

Amongst Asia's Earliest Surviving Gardens: the Royal and Monastic Gardens at Sigiriya and Anuradhapura¹

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Sri Lanka is perhaps the only country in South Asia where we still have substantial archaeological remains of formally-laid out royal and monastic gardens dating from a period before A.D. 1000. They belong to a tradition of garden architecture and planning that is well-documented from the late 1st millennium B. C. onwards.

Literary references

The royal and monastic gardens of the Early and Middle Historical Period (3rd century B.C. to 13th century A.D.) are referred to in the Buddhist chronicles of Sri Lanka from as early as the 3rd century B.C. The chronicles themselves, of course, were written between the 3rd and 5th century A.D. from earlier written and oral sources. Whatever the actual history of Sri Lankan gardening may be, the Sri Lankan Buddhists inherited and developed two concepts of the early Indian tradition, which have a direct bearing on the art of site selection and landscaping. The first of these is the concept of the urban or suburban park or grove in which kings, nobles and merchants, as well as ascetics and religious teachers, took refuge from the heat and dust of towns and cities. Indian Buddhist literature has many references to such parks and gardens. The other concept was the distant forest grove or mountain or cave retreat, which ascetics and sages frequented in order to

concentrate on religious or philosophical pursuits.

The Sri Lankan chronicles echo Buddhist canonical literature in referring to royal and suburban parks and woods donated by the first Buddhist kings as sites for the early monasteries (*Mahavamsa* XV, 1-25). This is confirmed by the archaeological evidence which shows the city of Anuradhapura ringed by well-planned monastic complexes in which parkland, trees and water clearly played an important role (Silva, 1972; Bandaranayake, 1974: 33 ff.).

The alternative monastery type to the park or grove monastery (or 'arama') was what has been called the 'giri' or mountain monastery (Basnayake, 1983; see also Bandaranayake, 1974: 33, 46, 47). Here, a rocky mountain peak or slope was selected and caves or rock shelters fashioned from the sides of massive boulders. Hundreds of such sites with inscriptions dating from about the 3rd century B.C. to the 1st century A.D., including Sigiriya itself, appear in the Sri Lankan archaeological record.

A third concept of water festivals and water sports from both popular and royal contexts, and probably pre-Buddhist in origin, are also featured in the early texts. In the Later Historical Period from the 13th century onwards, the description of royal water sports, often

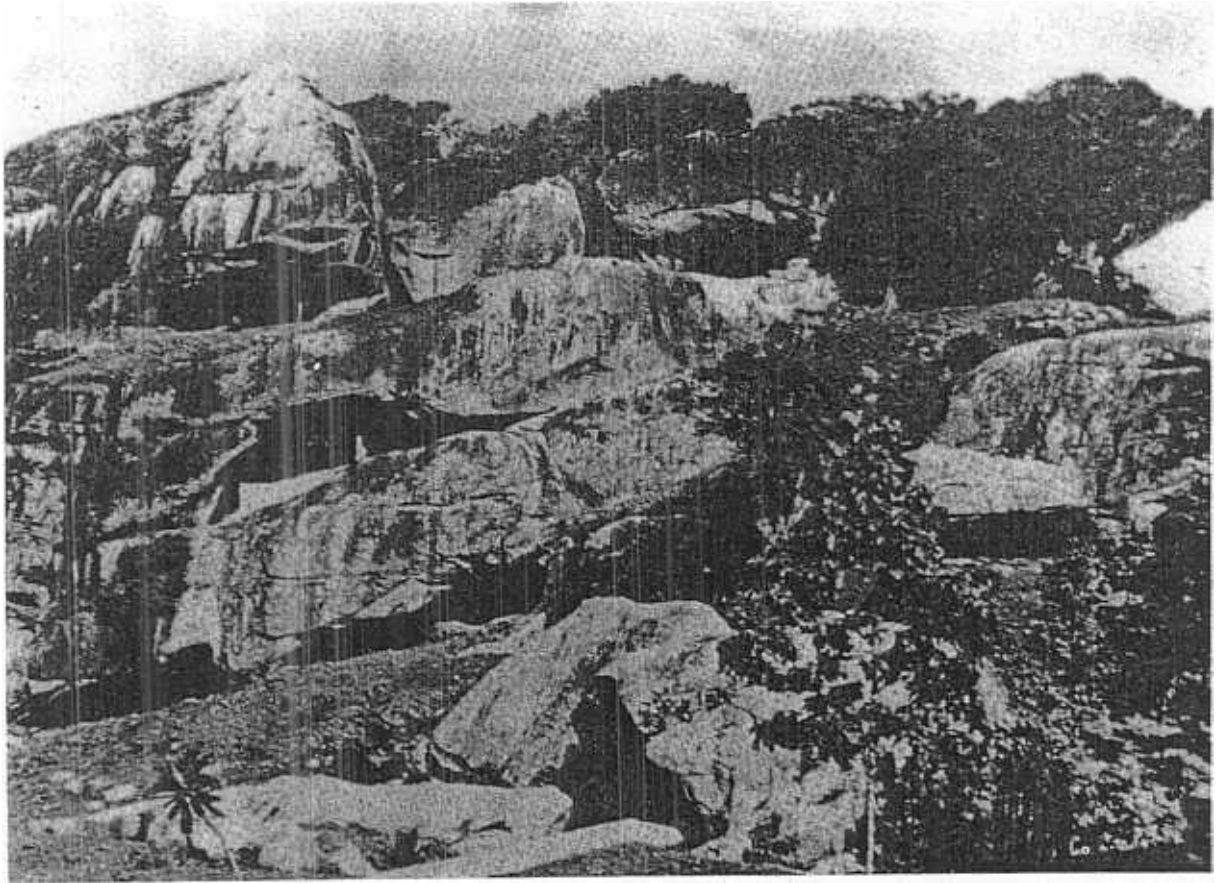


Fig. 1

Fig. 2

Fig. 3

Fig. 4





MONASTERY AND BOULDER GARDEN, MALIGATENNE, GAMPANA.
 DRAWN BY: ARCHITECTS, UNIVERSITY OF SRI LANKA, SRI LANKA
 YEAR: 1992

PLAN
 SCALE: 1:100

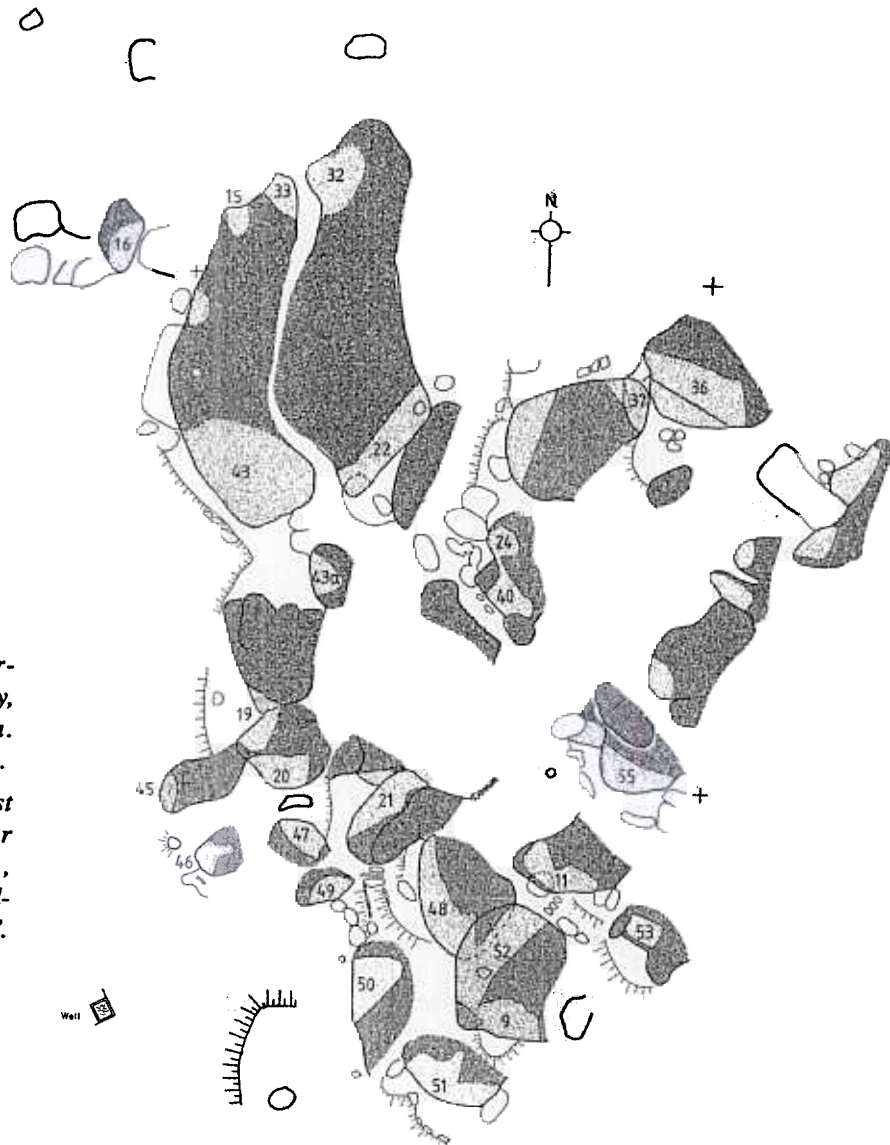


Fig. 5 'Boulder Garden' monastery, Maligatanna. Date uncertain.

Fig. 6 Early Buddhist rock-shelter monastery, Dambulla, 3rd-1st century B.C.

combined with erotics, become a standard feature of 'epic' and courtly poetry. Royal parks and gardens have also been described in detail in relatively late works such as the *Kotte Vittipota* and, folk poems such as the *Mala Raja Uru Danaya*, which has an extensive description "of the plants and shrubs grown in a royal garden" (Peiris 1978: 120-121).

Site, architecture and garden

At the same time, the combination of architecture and garden space; of buildings, trees, pathways, water and open areas; the fusion of symmetrical and asymmetrical elements; the use of varying levels and of axial and radial planning are all inherent aspects of the Sri Lankan architectural tradition, in both religious and secular contexts.

As far as secular gardens are concerned, at least two well-preserved examples exist of what we might call 'pure' garden complexes. By this is meant a garden which has an autonomous or semi-autonomous existence, independent of a building complex, or which is a clearly demarcated part of a larger architectural whole or even a situation where substantial buildings exist but form an integral though subordinate element in the garden layout. Two clear examples of this type are the royal gardens at Sigiriya, which are a distinct part of the royal and urban complex at this site, and the Royal Goldfish Park below the bund of the Tisavava at Anuradhapura. A rare example of a monastic garden which may also be included in this category is the miniature-lake-and-island garden of the Kaludiya Pokuna monastery at Mihintale.

Elsewhere, several monastic gardens exist where the garden forms an integral part of the architectural layout - a

setting and surround for the monastic buildings. One of the most striking examples of this can be seen in the southwest quadrant of the Abhayagirivihara at Anuradhapura (see Bandaranayake 1974: 55). Secular gardens in this second category and from a slightly later period than the Sigiriya, Anuradhapura and Mihintale examples, are the vestigial gardens of the royal precincts at Polonnaruva, which include two striking and well-preserved water-palaces, and the uninvestigated urban and palace complex around the excavated and conserved royal bath at Galabadda in Ruhuna.

The first scholar to draw our attention to site selection, landscaping and garden forms in Sri Lanka was Senarat Paranavitana, one of the founding fathers of Sri Lankan archaeology and the discoverer and first systematic excavator of the Water Gardens at Sigiriya. In a monograph on Polonnaruva, published in his retirement in 1954, to mark the 8th centenary of the consecration of King Parakramabahu I (A. D. 1153-1186), Paranavitana had this to say of the landscaping of the monasteries of Polonnaruva.

"The architects of old have given as much consideration to the aesthetic effects created by a whole ensemble of related buildings as they have to the design of an individual edifice. The skill with which the architects employed by Parakramabahu have tackled the problems of site planning can best be studied in that extensive complex of monastic buildings, known as the Alahana Parivena, of which (the) Lamkatilaka (temple) was the centre. A slight elevation of the ground had been made use of in order to locate on it the principal edifices intended for religious worship or for ecclesiastical

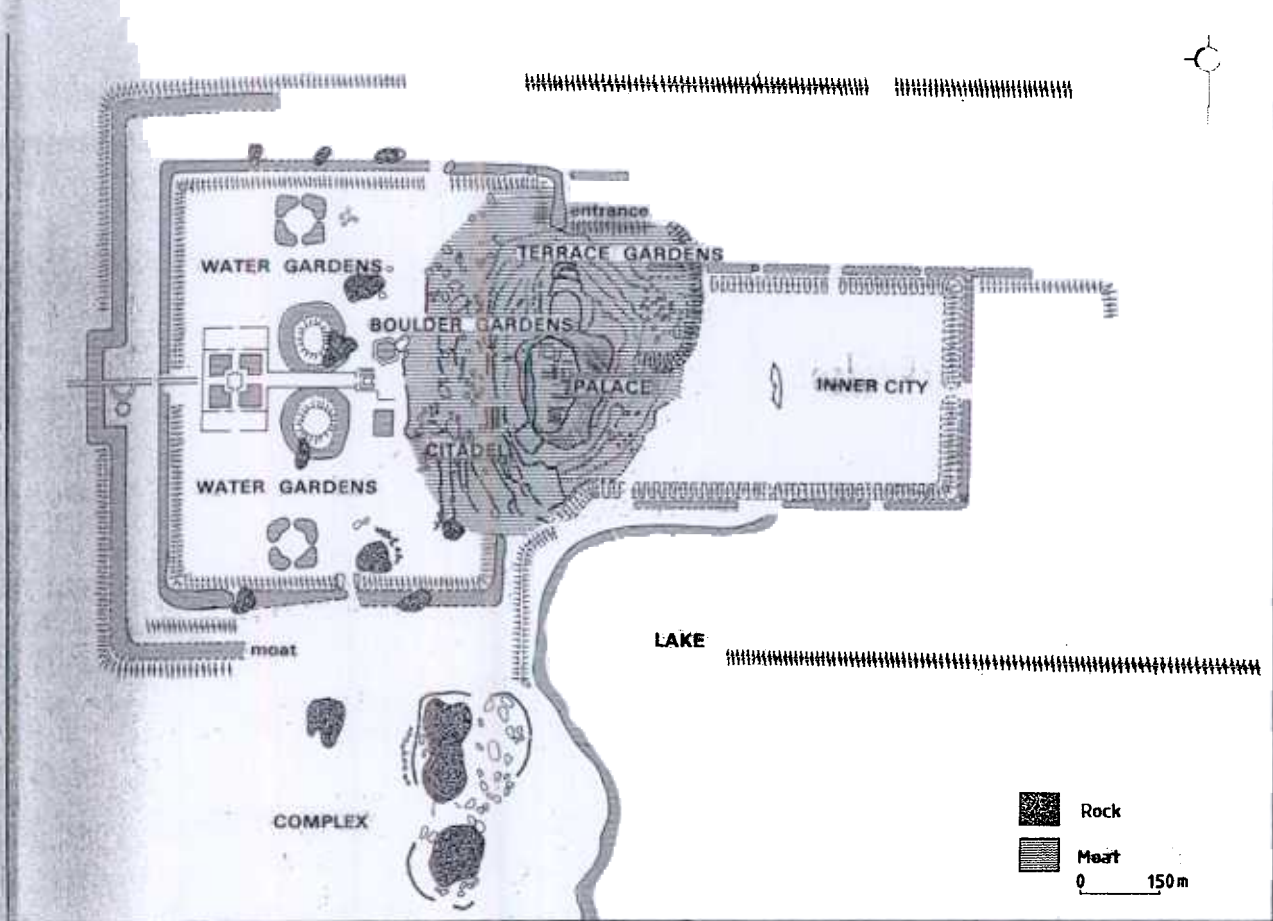
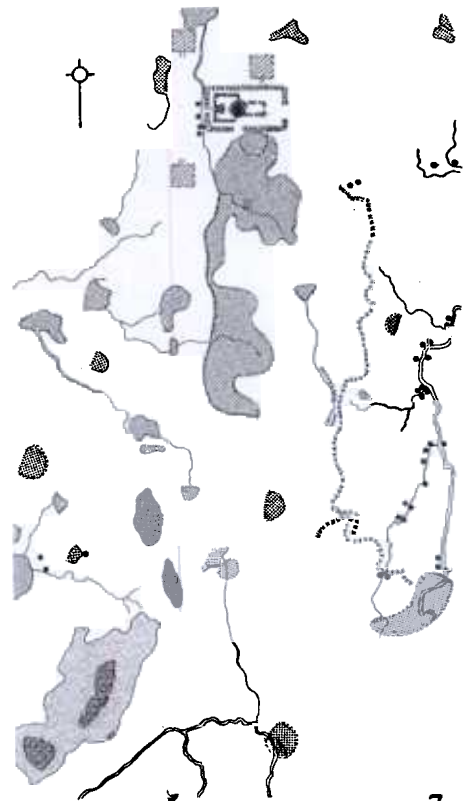


Fig. 7 Sigiriya-city, palace and garden. 5th century A.D.

Fig. 8 The 'Greater Sigiriya' area.



purposes—the image-house, the *stupa* and the chapter-house. The sloping ground on all sides of this central eminence has been made into terraces, and on them were located the *stupas* of lesser importance, the residential quarters for the monks, their refectories, libraries and other adjuncts necessary for the life of a highly organised religious fraternity ... Ponds and sheets of water reflected the forms of the main buildings and the flowering trees which were planted at intervals must have contributed to the serenity of the scene. Natural boulders were made to harmonise with the scheme of building and the various edifices no doubt sat easily in their surroundings' (Paranavitana 1954: 29).

Sigiriya

The present paper is principally concerned with the gardens at Sigiriya, which provide excellent material for a case-study of Sri Lankan garden history.

The 5th century AD site at Sigiriya provides a unique and little-known example of what is one of the oldest garden forms in the world, whose skeletal layout and significant features are still in a fair state of preservation. The Sigiriya gardens are the survivals of a fairly recently identified Sri Lankan tradition of garden-art, of which there are a few other surviving examples, some historical and literary documentation and traces and fragments at nearly every site of the historical period.

The gardens at Sigiriya are a concrete and mature expression - on a grand scale - of these various strands and traditions, which we see at other sites and in literary descriptions, in a fragmentary form. The highly systematic plan of the Sigiriya complex consists in essence of the central rock, surrounded

by the slopes of the hill on which it stands, and two rectangular precincts to east and west, fortified by moats and ramparts.

The gardens at Sigiriya consist of three distinct but interlinked sections: the symmetrical or geometrically planned water gardens; the asymmetrical or organic cave and boulder garden, the stepped or terraced garden encircling the rock, the (miniature) water garden and the palace gardens on the summit of the rock.

The Water Gardens

Of these, the water gardens are, perhaps, the most extensive and intricate, occupying the central section of the western precinct. The water gardens divide into several distinct units. As can be seen in the plan, the three principal gardens lie along the central east-west-axis. The largest of these gardens, Garden 1, consists of a central island surrounded by water and linked to the main precinct by cardinaly-oriented causeways. This plan anticipates Angkor, on the one hand, and the *char bagh* of the Mughal gardens, on the other, both of which Sigiriya predates.

The central island was originally almost entirely occupied by a large hall or pavilion. The water-retaining structures, separated into four L-shaped pools in each quadrant, are connected by underground water conduits at varying depths, suggesting an attempt at providing differential water levels. One of the two excavated pools is that in the southwest. It shows a subdivision into a large bathing pool with a corbelled tunnel and steps leading down into it, and a smaller pool with a central boulder on which was placed a brickbuilt pavilion, whose scanty remains still survive. The sides and base of both pools are made of several courses of brickwork and were

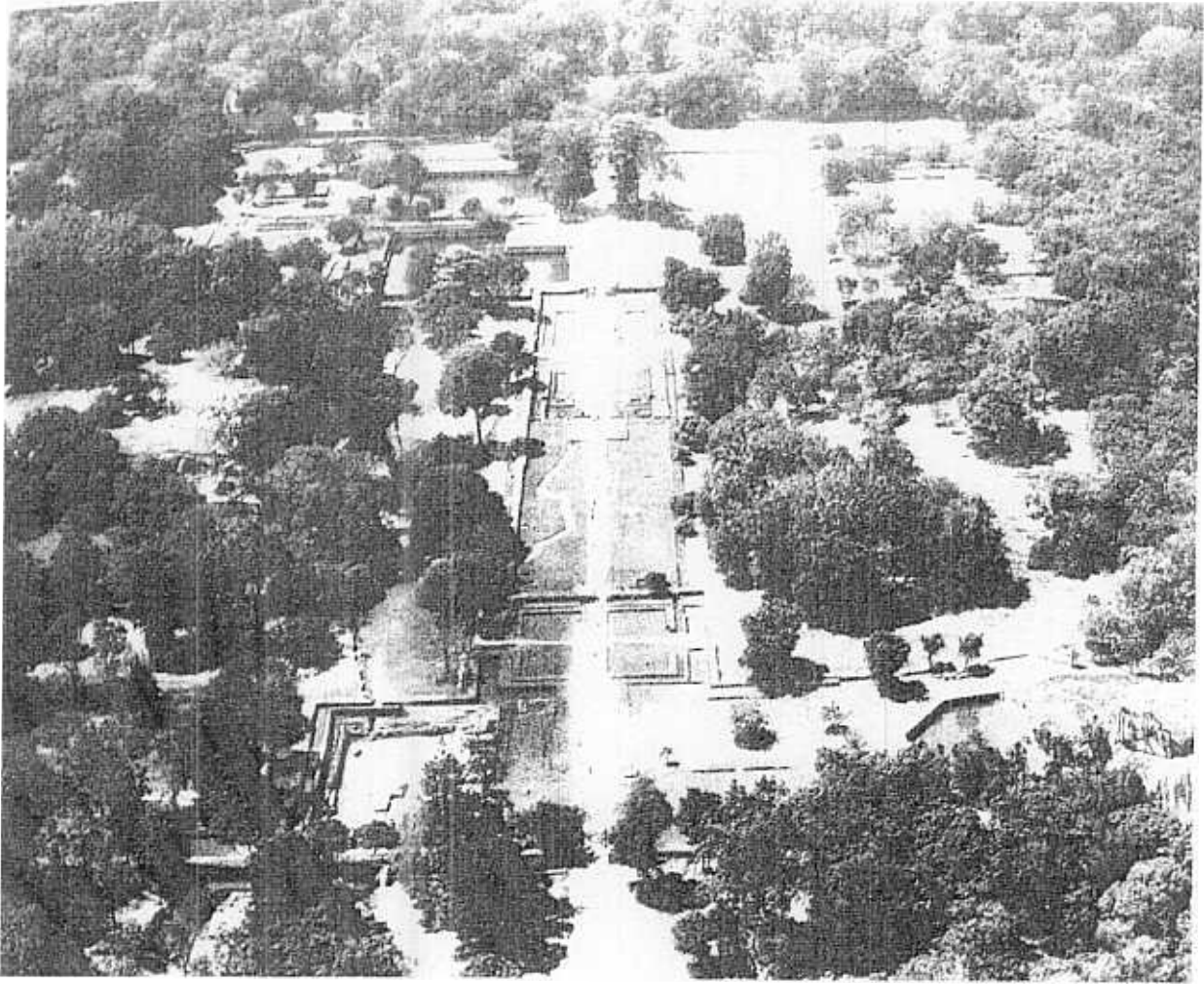
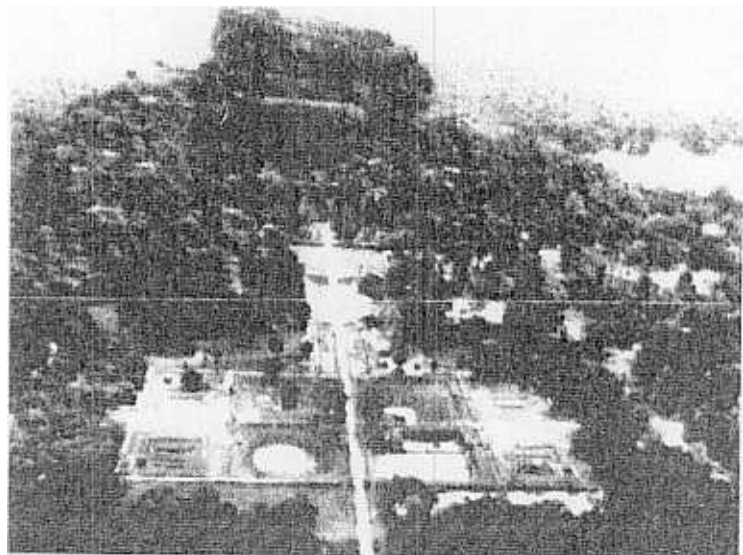


Fig. 9 *Water Gardens, Sigiriya.*

Fig. 10 *Moats, Water Gardens and rock, Sigiriya.*



heavily plastered and polished.

The entire garden is a walled enclosure with gateways placed at the head of each causeway. The largest of these gateways to the west, has a triple entrance. The cavity left by the massive timber door posts indicates that it was an elaborate gatehouse of timber and brick masonry with tiled roofs, no doubt originally somewhat resembling the *gopurams* of the Kerala temples or the *torii* of Japan.

To the north and south of this walled enclosure were two rectangular extensions, containing shallow reflecting pools, water-surrounded pavilions and deep cisterns with a rectangular plan and battered walls. Each of these shallow pools, as well as the water pavilions, which have a shallow depression around them, and the deep cistern, were originally paved in polished marble. The much weathered limestone slabs of this paving still remain *in situ* in several places. What is distinctive about this area is the precise geometry of its layout and the application of the principle of symmetrical repetition or 'echo' planning. Thus, the northern and southern precincts are almost exactly alike, while the eastern and western halves of each precinct are duplicates of each other.

Garden 2 (the 'Fountain Garden') is a narrow precinct on two levels. The western half has two long and deep pools with stepped cross-sections. Draining into these pools are shallow serpentine 'streams' paved with marble slabs and defined by marble kerbs. These serpentes are punctuated by fountains. The fountains consist of circular limestone plates with symmetrical perforations. They are fed by underground water conduits and operate on a simple principle of gravity and pressure. With

the cleaning and repair of the underground conduits, in rainy weather the fountains operate even today.

Two relatively shallow limestone cisterns are placed on opposite sides of the garden. Square in plan, and carefully constructed, they may well have functioned as storage or pressure chambers for the serpentine and the fountain. The upper half of this garden, which is raised above the lower western section, has few distinctive features. A serpentine stream and a pavilion with a limestone throne are almost all that are visible today.

Garden 3 is again on a higher level and forms an extensive area of terraces and halls. To the north is a large octagonal pond at the base of a towering boulder. A raised podium and a dripledge for a lean-to roof form the remains of a 'bathing pavilion' on the far side of the pond. The pond is surrounded by a wide terrace which follows its octagonal plan. The pond and the high boulder to which it is joined, form a dramatic juxtaposition of rock and water at the very point at which the water garden and the boulder garden meet.

Adjoining the octagonal pond is an octagonal pavilion and a circular structure, both of which may be of somewhat later date than the main garden itself. Matching the octagonal pond in the southern sector is a rectangular pool. Recent excavations have shown that this pool has no structural features other than an earthen embankment but, as it appears in early maps of Sigiriya, it may well be an unfinished feature from a much later period than the 5th century. The central feature of Garden 3 is a segmented, L-shaped pool, a halved *char bagh*, lying on either side of the central axis and fronting the entrance to

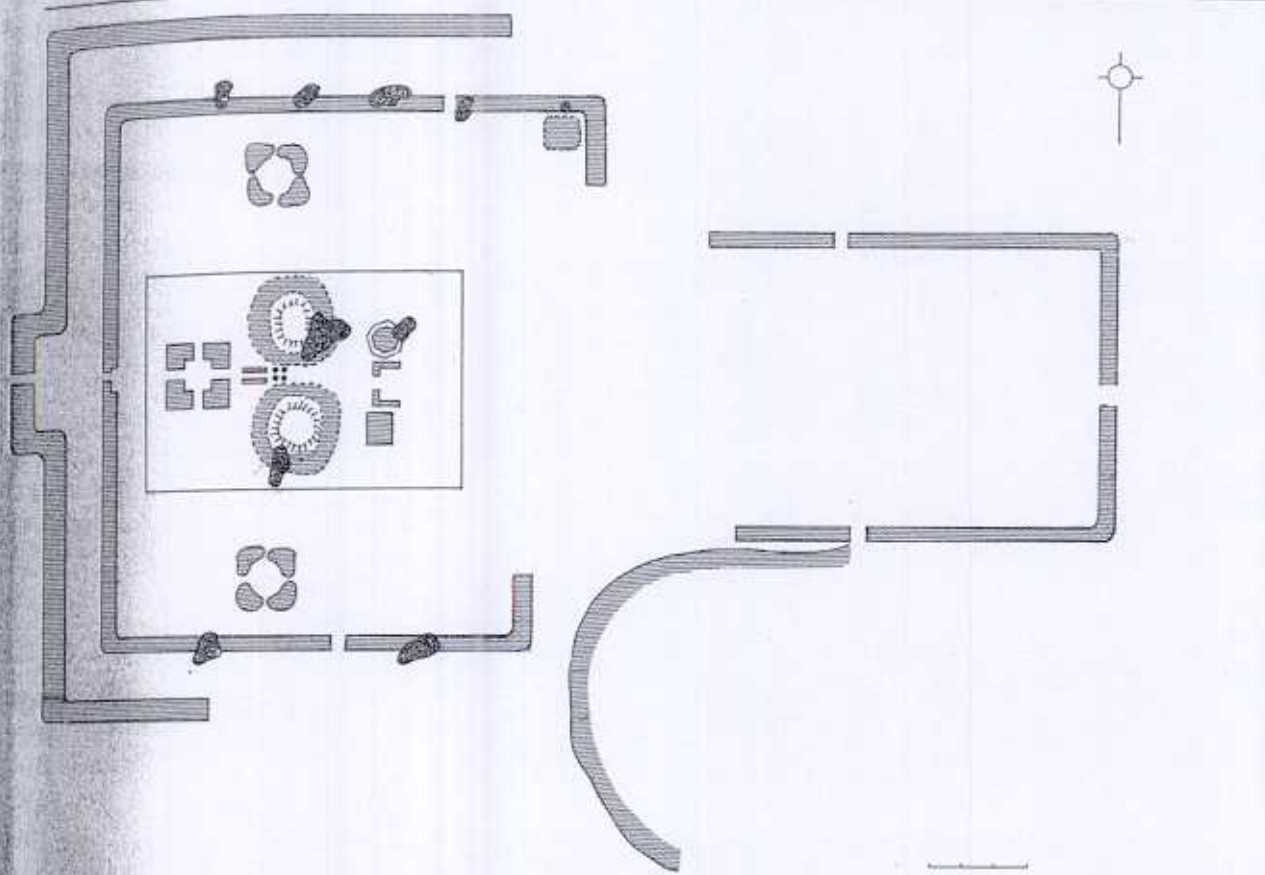
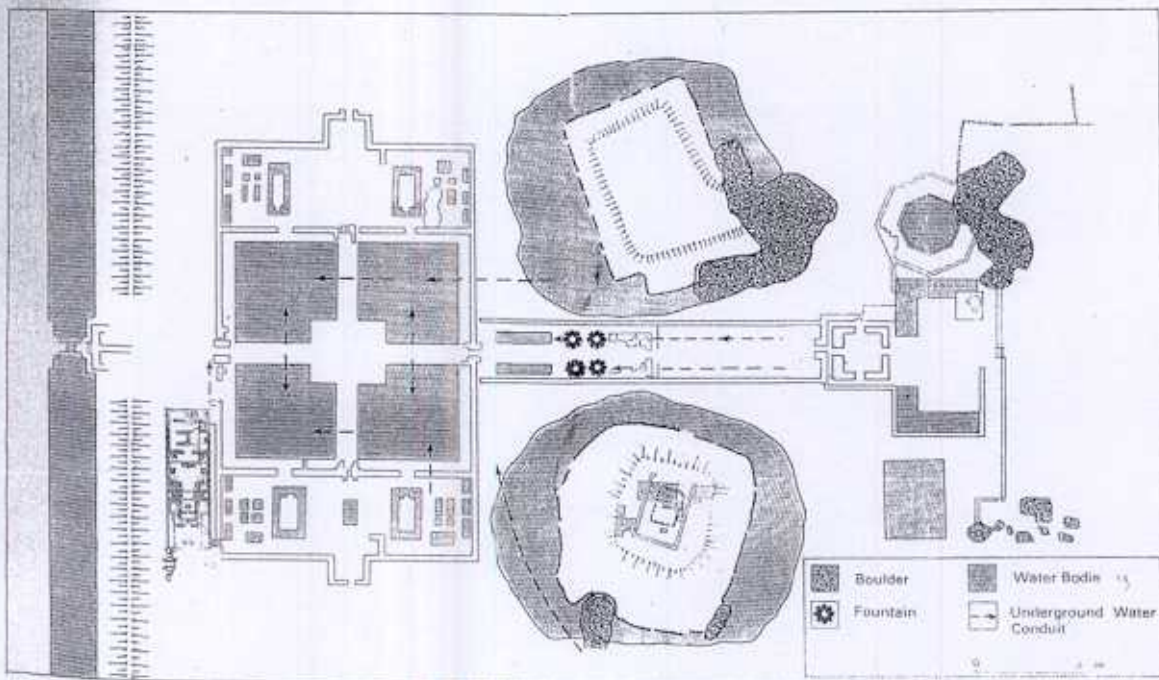


Fig. 11 Macro irrigation system, Sigiriya.

Fig. 12. Central Water Gardens, Sigiriya.



the inner citadel and the boulder garden.

The eastern limit of Garden 3 is marked by the wide entrance and massive brick and stone wall of the inner citadel. The citadel wall forms, as it were, a dramatic backdrop to the water gardens - echoing the even more dramatic backdrop of the great rock and the palace on the summit further east. This backdrop extends from the towering boulder near the octagonal pond in the north-east of Garden 1, to the matching 'bastion' on the south-east, which has the rectangular pond and other buried structures at its base. The bastion itself is formed of wide brick walls linking up a series of boulders, surrounding a cave pavilion housing a rock-cut throne.

These gardens (Gardens 1, 2 and 3) form a dominant series of rectangular enclosures of varying size and character, joined together along a central east-west axis. Moving away from this to the wider conception of the western precinct as a whole, we see that its other dominant feature is a sequence of four large moated islands, arranged in a north-south oriented crescent, cutting across the central axis of the water garden. These, once again, follow the principle of symmetrical repetition, the two inner islands, on the one hand, and the two outer islands, on the other, forming pairs.

The two inner islands closely abutting the Fountain Garden on either side, are partially built up on surfacing bedrock. They are surrounded by high rubble walls and wide moats. The flattened surface of the island was occupied by 'summer palaces' (Sinhalese: *sitala maliga* or cool palaces) or water pavilions (Hindi; *jal mahal*). Bridges, built

or cut into the surface rock, provide access to these water palaces. Further to the north and south, almost abutting the ramparts, are the two other moated islands, still unexcavated but clearly displaying the quartered or *char bagh* plan.

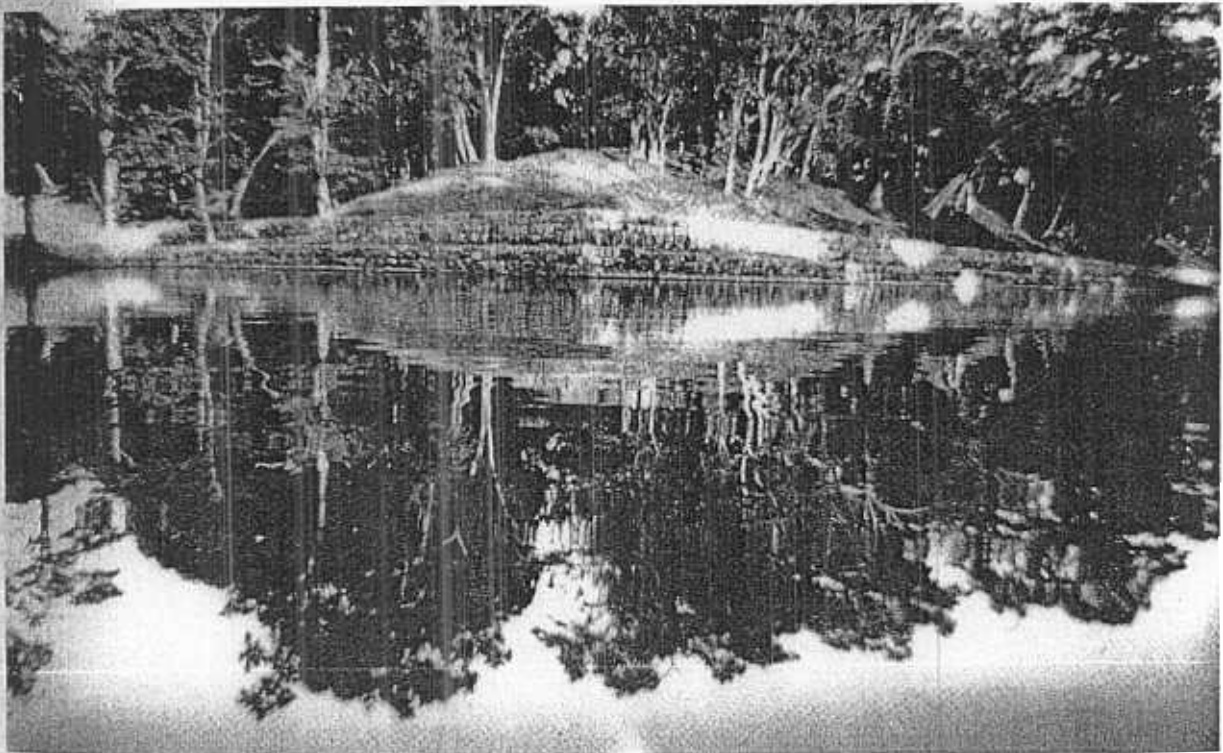
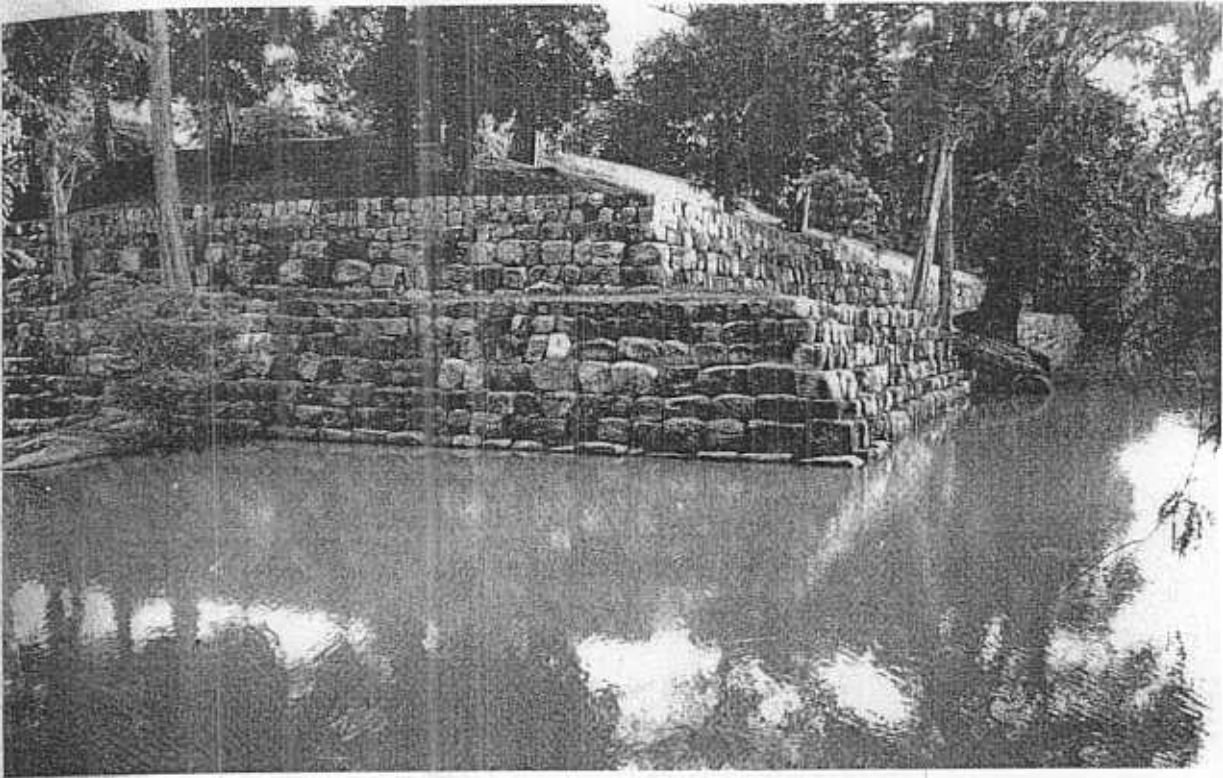
In the far north-eastern corner of the western sector is a large and deep tank popularly known today as the 'Haba Vila', while near the southern gateway are the scarcely discernible signs of another pool shown clearly on 19th century maps.

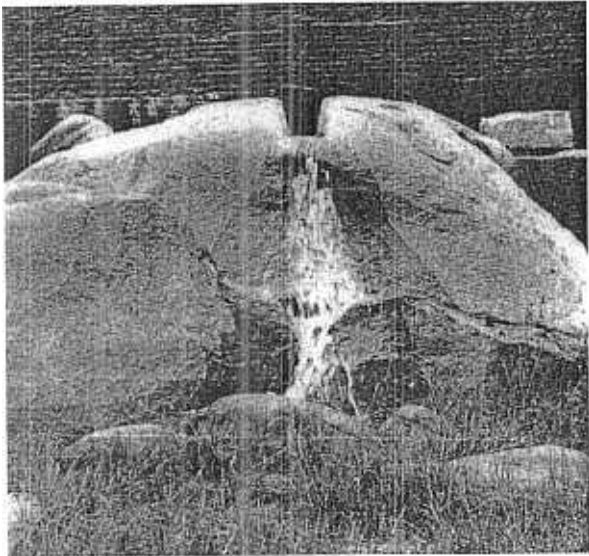
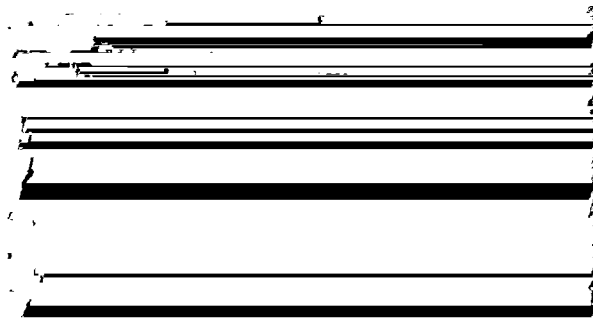
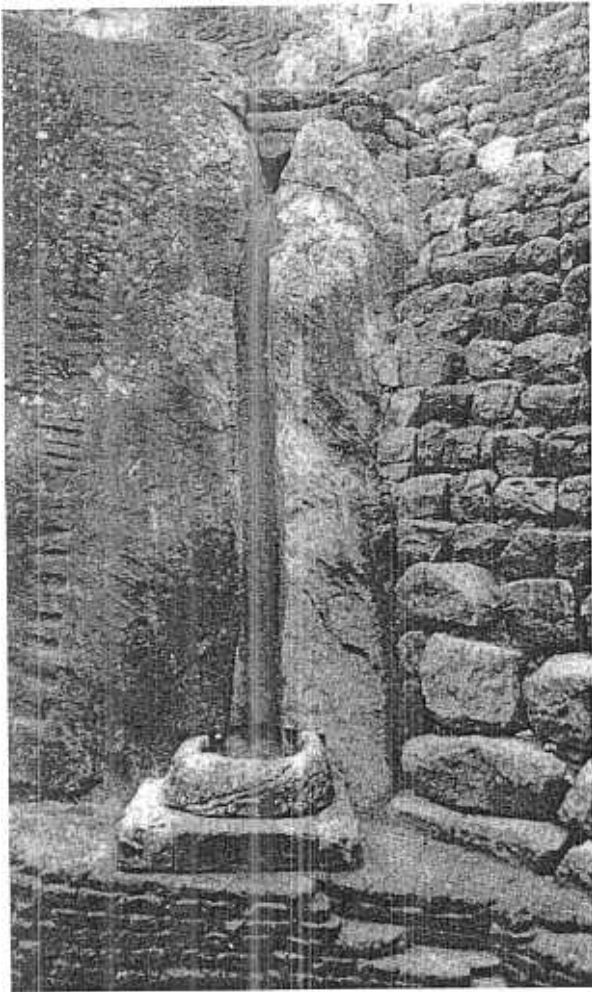
Intricately connected with the water retaining structures of the western precinct are the double moat that surrounds it and the great artificial lake that extends southwards from the Sigiriya rock. Excavations have revealed that the pools were interconnected by a network of underground conduits, fed initially by the Sigiriya Lake and probably connected at various points with the surrounding moats.

The hydraulic system

Standing as they do, at the midpoint of the development of one of the world's most sophisticated hydraulic technologies (Needham 1971: 365 - 378), the water gardens at Sigiriya seem to have been the playground not only of the court but also of the ancient engineers, who applied here on a micro-scale the principles of the macro-hydraulics which formed the essential technological basis of the Sri Lankan civilization during the Early and Middle Historical Period.

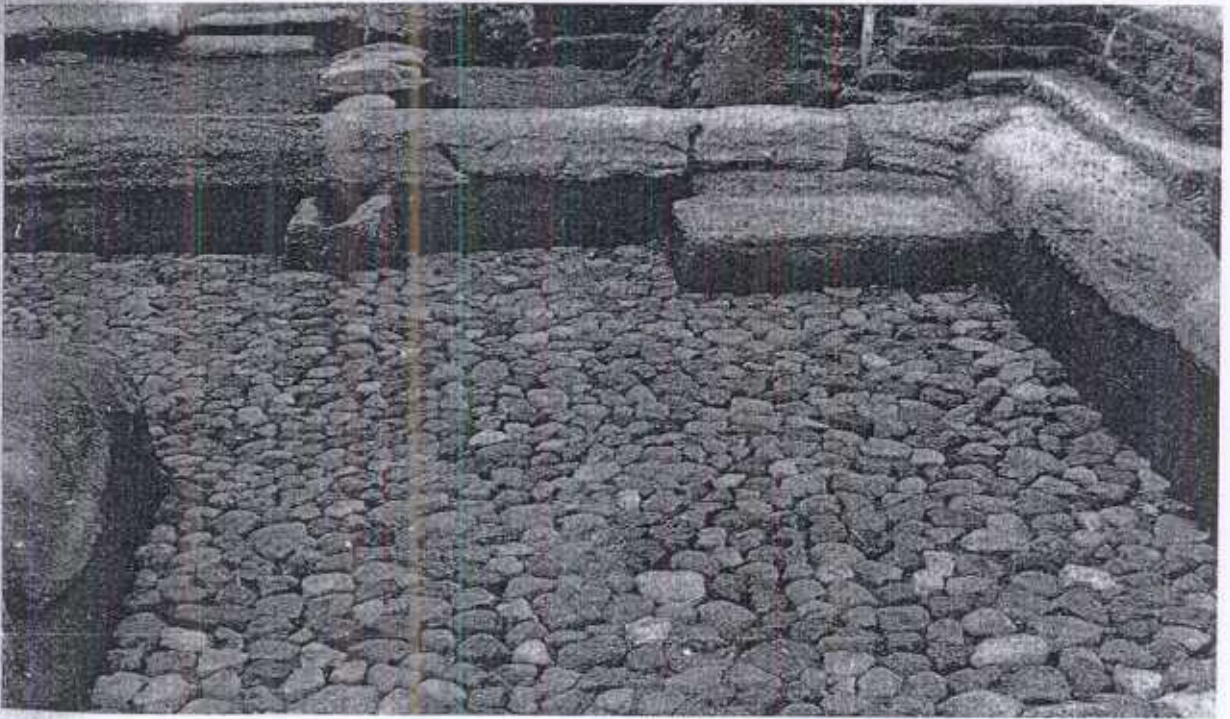
The hydraulic system at Sigiriya still needs to be researched, but it is possible, even in our present state of knowledge, to say that its essential characteristic was the interconnection of macro- and micro-hydraulics. The irrigation works, conduits, pools and cis-





Sigiriya.

Sigiriya.
The Water



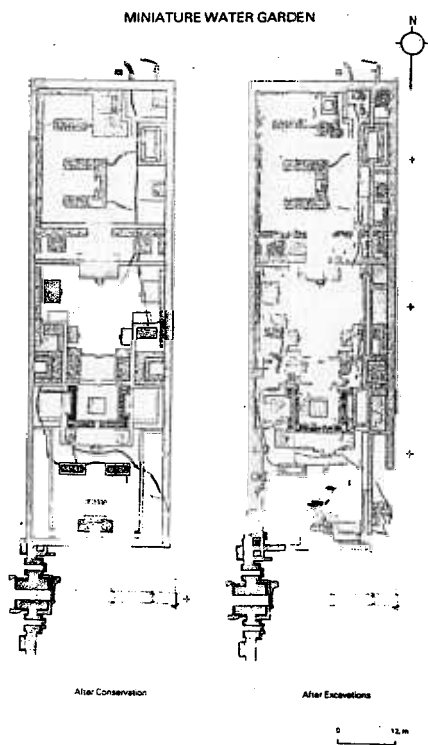
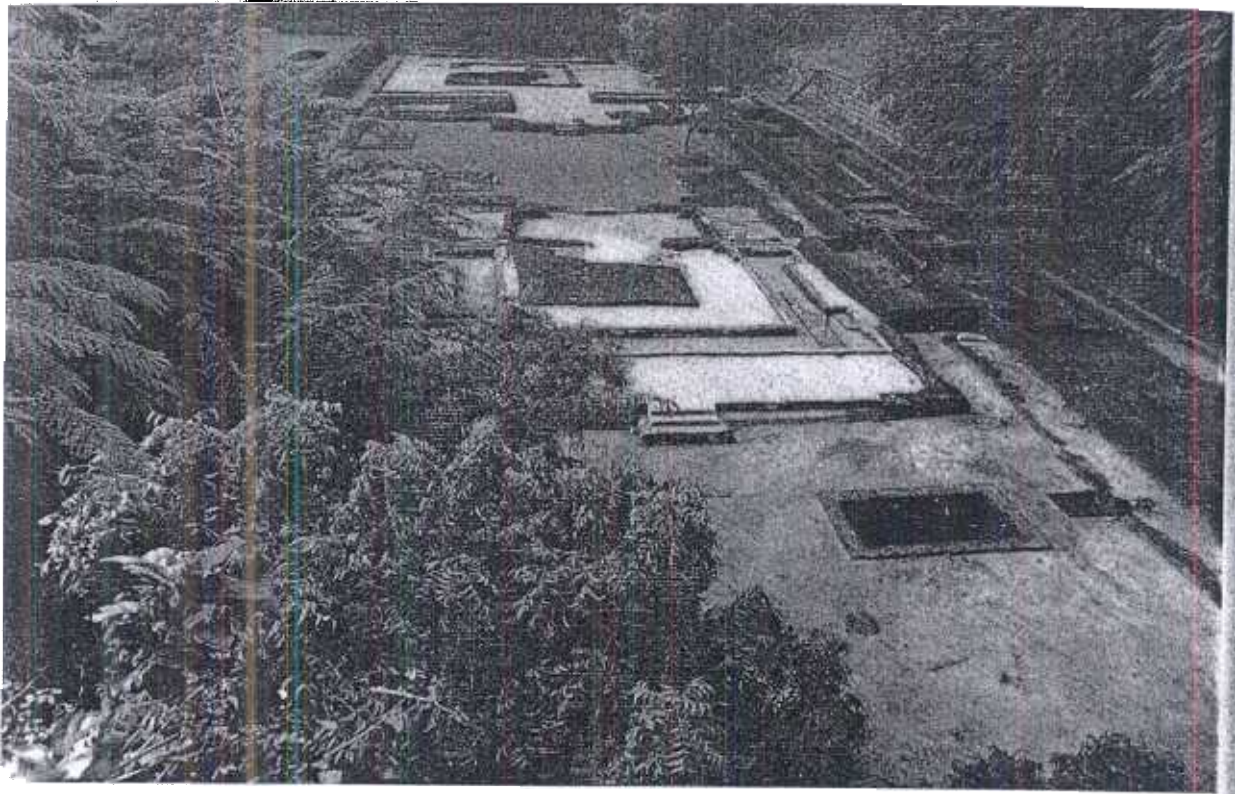


Fig. 20 'Miniature' Water Garden, Sigiriya.

Fig. 21 'Miniature' Water Garden, Sigiriya—after excavation and after conservation.

terns simultaneously serve a number of functions such as:

- (a) Essential water supply for domestic, horticultural and agricultural purposes, including the ornamental horticulture of the gardens;
- (b) Surface drainage water control to prevent erosion of terraces and gardens during the rainy season, when a substantial water-flow is created down the slopes of the rock and the hill;
- (c) Ornamental and recreational water courses and water-retaining structures as an essential aspect of the royal pleasure gardens (this includes swimming pools, bathing pools, serpentine, fountains, reflecting ponds and pools for ornamental flora and fauna).
- (d) Cooling systems, such as a variety of water-surrounded pavilions and the generalized presence of water in parklands and courtyards.

Again, at least four water systems, two macro and two micro, are connected together at Sigiriya, thus:

- (a) The lake, the Sigiri Vava, which was much larger in the past than it is today, with a 12-km long earth dam extending southwards from the base of the Sigiriya rock;
- (b) A series of moats, two on the west and one on the east, fed directly from this lake.
- (c) The main water-retaining structures of the water garden in the western precinct, which were interconnected by underground conduits, and were also -presumably -fed by the lake and the moats (the lake is at a slightly higher elevation than the water gardens);
- (d) The water control and water-retaining systems, which begin with the rock-cut ponds and brick-lined

cisterns on the summit of the rock and on the various terraces below, and end in the water gardens. These include a series of horizontal and vertical 'drains' cut in the rock and underground conduits made of cylindrical, terracotta pipes. A deep drain, large enough for a man to walk along it, is cut on the edge of the rock running along its western periphery, preventing water from flowing over the western rock face on which were depicted the paintings, while a vertical drain or 'gutter' carries this water down to an enormous cistern located on the highest southern terrace. A number of such vertical drains can be seen in the boulder garden.

The total conception involves the knitting together of a number of hydraulic structures of varied scale and character in a single intricate network - a complex masterpiece of irrigation engineering design that formed the hydraulic skeleton of the landscaped garden (see also Ellepola 1990).

The 'Miniature' Water Garden

Excavations through the mid-1980s exposed a garden unit of a hitherto unknown type, in the previously unexcavated southwest corner of the main water gardens, in an area which was covered by turf and showed little or no signs of buried structures. The excavation of this garden has revealed an elaborate network of structures - water - pavilions, pools, cistern, courtyards, conduits and water-courses. There are five distinct units in this garden, all combining buildings and pavilions of brick and limestone with paved, water-retaining structures and winding water-courses.

The two units at the northern and southern extremities of the garden are

badly eroded but as the present plan shows, the general layout of the major portion of the garden and of the three central units is clear.

One of the most interesting of these has a shallow pool or water-surround with an intricately -recessed, U-shaped plan, running between a series of brick-built pavilions and platforms. The floor of this pool is finely paved with large, quartz pebbles, bringing to mind a garden detail usually associated with Japanese gardens. Originally, these smoothly rounded pebbles lay glistening under a shallow layer of moving water. A covered brick-built drain led water into this pool from a slightly higher level, while two well-preserved limestone conduits maintained the water at a constant level above the pebbles, the whole conception animated by a gentle continuous flow.

The water from the conduits was carried out into a sharply-dipping water-course which, at a lower level, forms a limestone fountain and an inspection chamber. The sides of the pebble pool itself, have limestone mouldings of an archaic, quarter-round type, typical of the Kasyapan period at Sigiriya. Polished marble walkways and 'bridges' provide access across the water to the central pavilion.

In another unit, the entire floor of the water-surround on three sides of a central pavilion or bathhouse is paved with marble slabs, as elsewhere in Sigiriya. These slabs are now badly weathered, but in their original form were probably as finely polished as modern terrazzo flooring. In this building small gullies with raised brims lead surplus water away from the water-surround into a deep, bricklined cistern with ramped walls.

A striking feature of this 'miniature' garden - it is in fact about 90 m long and 30 m wide - is the use of these water-surrounds with pebbled or marbled floors, covered by shallow, slowly moving water. These, no doubt, served as a cooling device and at the same time had great aesthetic appeal, creating interesting visual and sound effects.

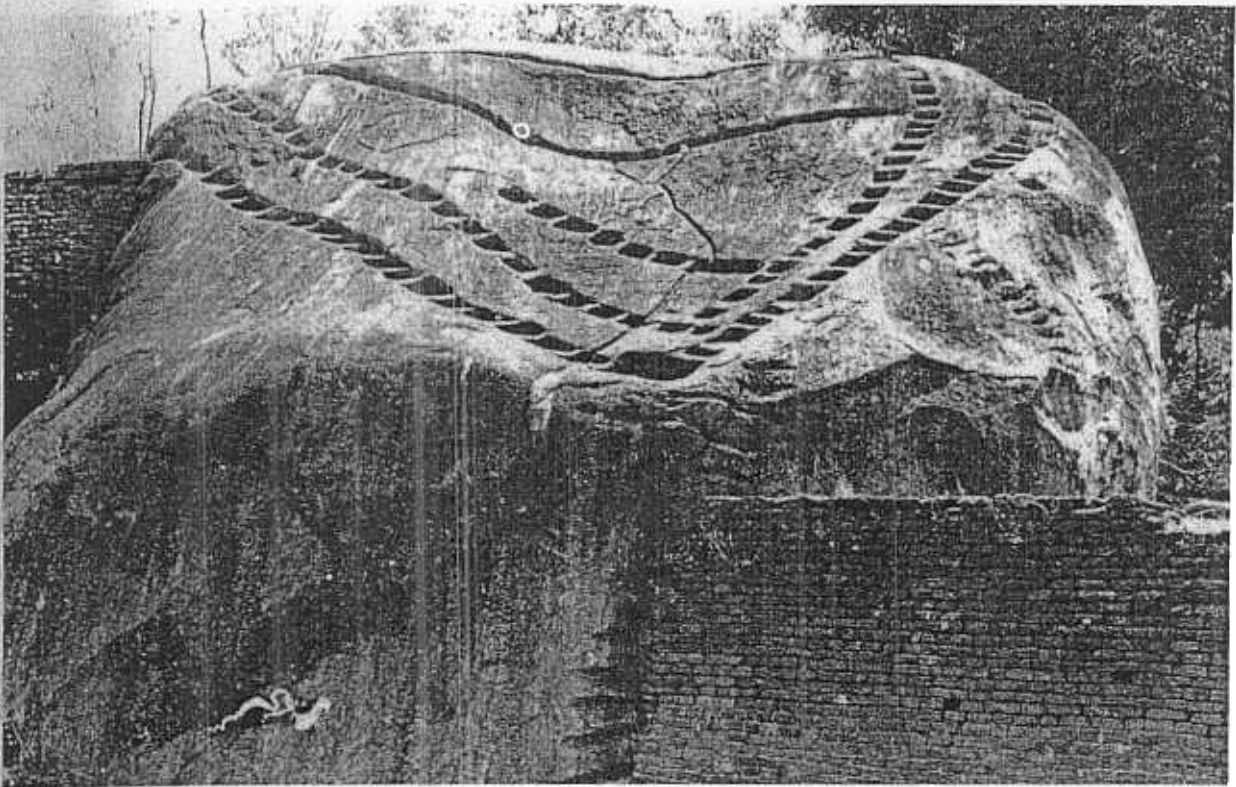
Another distinctive aspect is the geometrical intricacy of the garden layout. While displaying the symmetry and 'echo-planning', characteristic of the water-gardens as a whole, this miniature garden has a far more complex interplay of tile-roofed buildings, water-retaining structures and water-courses than is seen elsewhere in Sigiriya - even more intricate, in fact, than the beautiful 'Fountain Garden', which lies along the central axis of the main water-garden system.

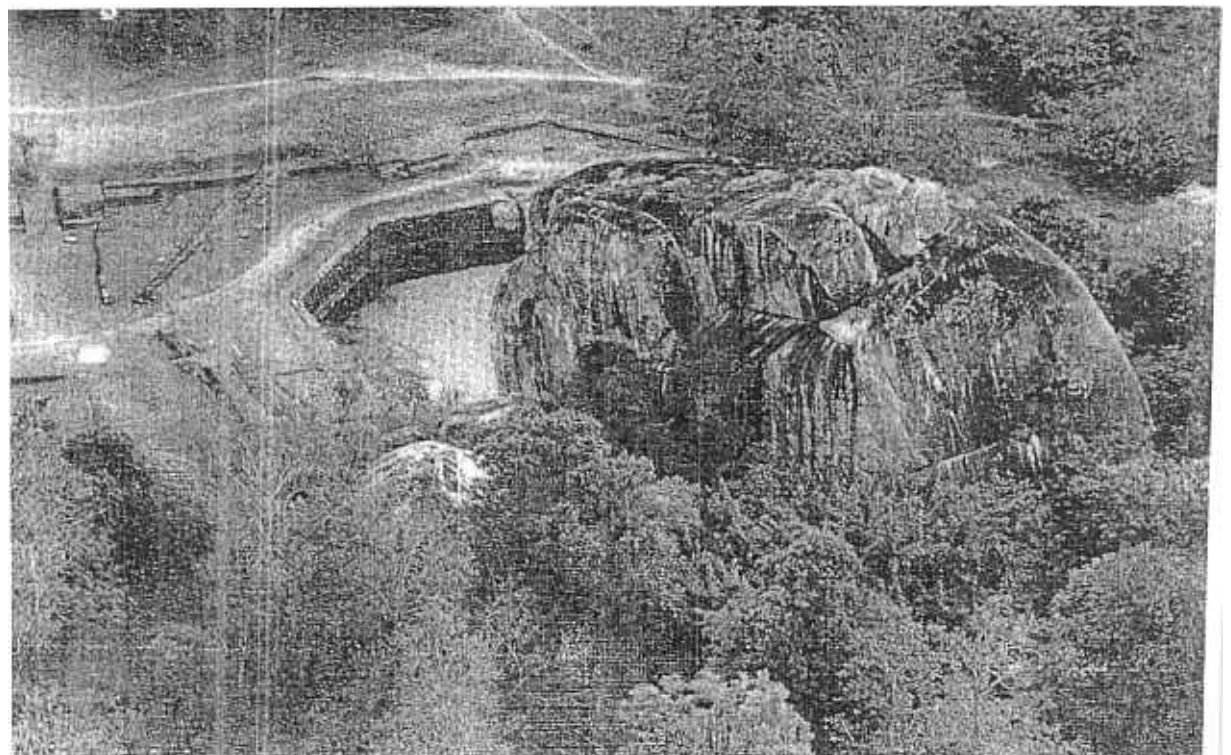
This newly-discovered garden belongs to more than one phase of construction. Originally laid out as an extension and 'miniaturized' refinement of the Kasyapan macro-plan in the last quarter of the fifth century, it was added to later, remodelled, abandoned and again partially built over in the last phases of the post-Kasyapan period, between the tenth and thirteenth centuries.

It seems very likely that a similar garden lies buried beneath the lawns of the unexcavated parallel sector in the northern half of the water-gardens - an 'echo' or 'twin' of the present garden in the south. In keeping with the conservation policy of the Sigiriya Project, this northern garden will be left unexcavated.

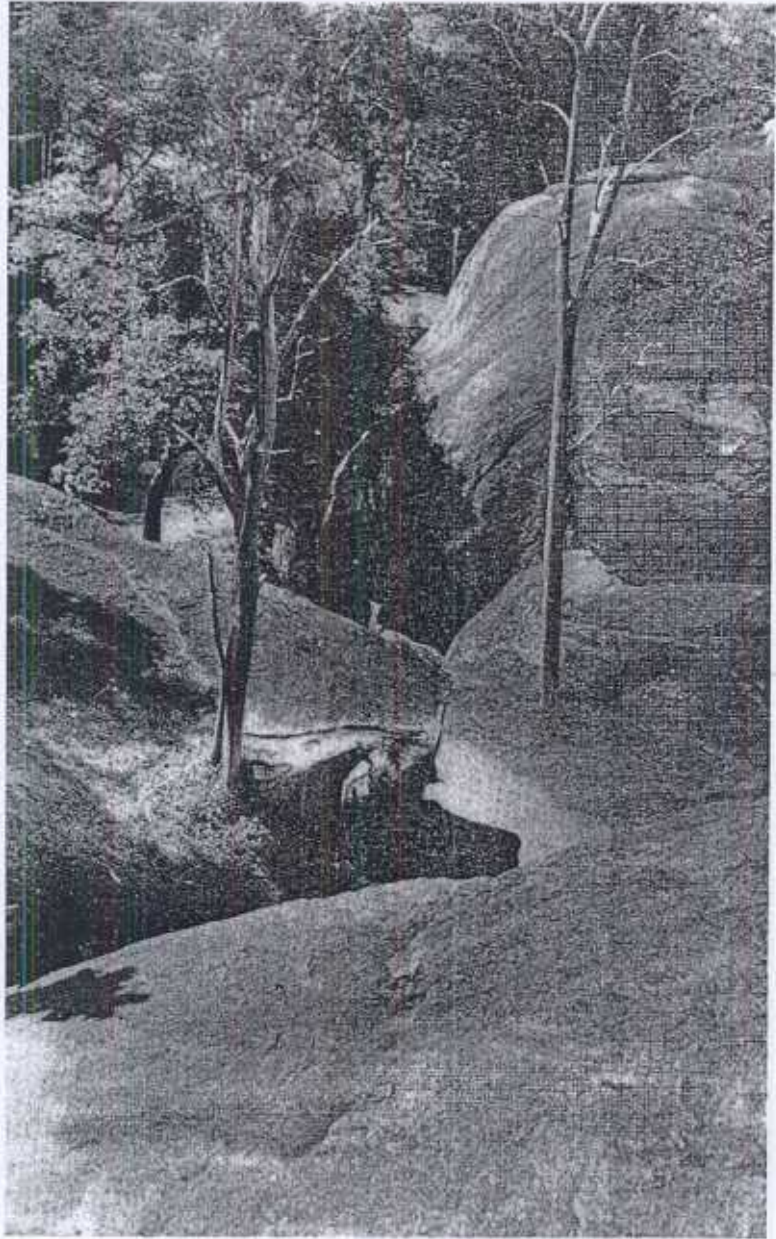
The Boulder Garden

If the water gardens at Sigiriya reflect in miniature the advanced technology and planning of the 5th century,





- Fig. 22 *Boulder with footings for brickwork, Inner Citadel wall, Sigiriya.*
Fig. 23 *Cobrahood cave, Boulder Garden, Sigiriya.*
Fig. 24 *Boulder archway, Boulder Garden, Sigiriya.*
Fig. 25 *Audience Hall Rock and Cistern Rock, Boulder Garden, Sigiriya.*



- Fig. 26 *Octagonal Pond and boulder-meeting point of Water Gardens and Boulder Garden.*
Fig. 27 *Boulder Garden landscape, Sigiriya.*
Fig. 28 *Staircase across Terrace Gardens, Sigiriya.*

the boulder garden looks back to a much earlier and entirely different historical environment. Derived originally from the early *giri* monasteries, it is also related to a much later type of monastery known as a *padhanaghara parivena* or meditation monastery which often had buildings constructed on top of rocky outcrops, surrounded by moats (Bandaranayake, 1974: 102-133).

The boulder garden area is in marked contrast to the symmetry and geometry of the water gardens. It is an entirely organic or asymmetrical conception, consisting of a number of winding pathways – now mostly obscured and often incorrectly reconstituted – which link together several clusters of large natural boulders extending from the southern slopes of the Sigiriya hill to the northern slopes below the plateau of the lion staircase.

One of the most striking features of this boulder garden is the way in which almost every rock and boulder had a building or pavilion set upon it. What seem to us today like steps and drains or a honey-comb of holes on the sides or tops of boulder, are in fact the foundations or footings of ancient brick walls and of timber columns and beams. The buildings or pavilions were constructed on the summit of the boulders leaving the natural form of the rock at its base. The buildings had brick walls, timbered superstructures and tiled roofs, none of which, of course, survives today.

Many of the boulders also have rock-shelters beneath them, originally fashioned by the early Buddhist monks, but later plastered and painted as another feature of the royal boulder garden.

While most of the pavilions in this garden area are of the type described

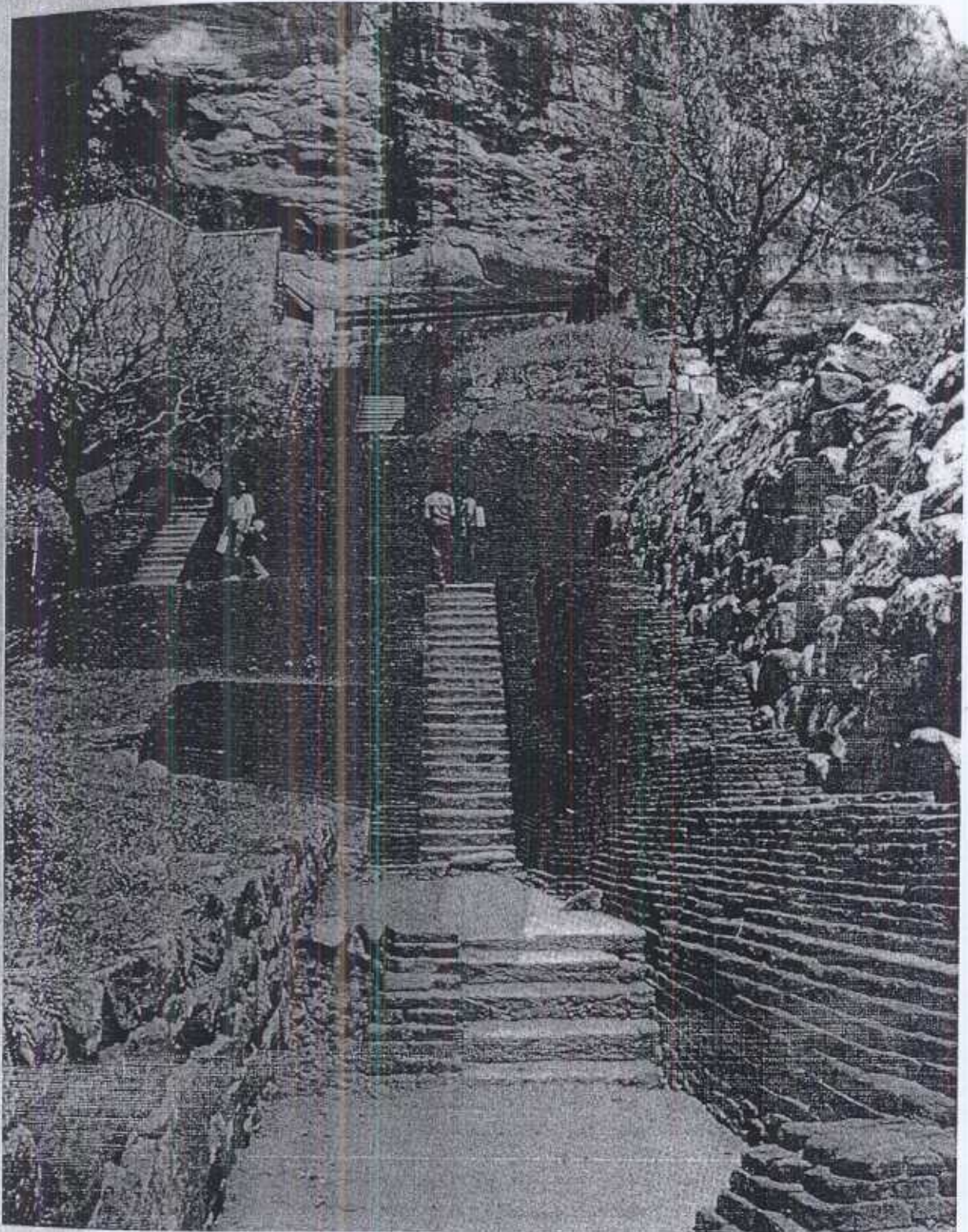
above, there are also a few unusual conceptions such as the 'Cistern Rock' impluvium, taking its name from a large cistern from massive slabs of granite, and the 'Audience Hall Rock' which has a flattened summit and a large 5 m long throne carved out of the living rock. The honeycomb of post holes and the flattened ledges of the 'Preaching Rock' are another'. While considerable excavation will have to be done before we can recover the original pathways of the boulder garden, at least two distinct markers are provided by two 'boulder arches' and limestone staircases as well as various flights of steps and passageways constructed of polished marble blocks and slabs. The vertical 'drains' cut in the sides of rocks in a few places indicate, as discussed above, that water courses and controlled water movement formed part of the garden architecture in this area too.

In its total design, therefore, the boulder garden forms a type of landscape architecture whose principal character is a number of rock clusters with tiled roofed buildings on them and 'cave' pavilions below, all elaborately painted and decorated, and linked together by winding pathways and paved passages and stairways.

Located on the westerly slopes of the Sigiriya hill, its western boundary demarcated by the inner citadel wall, on the east and the south the boulder garden merges with the terraces.

The Terrace Gardens

The third garden form at Sigiriya, the terrace gardens, has been fashioned out of the natural hill at the base of the Sigiriya rock. The terraces have been formed by the construction of a series of rubble retaining walls, each terrace rising above the other and running in a roughly concentric plan around the rock.



Their present condition varies considerably. Some sections of the rubble walling have been preserved intact, others have collapsed or have been eroded or covered with deposits of soil and debris, while still others have been excavated and restored or reconstituted in modern times. Of the original architectural character of the terracing, very little is known, except in some of the broader areas where the remains of buildings still survive on the terraces. A colossal rubble-walled and brick-lined cistern on the uppermost terrace of the south seems to have been fed by water, channelled from the rock-summit above, forming once again part of a water control system, probably related to the water courses of the boulder garden.

The great brick-built staircases with limestone steps traverse the terraced gardens on the west, connecting the pathways of the boulder garden to the precipitous sides of the main Sigiriya rock itself. From here, a covered ambulatory or gallery provides access to the belly of the rock to what is in effect the uppermost terrace, the 'Lion Staircase' plateau, with its chambered buildings and pavilions and the great lion itself. A third stairway led across the terraces from the northern ramparts (de Silva 1976:5). At the south-west, an avenue leads down towards the lake, while a steep set of modern steps connects this today to the southern ramparts.

The Palace Garden

A fourth garden element at Sigiriya on a much smaller scale than the others are the terraces and the rock-cut pools of the summit which formed, so to say, the domestic garden of the palace itself. These terraces are found on the eastern half of the summit - i. e. the outer palace area - and especially on the sloping terrain to the south. Early excavations

on the summit revealed even here an elaborate underground drainage system.

Historical origins and correspondences

The historical importance of the gardens at Sigiriya lie essentially in two factors: one, their antiquity and degree of preservation; the other, their ingenious combination on a grand scale, of at least three traditions of ancient landscape gardening. The date of the Sigiriya gardens is clearly established. The *Culavamsa* records that King Kasyapa (477-495 A.D.) built the palace on the rock, the 'Lion Staircase-house', the ramparts and the gardens. Past and recent archaeological excavations have confirmed that the gardens substantially date from the 5th century. They have also shown that some elements of the garden and mainly the water garden were maintained during several post-Kasyapan phases extending from the 5th to about the 13th century, and also that certain clearly discernible additions had been made to the gardens during the later periods of occupation.

However, there is no doubt that the basic features and many details of the gardens date from the period of their original layout. Successive constructions of some features in the gardens such as 'flower beds' noticed by Bell, probably relate to reconstructions during the original Kasyapan building phase between 477 and 495 A.D. Elsewhere it is clear that some of the original features of the Kasyapan gardens were covered up or buried under abandoned debris and a much later construction placed over it. The recent excavations have also shown indications of later period underground earthen conduits at a much higher level than the Kasyapan water courses, and probably

belonging to more than one phase of activity (Bandaranayake 1984).

The successive post-Kasyapan monasteries at Sigiriya seem to have had their ritual centre at the site just inside the western entrance of the inner citadel - that is to say on the western edge of the boulder garden. At least some of the rock shelters in the boulder garden and some monuments in Water Garden 1 and Water Garden 3 show clear signs of later period construction.

As we have seen, three distinct traditions of landscape gardening are found at Sigiriya - the highly symmetrical plan of the water gardens, the organic boulder garden area and the successive stepped tiers or hanging gardens of the terraced area around the rock. Each of these has clear antecedents and successors within the Sri Lankan tradition itself. Sites such as Vessagiriya, Isurumuniya, (both of which are associated with Kasyapa); the monastery complexes at Anuradhapura, and especially the south western sector of the Abhayagiriya Vihara; the Kaludiya Pokuna complex at Mihintale; the Alahana Parivena at Polonnaruva; sites such as Situlpahuva in the south or Salgala and Maligatanna in the west, are some of the many outstanding examples of site selection, site modelling and landscape gardening produced by the Sri Lanka tradition. The royal pleasure gardens at Anuradhapura the lakeside gardens and water palaces at Polonnaruva, and the royal palace and lake complex at Kandy are some of the examples of secular landscaping and water gardening that still remain in a skeletal or fragmentary form.

At the same time the international parallels and correspondences with the Sigiriya gardens are worth recalling, while taking care not to place too much

emphasis on foreign influences on Sigiriya or Sigiriya's influence on foreign traditions. The clearest parallels to the water gardens at Sigiriya are to be found in the much more ancient geometrical gardens of Egypt or the 'paradise gardens' of ancient Persia, while Sigiriya's chronological successors are the well-preserved examples of Mughal gardening and the geometrical gardens of Renaissance Europe. Of the ancient gardens of the world that survive in an archaeological sense, the only significant examples that predate Sigiriya and are equally well preserved are those of the Romans such as the private and public gardens of Pompeii and Herculaneum and the imperial gardens of Hadrian at Tivoli.

The subsequent developments in the Asian water gardening tradition, that is represented at such an early date at Sigiriya, are found on a majestic scale about four or five centuries later at Angkor in Cambodia and even much later in the exquisite gardens of the Mughals. In both instances, we have monuments and complexes in a much better state of preservation than in any of the Roman or Sri Lankan sites. The Mughal tradition is further documented in miniature paintings which often have a garden setting or actually depict gardens and garden activities. The relationships between Sigiriya and Persian, Mughal or Cambodian traditions are not necessarily direct ones but emerge from an interrelated matrix of cultures. On the other hand, the fact that Sigiriya had Roman connections is amply testified to by the discovery of large numbers of Roman and Indo-Roman coins in the gardens at Sigiriya. At the same time, a tenuous link is also evidenced by the discovery of a small amount of coin and ceramic material of probably

Sassanian origin. Sri Lanka's known relationship with Cambodia dates from much later than the Angkorean period, but Indonesian connections go back to the 7th century (de Casparis 1961; Sirisena 1978). The links between Persian and Mughal gardens, on the one hand, and Sigiriya, on the other, is much too distant in time to be of any historical significance, apart from connections of Sassanian date. But whatever links there may or may not be, what is important is that archetypal elements common to both traditions help us to understand the water gardens at Sigiriya better.

The boulder gardens at Sigiriya on the other hand have eastern rather than western correspondence. The closest parallel to the Sigiriya gardens are the gardens of China, Korea and Japan. Sri Lanka's connection with China, is a rich and longstanding one (Werake 1983; 1990) and while there is no basis to suggest any degree of influence of Sri Lanka gardening on the Far Eastern traditions, it is illuminating to compare the two traditions. In this connection, we may usefully quote Boyd's remarks on 'The combination of symmetry and asymmetry in Chinese architectural garden planning'. 'The house and the city were ruled by Confucian ideas: formality, symmetry, straight lines, a hierarchy of importance, clarity, conventionality, a man-made order. The garden and the landscape were formed by typically Taoist conceptions, irregularity, asymmetry, curvilinear, undulating, and zigzag forms, mystery, originality, the imitation of nature' (Boyd 1962: III).

The third garden form at Sigiriya, the terraced gardens, are so basic and archetypal in character that parallel forms exist in many diverse cultures of

the ancient world from the ziggurats of Mesopotamia and the 'Hanging Gardens' of Babylon to the prehistoric ritual terraces (Quaritch Wales 1961) and stepped stupas of Southeast Asia. They are often encountered in early Indian sites and are a conscious element in Chinese landscape gardening and architectural planning. Their most obvious correspondences, however, are with the terraced rice fields and other terraced hillside agricultural systems which are extensively found in Sri Lanka, as in most parts of tropical Asia. The diversity of parallels and correspondences that we see in the gardens at Sigiriya serve, in the end, only to underline the uniqueness of this 5th century creation of the Sri Lankan master builders.

The Goldfish Park at Anuradhapura

However grand and complex the gardens at Sigiriya, the more 'modest' royal garden at Anuradhapura is a 'pure garden form' in the fullest meaning of the term, in that it seems to have existed independently of any architectural complex whatsoever. Within the confines of the present paper it is not possible to do more than to describe it briefly.

The 'Goldfish Park' or Ranmasu-yana at Anuradhapura lies just below the great earth embankment of the Tisavava, one of the three western lakes providing water for the city of Anuradhapura, and to the north of the scenic - Isurumuniya monastery. It consists of an elongated rectangular area of about 15 ha demarcated by a boundary wall to north, east and south, with the towering bund of the Tisavava to the west. At the northern extremity of the garden is a small moated precinct containing buildings, including two octagonal pavilions.

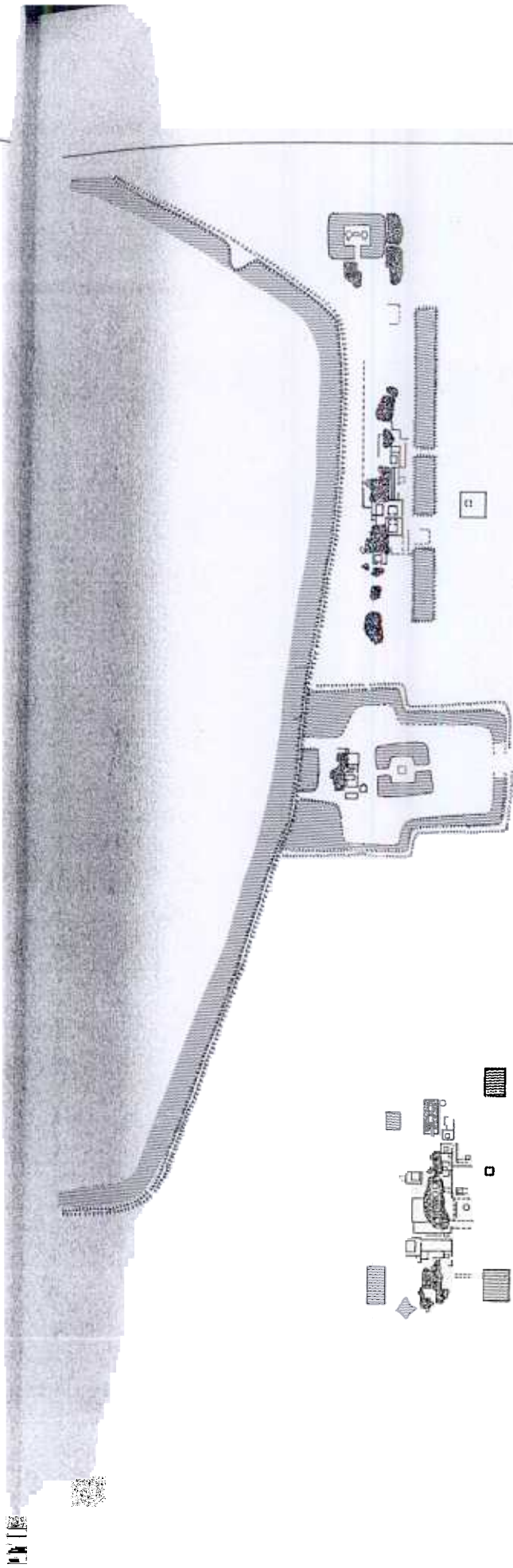
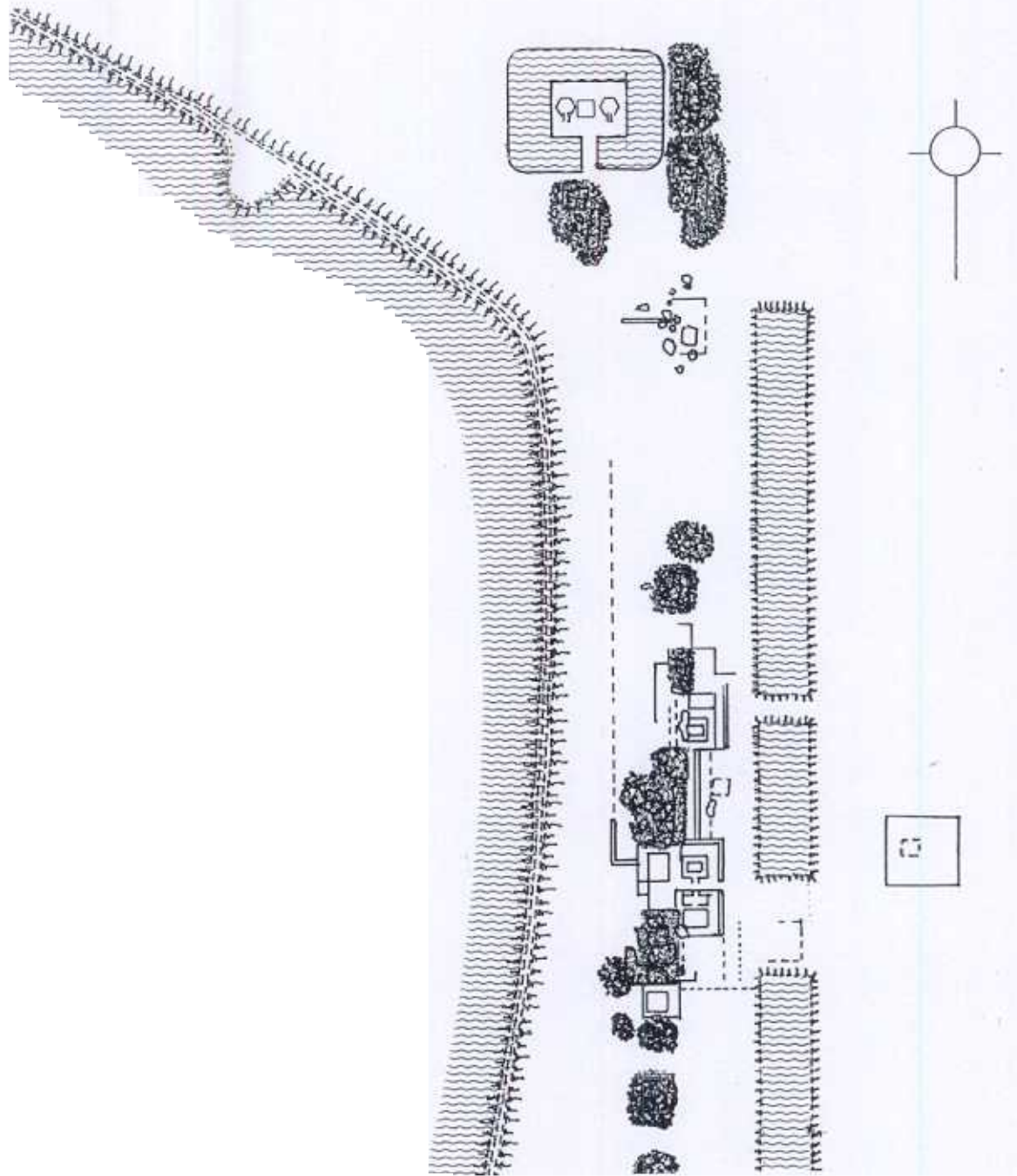


Fig. 29 *Ranmasu Uyana, royal pleasure gardens, and the monasteries at Isurumuniya and Vessagiriya—below the dam of the Tisavava lake, Anuradhapura. 3rd century B.C–13th century A.D.*



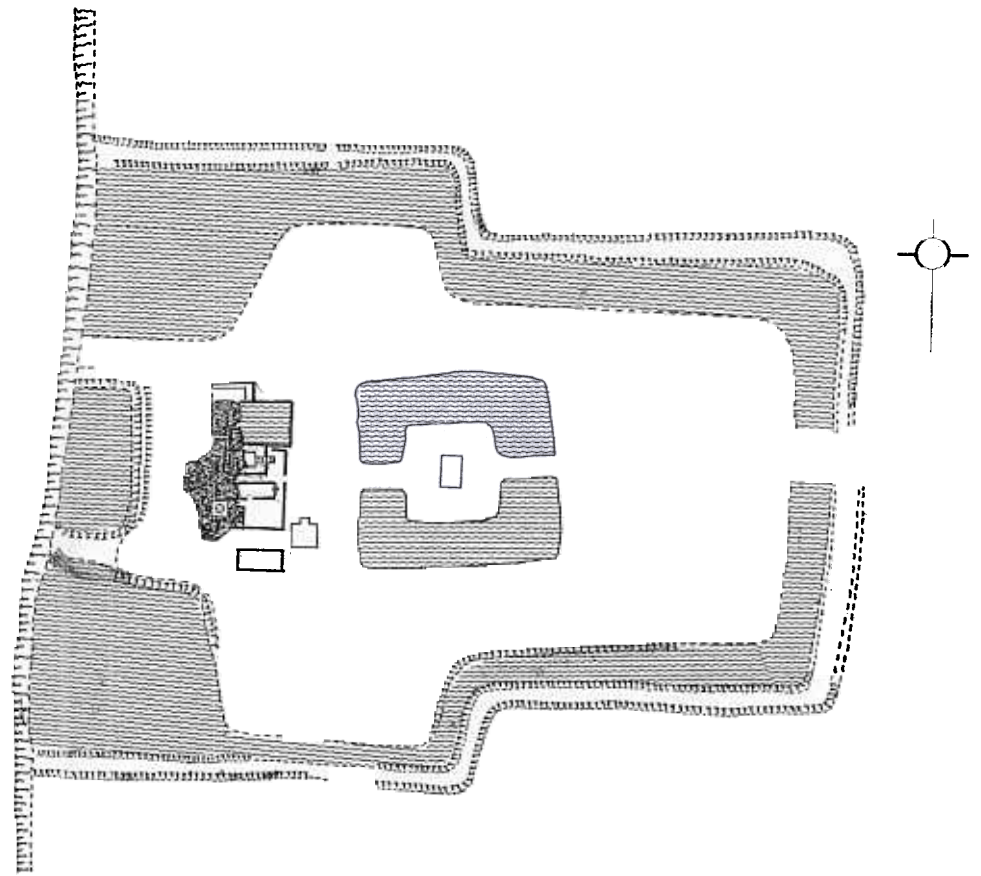


Fig. 30 *Ranmasu Uyana (Goldfish Park), Anuradhapura. 9th-10th century A.D.*

Fig. 31 *Isurumuniya monastery, Anuradhapura. Circa 7th-10th century A.D. (conjectural reconstruction of outer moat).*

Fig. 32 *Vessagiriya monastery, Anuradhapura. 3rd century B.C.–10th century A.D.*

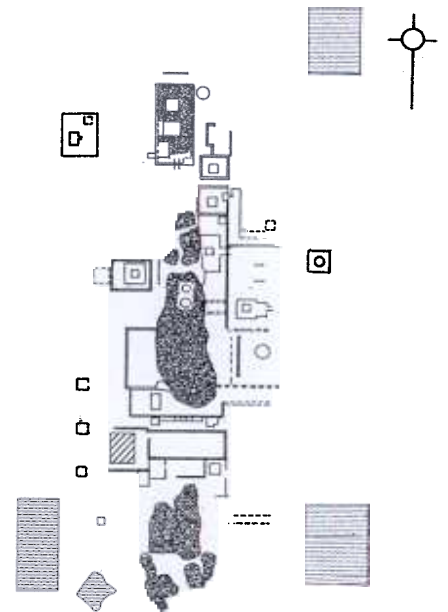
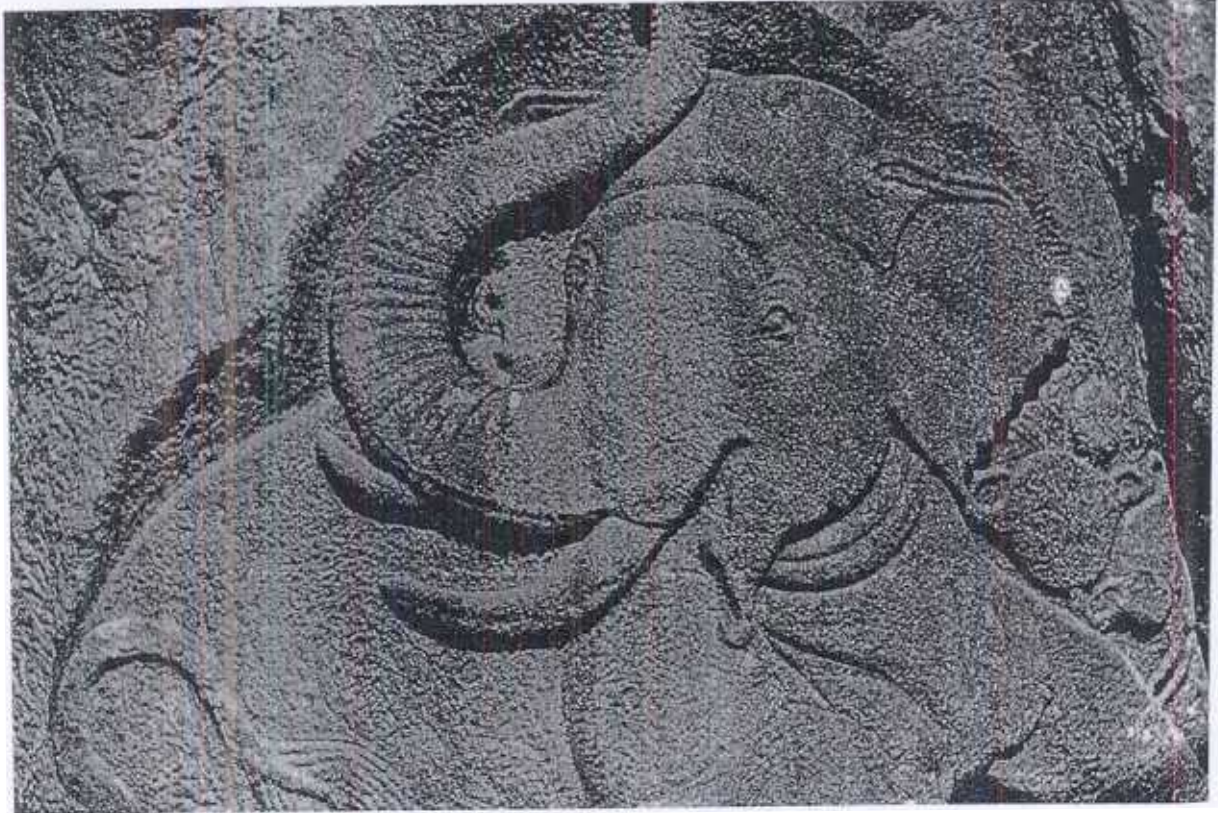




Fig. 33 *Ranmasu Uyana, Anuradhapura. 9th–10th century A.D.*

Fig. 34 *Elephant sporting in the water among lotuses, Isurumuniya monastery, Anuradhapura. Circa 7th–8th century A.D.*



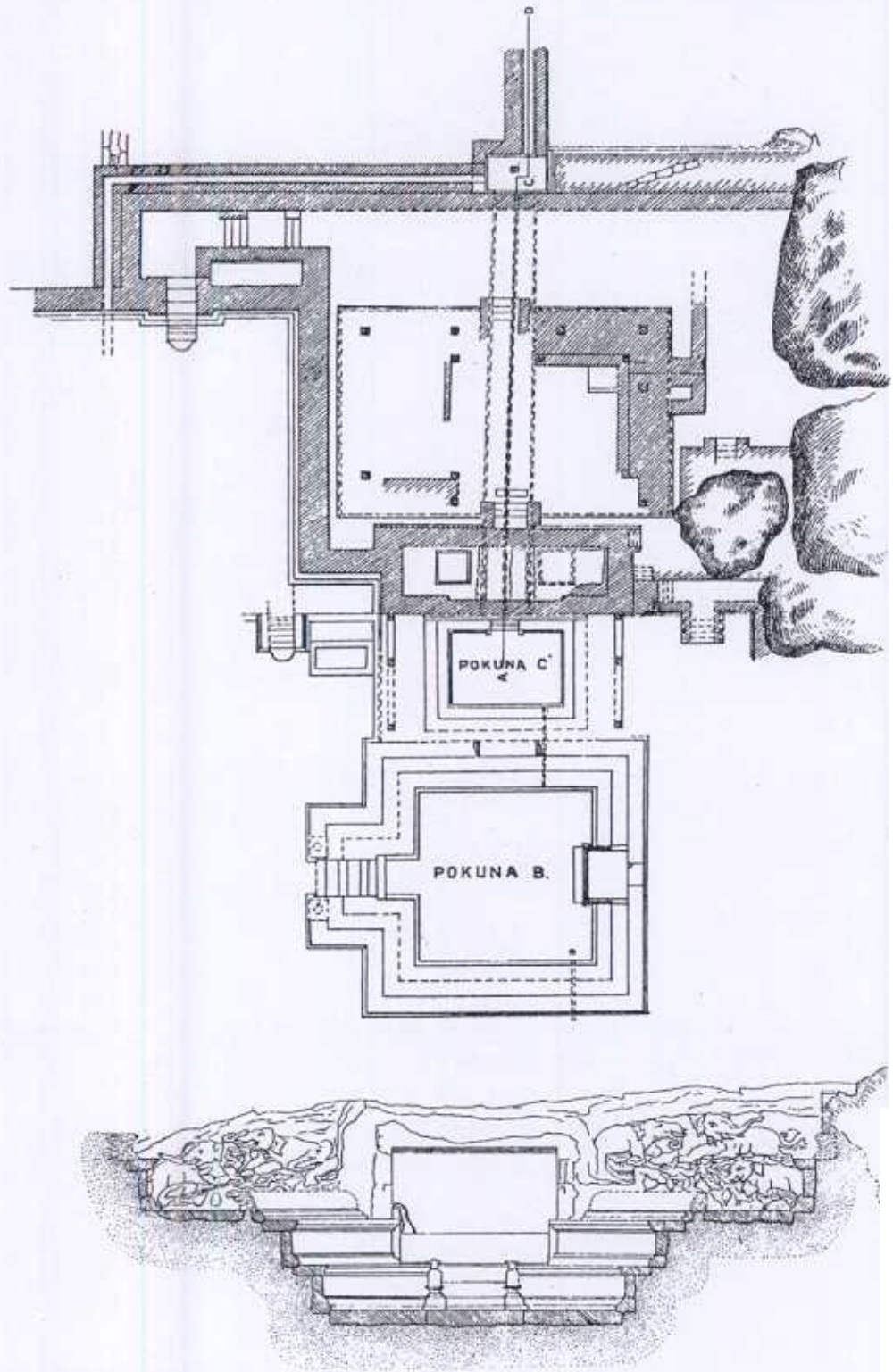


Fig. 35 Plan of Bathing Pools B and, Ranmasu Uyana, Anuradhapura.

Fig. 36 Cross-section of Bathing Pool A, Ranmasu-uyana, Anuradhapura. (Relief sculpture show elephants sporting in the water among lotuses).

In the southern half of the garden are two clusters of natural boulders, while in the east are three large elongated pools. Around the central cluster of boulders are two highly ornamented stone baths, or swimming pools. These baths are elaborately designed with relief sculptures of elephants sporting amongst lotuses, an artificial waterfall with a rock-cut chamber placed behind it, water storage cisterns and complex water systems controlling the flow of water into the baths. The water systems here, dating not later than the 10th century A.D. are well preserved. Although on a smaller scale, they are as, or more elaborate, than the water systems in the gardens at Sigiriya, from a period five hundred years earlier, or those in the Mughal gardens of India and Pakistan, more than five hundred years later.

Isurumuniya and Vessagiriya

The Ranmasu Uyana appears today as an isolated garden but it is likely that it was once connected with the Isurumuniya complex lying immediately next to its southern boundary. Isurumuniya today is one of the most beautiful monasteries in Anuradhapura unfortunately somewhat modernized in recent times, with a collection of interesting sculpture of a largely secular character, including the well-known 'Isurumuniya Lovers'. The rock-and-pool garden plan at Isurumuniya is reminiscent of Sigiriya. The juxtaposition of the Isurumuniya and Ranmasu Uyana formations provides us with a garden plan of extraordinary beauty and complexity. Apart from the inscriptions which identify and date the Ranmasu Uyana, the history of these two complexes is not clear and it is likely, as in the case of Sigiriya, that they came under royal and monastic use collectively or separately at various

times in their long history.

This history is further complicated by the affiliation of these two complexes with the Vessagiriya monastery lying to the far south of the Tisavava dam. Several scholars have suggested that the rock monastery at Vessagiriya, itself an outstanding example of Sri Lankan landscape architecture, dating from at least the 3rd century B.C. is in fact the ancient Issarasamana (or Isurumuniya) monastery, thus also opening up the possibility that there was once a large monastery -- in fact the southernmost of the monasteries of Anuradhapura -- which extended from Vessagiriya northwards to the present Isurumuniya and the boulders of the Ranmasu Uyana, along the great earth dam of the Tisavava. That Vessagiriya, itself, has connections with Sigiriya in the 5th century A.D. has also been suggested on the basis of its architectural detailing and painting remains.

The Kaludiya Pokuna monastery, Mihintale

The Kaludiya Pokuna or 'Dark Water Monastery' is located at the southern extremes of Mihintale, an ancient monastic centre lying eight miles to the west of Anuradhapura, and associated with the conversion to Buddhism of the first Sri Lankan King, Devanampiya Tissa (250-210 B. C.) by the *arahat* Mahinda, son of the Indian emperor Asoka. The monastery in its ruined form today consists of five distinct elements: an entrance pathway winding through boulders and trees (i.e. a Boulder Garden, a geometrically laid out monastic complex of brick-and-timber structures, now vestigially preserved; buildings in stone (and also originally with brick-and-timber elements) located on boulders, elevated terraces, or in rock-shelters; natural boulders inte-

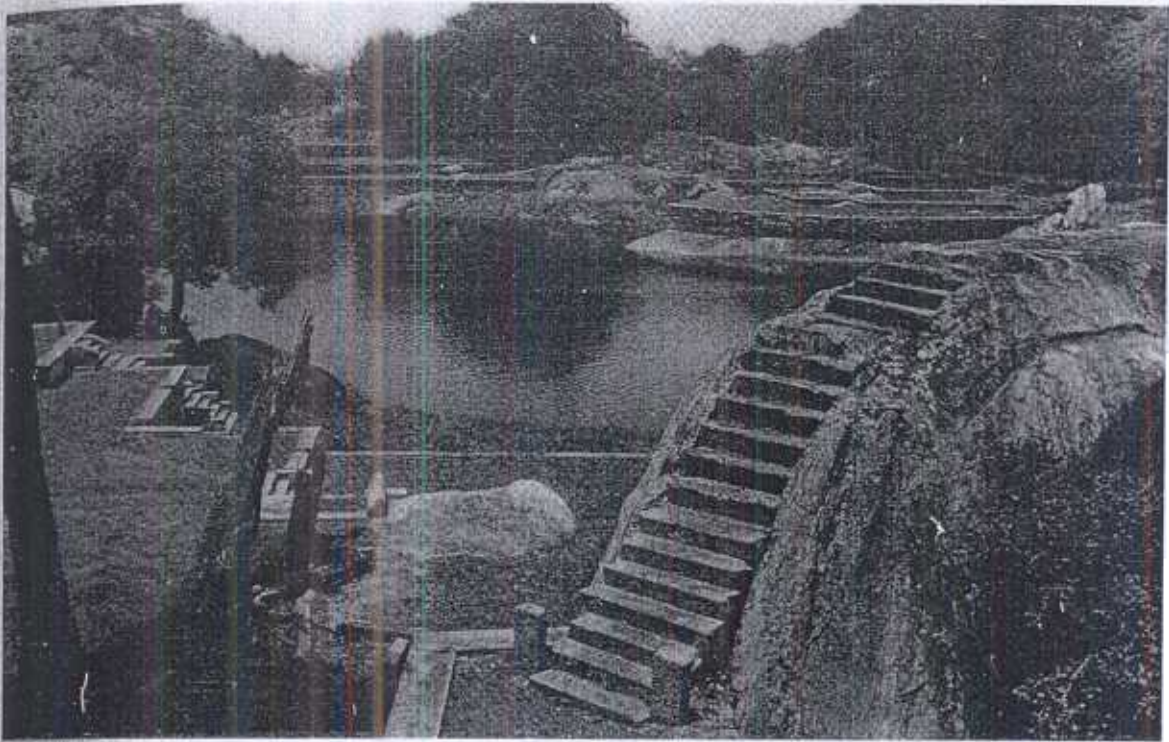
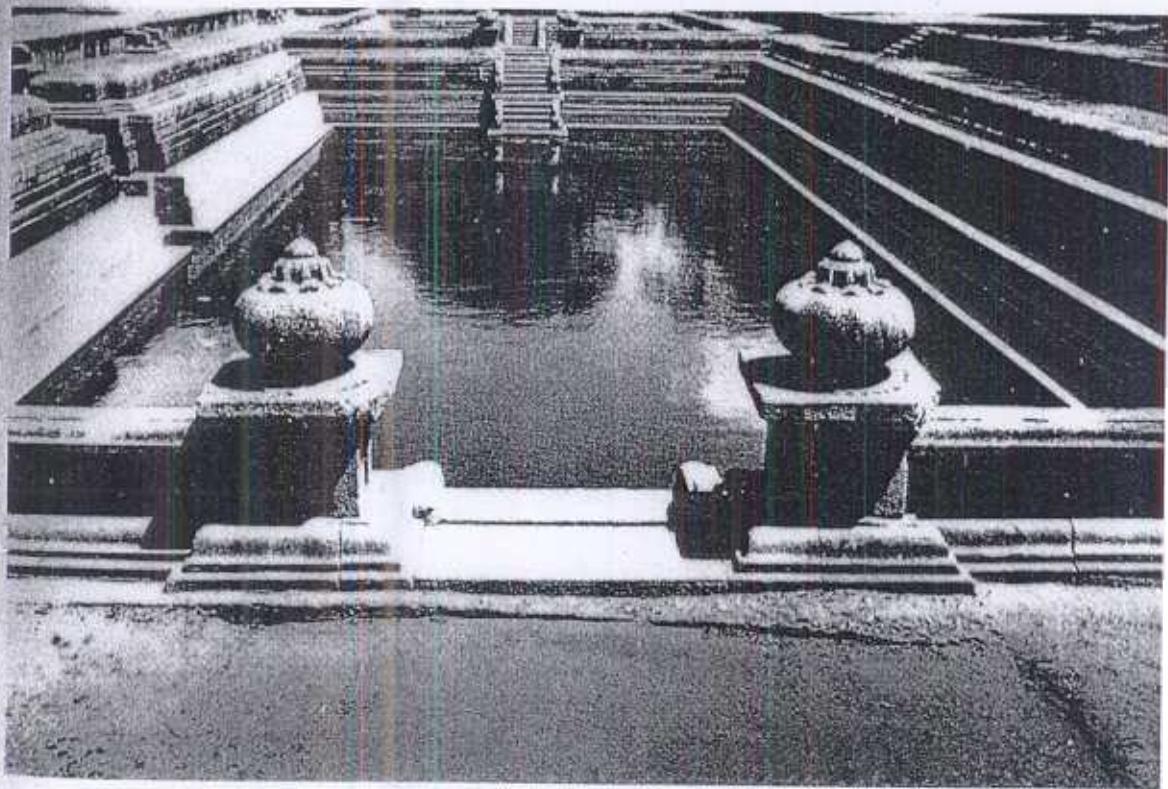


Fig. 37 *Kaludiya Pokuna, Mihintale. Circa 9th to 10th century A.D.*

Fig. 38 *Kuttam Pokuna, monastic bathing pool, Abhayagiri Vihara, Anuradhapura. 9th to 10th century A.D.*



grated often dramatically, into the building or water system; and finally, the 'Dark Water' lake itself extending eastwards along the eastern flank of the monastery, surrounded by the outer precincts of the monastery and a boundary wall. The entire monastery nestles at the foot of the Anaikutikanda, the Southernmost peak of the several hills which form the Mihintale complex. Together with the Isurumuniya Vihara, it is perhaps one of the two best preserved water-and-boulder garden monasteries of the Early and Middle Historic Period in Sri Lanka.

These monastic gardens together with the garden forms from Polonnaruva, Sigiriya and the Ranmasu-uyana at Anuradhapura, provide us with unique data and beautiful and dramatic examples of Asian garden design unrepresented in any other South Asian tradition from such an early period.

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Notes

1. Earlier versions of the present article were published in *Proceedings of 'Seminar on Sigiriya' 15 October 1983* (mimeo) and *Ancient Ceylon* No.10, 1990.

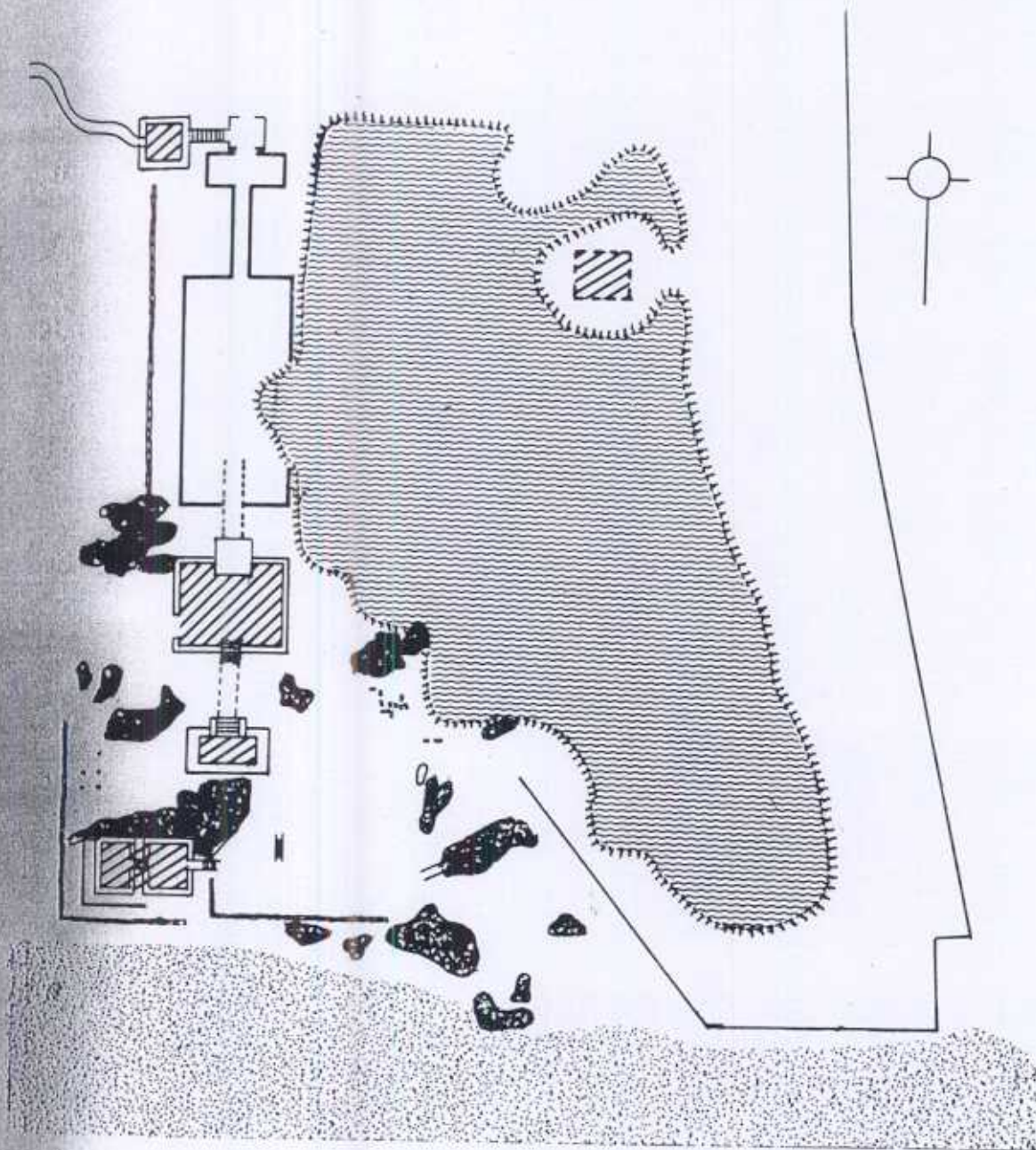


Fig. 39 *Kaludiya Pokuna, Mihintale.*

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Taoist Valley.