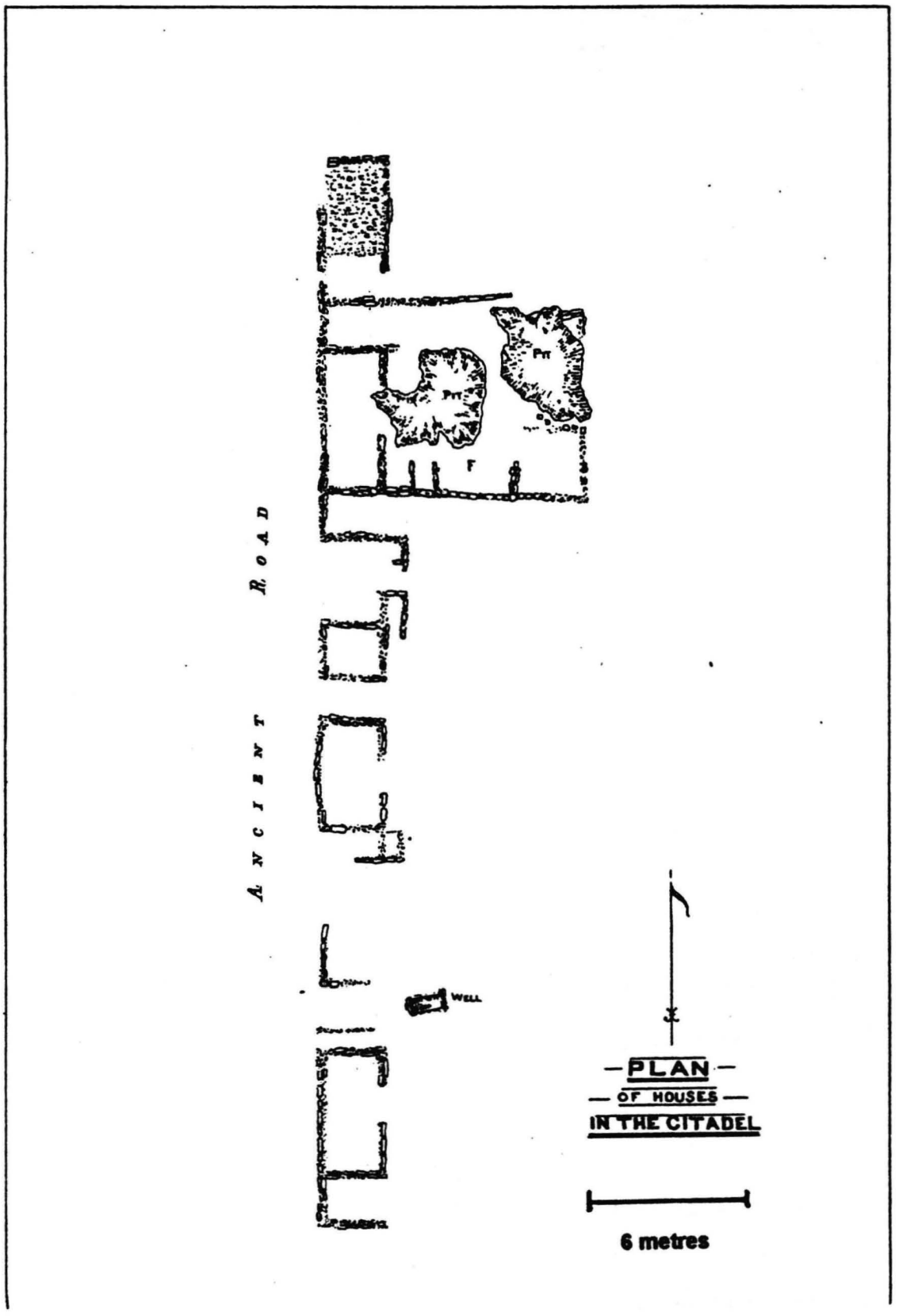

Fig. 11: Plan of final occupation phase street (after Ayrton 1924)

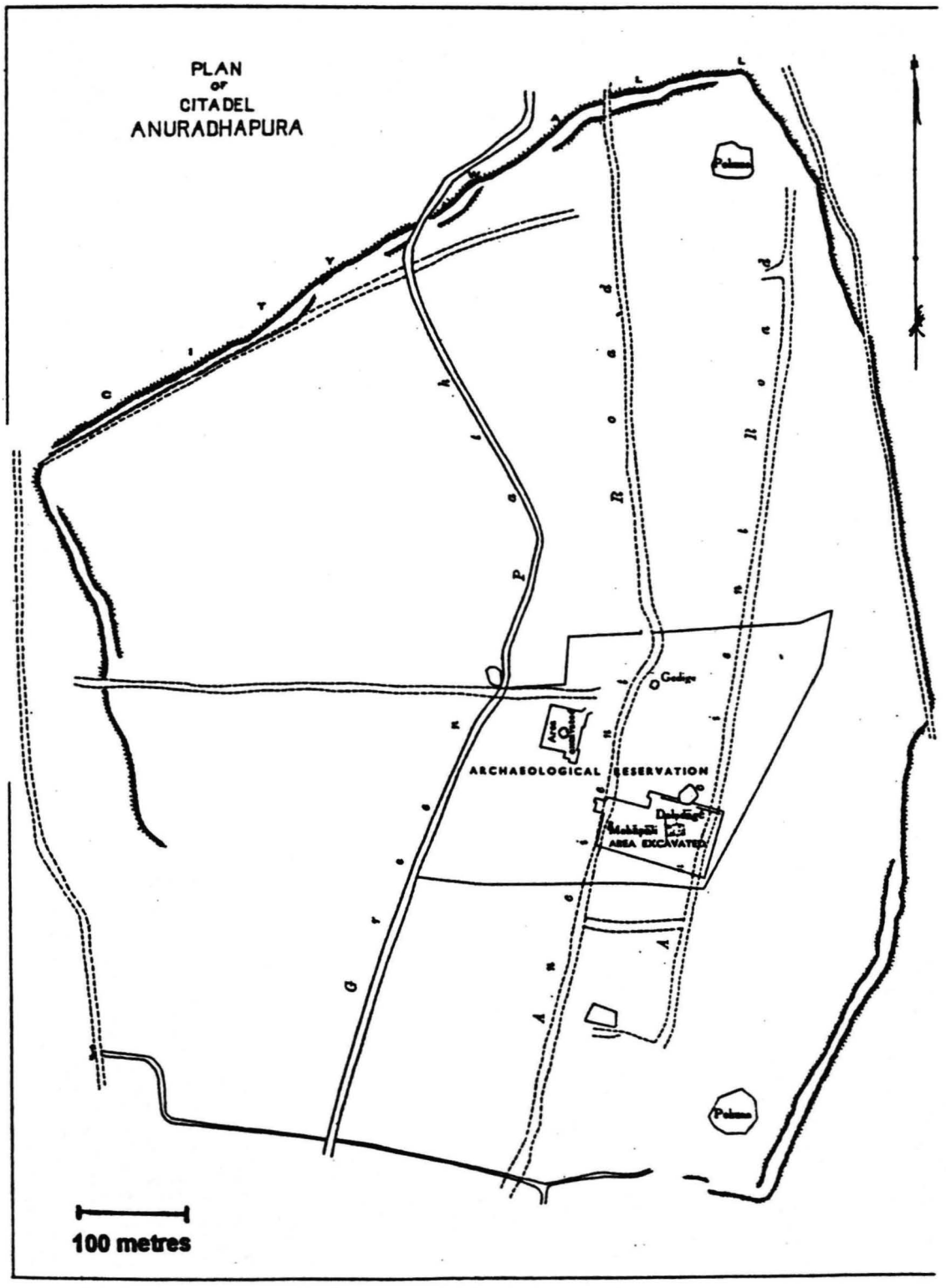

Fig. 12: Plan of Paranavitana's excavations (after Paranavitana 1936)

Fig. 13: Building A

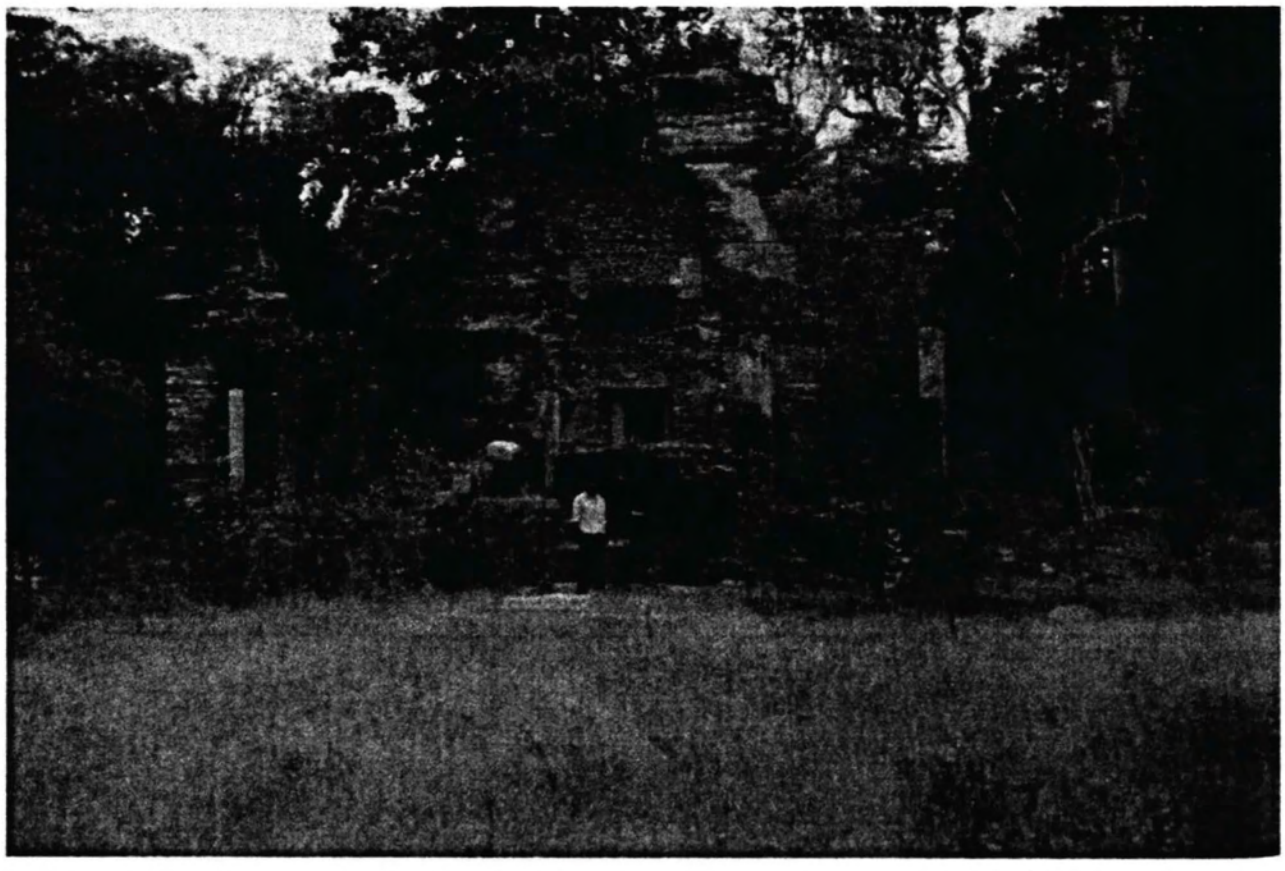

Fig. 14: The Gedige

Fig. 15: Augering in front of 'Vijayabahu's palace'

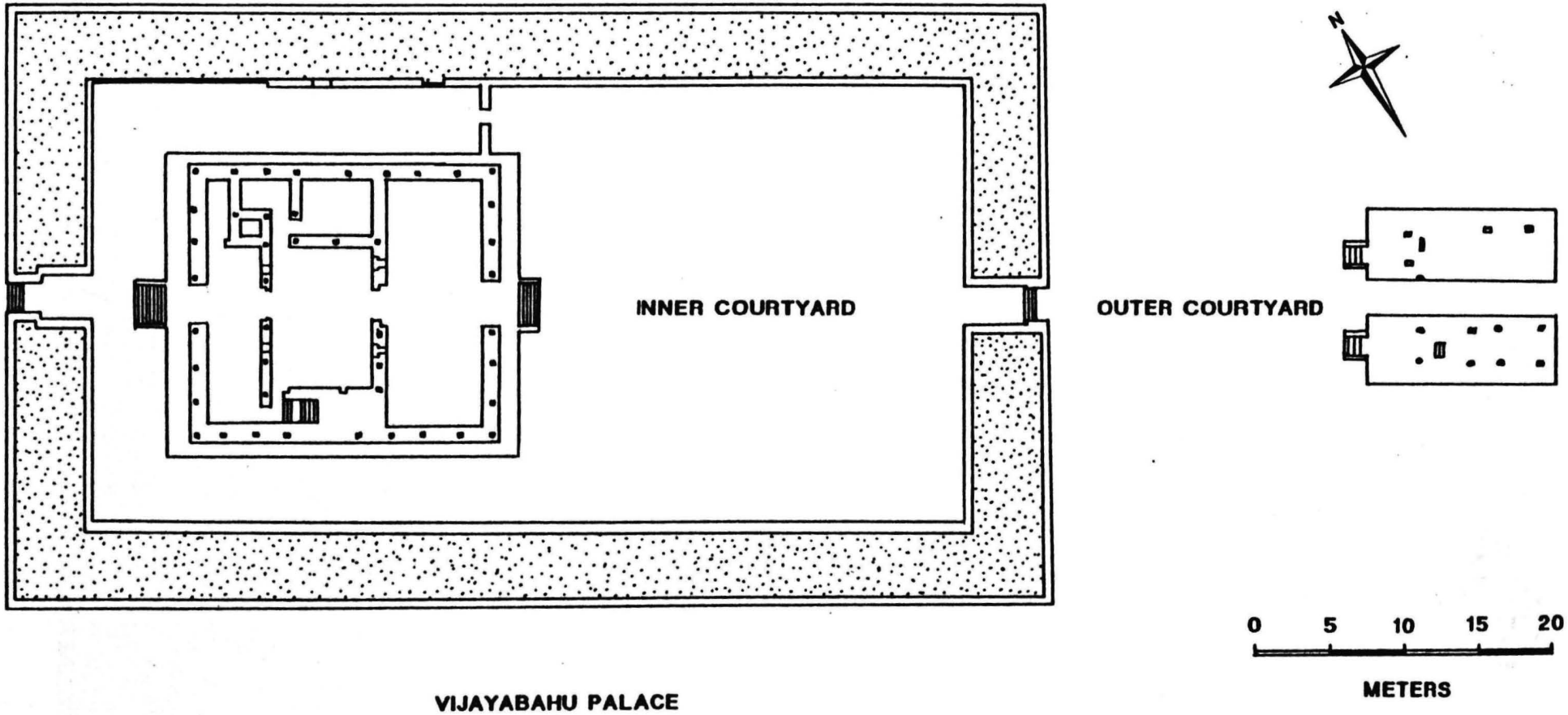

Fig. 16: Plan of 'Vijayabahu's palace'

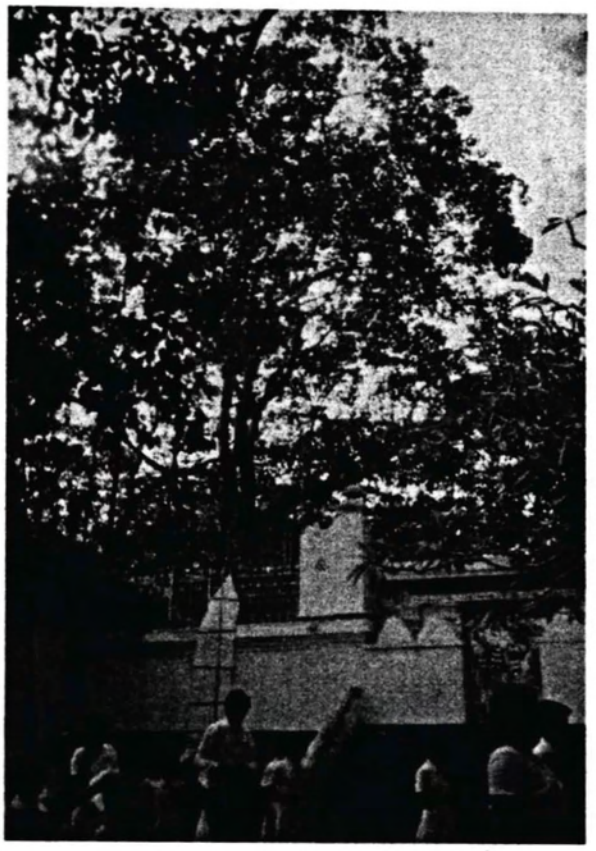

Fig. 17: The Bodhi tree shrine

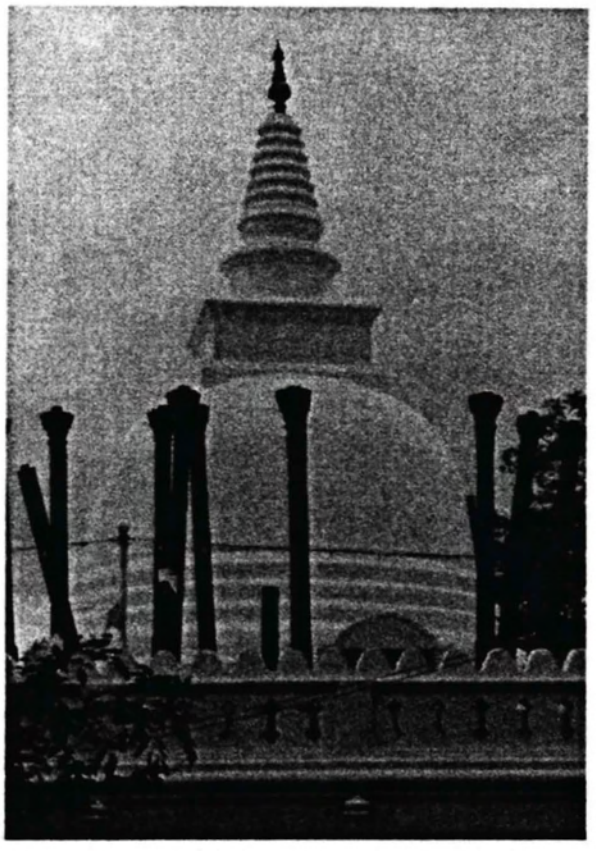

Fig. 18: The Thuparama stupa

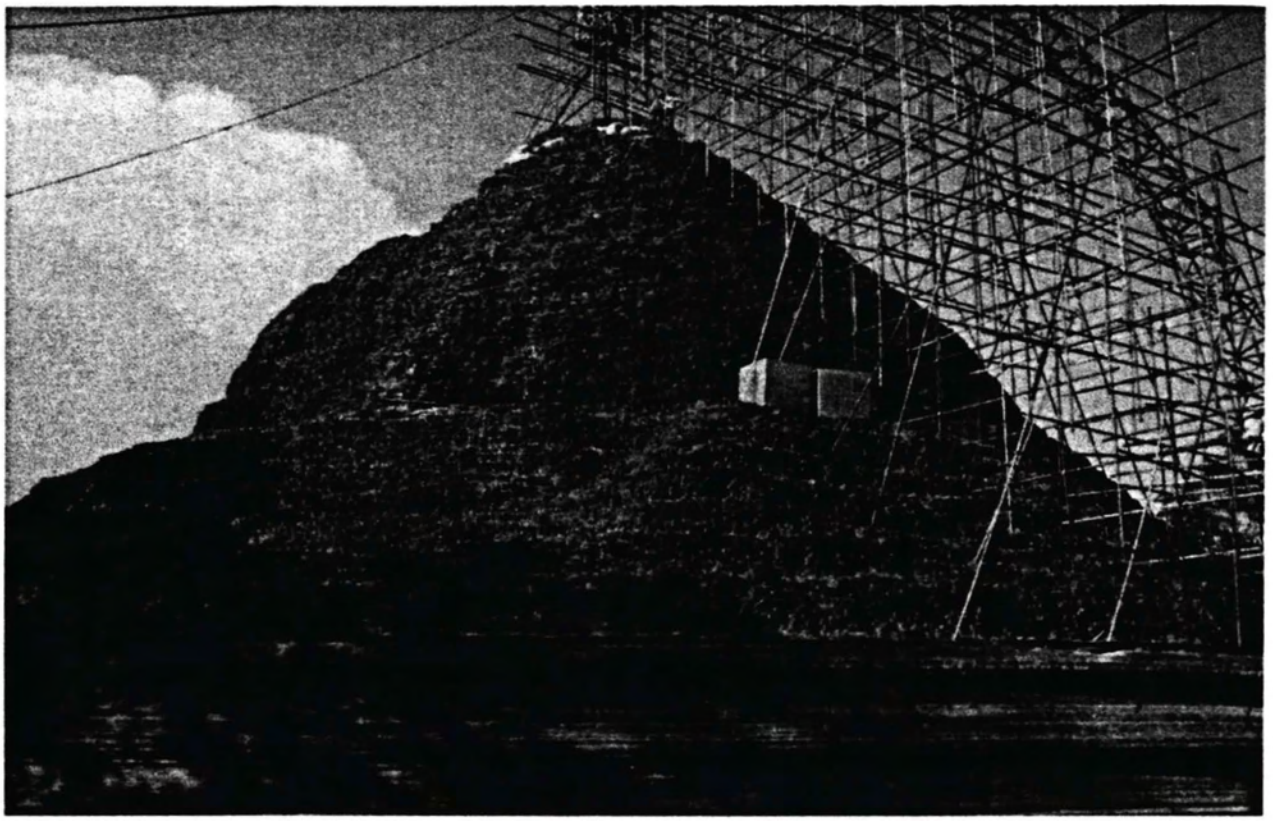

Fig. 19: The Mirisavati stupa

Fig. 20: The Jetavana stupa

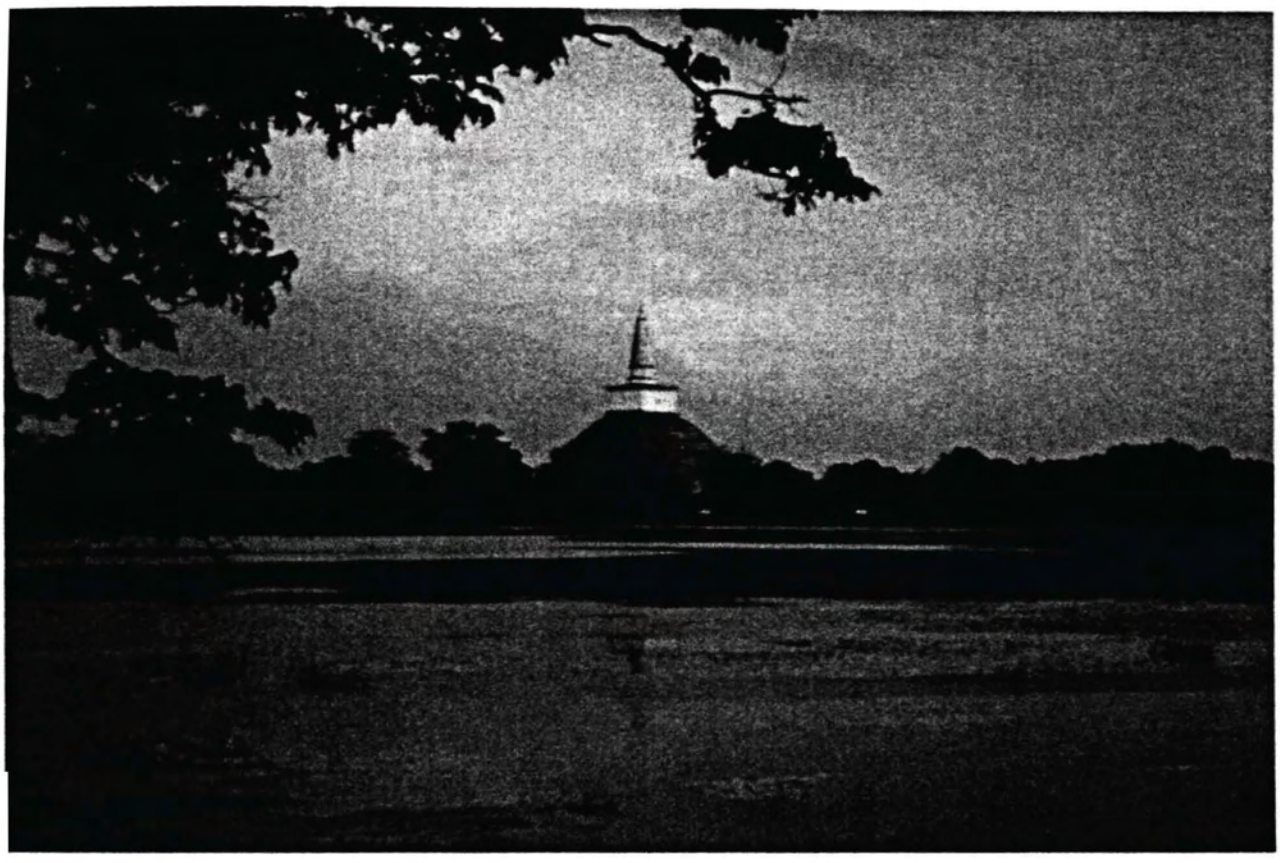

Fig. 21: The Basavakkulam

Fig. 22: The Tissavava

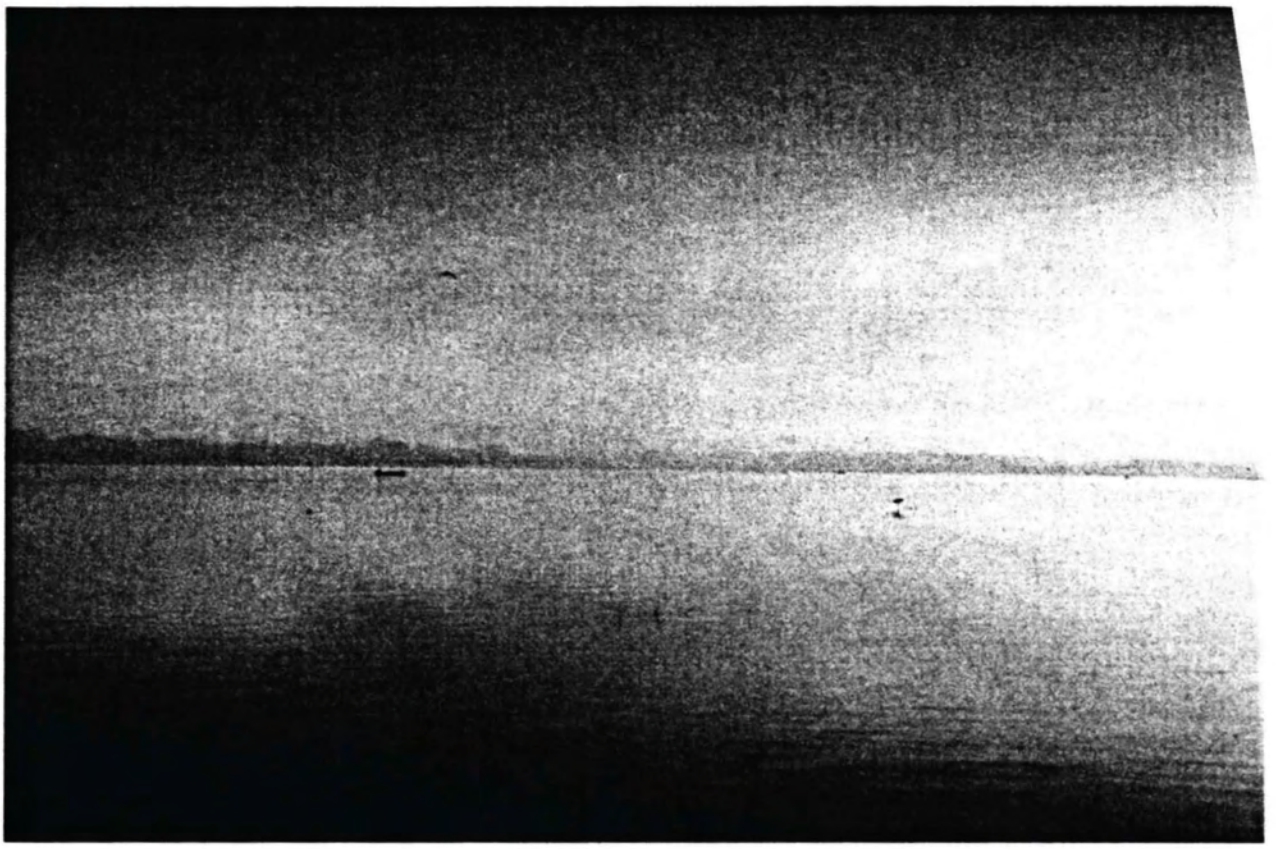

Fig. 23: The Nuvaravava

Fig. 24: The Toluvila stupa

Fig. 25: The Western monasteries

Fig. 26: The Vessagiri vihara

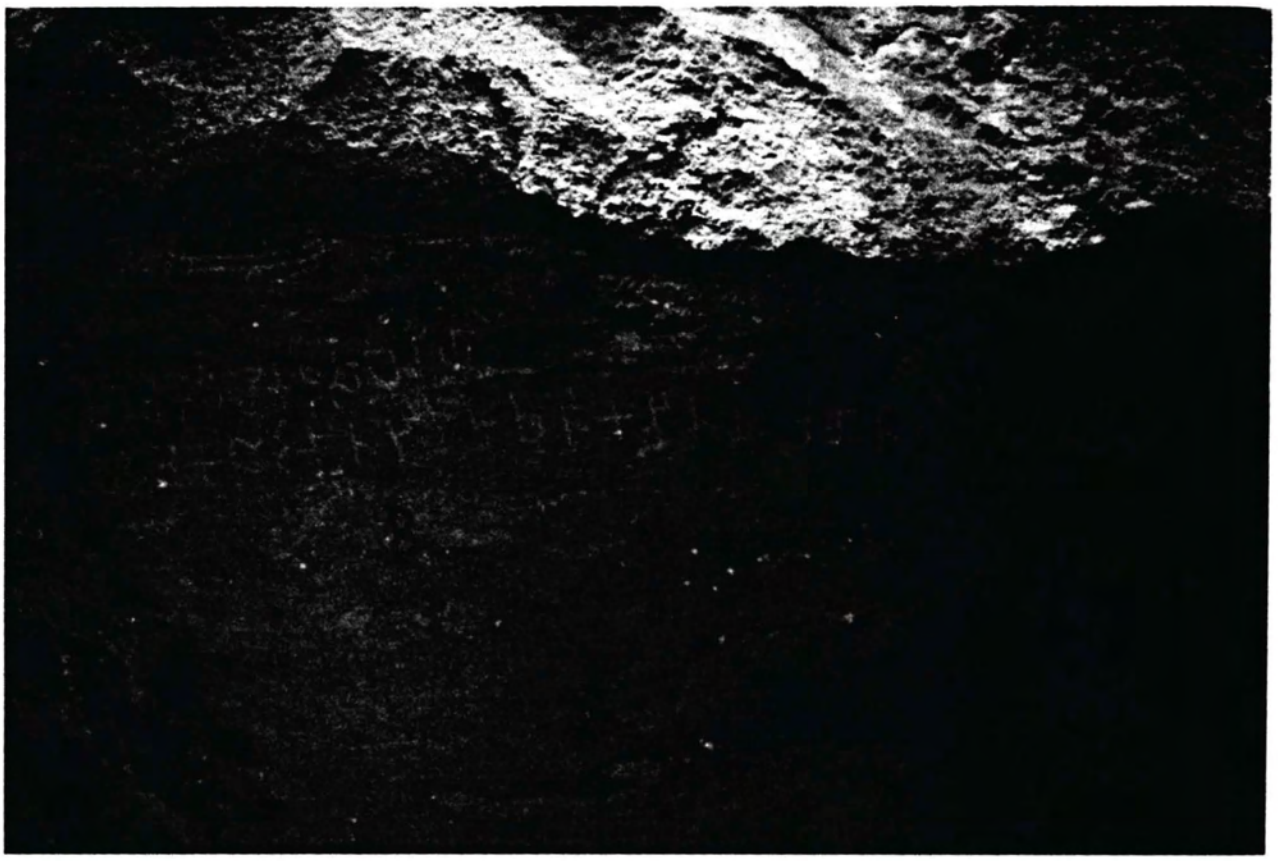

Fig. 27: An early Brahmi inscription at Vessagiri

Fig. 28: The Meghagiri vihara

Fig. 29: The northern annicut on the Malvatu Oya in the process of being encased within a modern dam

Fig. 30: The Kalavava