Sigiriya and Environs: The Investigation of the Total Archaeological Landscape

S. Bandaranayake[1] and M. Prickett[2]
[1]*Visiting Senior Research Fellow, IFS; Director, Postgraduate Institute of Archaeology and Head, Department of Archaeology, University of Kelaniya; Archaeological Director, Cultural Triangle Projects at Sigiriya and Dambulla;*
[2]*Visiting Research Associate and Head, Department of Philosophy and Social Sciences, IFS*

SCIENCE AND THE HIDDEN PAST*

Archaeology is a science which deals with the study of human behaviour in societies that are no longer in existence. It does this mainly by studying the material remains of past societies and by trying to reveal and reconstruct patterns of behaviour or ways of living that can no longer be observed today.

Material remains can be divided into two major groups: artifacts, which are man-made objects of every type and category, from great works of art and architecture and the ruins of ancient cities to simple pieces of broken pottery, tile fragments or 'fossilized' rubbish heaps; and ecofacts, which are natural objects that have been used by man, or that have been affected by human behaviour or, even things that indicate the ancient climates and physical environments in which man lived, such as pollen and other plant remains.

Why should we be concerned with studying past forms of human behaviour? The basic scientific reason is that in order to understand any phenomenon thoroughly, we have to study not only its present manifestations but also its origin and development. This is true whether it is the origins of the universe, the origins of life or the formation of the earth's structure and surface. Similarly, if we want to understand human society today and its potential for the future, we have to know how human society evolved, the problems it faced and the solutions it discovered during its ascent from the animal world and its evolution into the complex society of the 20th century.

But there are also important psychological and social reasons for studying and appreciating the past. The search for roots, the concepts of progress, the answers to the questions, Why are we here? Where did we come from? Where are we now? Where are we going?, are all important aspects of man's life-supporting and life-enriching cultural system. They create ethical and moral values, give us identity, give 'meaning' to life and enrich our existence in many different and subtle ways. Above all, the knowledge of the past is what gives us that awareness of movement of historic motion, that allows us to conceive of a future.

All societies have been concerned with their past in one way or another. Modern society knows much more about the past than any previous society, and our knowledge is due to the study of such subjects as astronomy, geology, palaeontology, archaeology and history. Modern

* By S. Bandaranayake.

archaeology arose from three specific aspects in the development of modern knowledge: 1). the renewed interest in ancient art and culture that arose with the Renaissance—it was this cultural and philosophical development that also brought about the birth of modern science; 2). the study of geology, which produced an interest in past processes and past environments and gave us a systematic method of measuring great epochs of time; 3). the study of evolution, particularly the evolution of man and his physical and cultural ascent through time. In keeping with these complex roots, modern archaeology is the one field of the social sciences which involves almost all the natural sciences, the social sciences and the humanities. Thus the phrase 'Science and the Hidden Past' has a specific meaning when applied to the field of Archaeology. What we are attempting to do today is to give you a general idea of what Archaeology is and to give you a glimpse of what kind of work archaeologists do, what phenomena they study and what methods they use.

HOW WE STUDY ANCIENT MAN*

History is a key to the future. Archaeology is the study of the material remains of past societies. Archaeology uses these remains to understand all aspects of ancient life—where people lived, what they thought, how they did things, and how ancient man understood and used the resources present in his environment. Appreciating ancient achievements and understanding the ancient solutions to problems of daily life can give us a perspective on our own lives and can help and inspire us in finding solutions to the problems of the present.

Objects and Features

One of the main sources of information about ancient man is the objects that he left behind. As mentioned previously, these are divided into two categories—artifacts or objects manufactured or altered by man and ecofacts or natural objects found in archaeological sites, usually present because of some relationship to human activity. Artifacts are studied not only to define what they are (classification) and how they were used (function), but also for the details of their constituent materials (composition), and for the methods of their manufacture (technology). These artifact studies often involve technical scientific analyses with laboratory equipment like that in the IFS laboratories, such as X-ray Fluorescence Spectrometer, X-ray Diffractometer, Atomic Absorption Spectrometer, Fourier Transform Nuclear Magnetic Resonance Spectrometer and Electron Probe Microanalyzer.

Knowing the age of objects and ecofacts is also of vital importance for archaeological interpretation. Age can be determined by dating the object itself, by dating other things from the same find location (context) or by knowing the date of similar objects found somewhere else. Laboratory analyses can be done to determine the age of many types of objects primarily by using radiocarbon and thermoluminescence analyses. Another all important question is determining where the object came from (source)—where the constituent raw materials were found, how they were obtained, where the object was manufactured, how and why it was transported from there. Identifying the sources of raw materials (whether ecofacts or the constituents of manufactured items) and the places of manufacture of objects are the bases for studies of ancient trade.

* By M. Prickett

As much as archaeology studies objects, it also studies the relationship (context) between objects as they are found, between objects and the surrounding soils and between different contexts (and their contents). The study of contexts tells us as much (indeed even more) about ancient man and his behaviour than does the study of the objects alone. Contexts can be classified to help us understand how much they can reliably tell us; for example, primary contexts such as house floors, contain objects left in the places where they were used; secondary contexts such as ancient pits or rubbish dumps, contain objects that were removed from their use context in ancient time; tertiary contexts are those that were eroded or redeposited at a more recent time. The physical study of objects is the work of archaeologists in museums and laboratories, but the study of contexts must be done in the field—before the soil is heavily disturbed and the objects are removed from the ground.

Archaeological features are non-portable artifacts. They are associations, usually of objects, that cannot be removed from their context without their meaning being destroyed. They can be either the direct result of deliberate construction (such as a burial chamber) or of gradual accretion (such as a rubbish pile) or subtraction (such as a quarry).

Inscriptions and Other Documents

Ancient inscriptions provide a major source of information for both historians and archaeologists. Inscriptions yield data on the development of languages and changes in scripts —as well as such cultural information as what languages and scripts were in use at the time of writing. Inscriptions are very important for dating monuments and sites. They may provide dates in terms of a fixed calendar (i.e., Buddhist Era, Christian Era, and Hegira), in terms of the regnal year of a specific ruler, or more generally by the style and form of the script (palaeography). Datings by regnal year or by palaeography only give a relative chronology (the sequence order) and require other, better dated inscriptions or other facts to provide the anchor dates to an absolute chronology (calendar dates) for the sequences.

Inscriptions provide vital information to piece together the historical sequence of a region. They form the main data source for the reconstruction of the historical sequence given in the king lists in many literate societies that lack a compiled documentary history like the Sri Lankan *Mahavamsa*. Inscriptions often contain a great deal of cultural information separate from the specific intent of the document. Personal names and titles often tell about the social and political hierarchies; place names, about the size and distribution of settlement; actions like tax grants, about land tenure and social conditions.

Historical chronicles and other texts such as the *Mahavamsa* and the *Vamsatthappakasini* are much longer and hence are usually much richer sources of information than the inscriptions, most of which are very short. The Sri Lankan chronicles were written by Buddhist monks. The existing chronicles recounting the early periods were actually written down much later. The *Mahavamsa*, for example, was written about 700 years after the arrival of Buddhism, but was based on earlier sources. This is distinctly different from the inscriptional records, which were written at the time recorded. Manuscripts and similar documents written on organic materials survive poorly, especially in tropical countries like Sri Lanka. Our earliest existing palm leaf manuscripts date only to the 13th-14th centuries.

Numismatics or the study of coins also contributes considerable written data about the chronological framework of history and archaeology. Coins often contain the names and even the absolute calendar dates of the rulers who authorized their issue. Coins may also help to pinpoint otherwise poorly documented events by changes in style or by depiction of the event itself. Palaeographically, the lettering on coins provides a sequence of script developments. Tidbits of political and social history can also be gathered. The physical analysis of ancient coins can also yield significant information on ancient units of weight, on the accuracy of the weighing techniques, on metallurgical and alloying technology, and on metal object production techniques (such as casting and die stamping).

Sites

An archaeological site is any locus of ancient human activity. As we are interested in ancient behaviour, all aspects of life are of interest—domestic quarters, villages, workplaces, fields, water systems, bathing places, cemeteries, places of worship and of government. Sites can be classified by function, size, location or other criteria. However, archaeologists cannot find every archaeological site. Many activities do not sufficiently alter the landscape or leave physical evidence that can survive for thousands of years. Even good sites may go unnoticed, destroyed by other human activities or by erosion or covered by later soils and vegetation.

Settlement archaeology is the study of man's ancient settlements or habitations, especially their components, their sizes, their locations across the landscape and their interconnections with each other. This ties closely with environmental archaeology, for the environment provides the backdrop for the human use of the landscape. For example, the availability of resources in the environment often restricts the choices of building materials, and hence certain aspects of building sizes and forms. Resource availability also affects the choice of house and settlement location (such as sunshine, breeze, hill slope, water supply and garden soils), the type of work activities done by the inhabitants, and the location of routes and networks for inter-settlement communication. However, the term settlement archaeology is also used in an even broader sense, sometimes termed spatial archaeology, which studies not only habitation settlements but all kinds of sites, regardless of their function and their variations. Hence settlement and spatial archaeology deal with man's use of space in its many aspects.

The study of spatial archaeology can be conveniently divided, on the basis of scale, into three levels of studies: those of households, communities (villages, towns, urban centres) and regions. The study of households and other intracommunity space is closely tied to architecture and to anthropological questions of behavior (such as cooking, eating and bathing) and of household composition (such as how many people were involved and how was space divided by sexes, ages, or other criteria). The patterns discovered in these spatial studies, especially at the smaller scale—household and community levels—reflect a strong cultural component, frequently with considerable variation between cultural groups and through time. The more abstract patterns of regional scale studies are less directly culturally determined.

Ethnographic Analogy

Another way to understand ancient behavior and material remains is by observing modern people who live in a similar manner or use similar technologies. Depending on the degree of similarity, analogies can be drawn between the modern and ancient technologies and behavior. If the modern results look like the ancient, it can be assumed that processes similar to the modern may have been used to achieve the similar results in ancient times. The more complex the process or technology, the more likely the similar results reflect similar ways of achieving them. Ethnographic analogies are more likely to be valid for the more recent past and in groups with a continuity of the same cultural traditions.

Experimental Archaeology

Another method used by archaeologists to understand ancient behavior is by modern experiment. If tools or features are found for which the interpretation is uncertain, copies can be constructed by what are thought to be the same methods to see if the results match those found by archaeologists. Such experimental techniques are particularly useful for studying features and their collapse, tools, and production technologies and their constraints on behavior, such as their time and energy requirements and unanticipated side effects.

SRI LANKAN ARCHAEOLOGICAL PERIODS: A BRIEF SKETCH (Figure 1)*

Prehistoric Period (until c.1000 BC)

The Prehistoric Period extends from the first arrivals of early men in Sri Lanka, probably sometime before 125 thousand years ago during the long geological period of the Pleistocene, until the development of settled agricultural villages beginning about 3 thousand years ago. During this long expanse of time Sri Lanka was probably inhabited by small bands of hunters-and-gatherers who lived in many areas of the country but left few traces for the archaeologist. They undoubtedly moved periodically from place to place in search of wild animals and plants for food. Their camps were both in open areas and in caves and rock shelters, especially during the rainy seasons. As they probably moved from camp to camp seasonally or even more frequently, their constructions were of impermanent materials and little is left for archaeologist to discover, except the debris from making their stone tools and the solid parts of their discarded food.

Excavations have uncovered the seeds of fruits that were picked in the neighbourhood of where they lived, the shells of mollusks gathered nearby, and the bones of the animals that were killed and brought home for dinner. Studying this evidence tells us about the plants and animals available nearby, as well as about the food preferences of the people. Evidences can also sometimes be seen of hunting, trapping and butchering techniques. The remains of broken tools of stone and bone, as well as the debris from making new ones, are also often found, as are also sometimes evidence of wind-breaks or shelters and human bones. The human bones are sometimes mixed with the general material of the deposits, but at other times the skeletons have been found more complete, in a crouched position as if they had

* This is an edited version (by M. Prickett), largely of material provided by S. Bandaranayake.

CHRONOLOGICAL FRAMEWORK

1	2		3	4	5	6	7	8
BC 125,000	PREHISTORIC PERIOD				Primative, food-gathering economy			
-30,000				Band and tribal society	'Mesolithic' food-gathering and hunting economy with advanced microlithic technology			
-1,000 ?	PROTOHISTORIC PERIOD				Incipient food production Beginnings of agriculture & iron technology Sedentary iron-age farming			Trade Phase 1
							Irrigation Phase 1	
-300	HISTORIC PERIOD			Rank and stratified society	Multiple Polities	Early state formation	PRIMARY URBANIZATION	
	EARLY ANURADHAPURA PERIOD	EHP	EHP - 1	Early Historic ("early feudal") society EHS-1	Unified all-island kingdom with regional divisions		Buddhism Literacy	
			EHP - 2	(EHS-2)		Inscriptions Phase 2	Irrigation Phase 2 (large-scale tanks)	Trade Phase 2 (?)
-300	MIDDLE ANURADHAPURA PERIOD		EHP - 3	(EHS - 3)	"CENTRIPETAL TENDENCIES" DOMINANT	Inscriptions Phase 3	Irrigation Phase 3 (colossal tanks)	Trade Phase 3 (?)
+500	(SIGIRIYA)	MHP	MHP - 1	(MHS - 1)	PERIOD OF 'CLASSIC' DRY ZONE CIVILIZATION MAJOR IRRIGATION WORKS AND MONUMENTAL ARCHITECTURE	Inscriptions Phase 4		Trade Phase 4 (?)
	LATE ANURADHAPURA PERIOD		MHP - 2	Mature Historic ("Mature feudal") society (MHS-2)		Inscriptions Phase 5	Irrigation	Phase 4
+1000	POLONNARUVA PERIOD		MHP - 3	(MHS-3)	End of unified all-island polity	Inscriptions Phase 6	Irrigation Phase 5	Trade Phase 5 (?)
+1250					END OF 'CLASSIC' DRY ZONE CIVILIZATION			
	SHIFTING CAPITALS PERIOD			Late Historic ('Late Feudal')	Multiple Polities	SECONDARY URBANIZATION	Urbanization	
			LHP - 1	Society (LHS-1)	'CENTRIFUGAL' TENDENCIES DOMINANT		Irrigation Phase 6	Trade Phase 6 (?)
+1500	KOTTE PERIOD	LHP			Colonial intervention and partial occupation	PERIOD OF 'POST CLASSIC' WET ZONE CIVILIZATION dissolution of monumental style and macro irrigation system		
			LHP-2	(LHS-2)		Tertiary Urbanization		Trade Phase 7 (?)
+1800	KANDY PERIOD				End of independent polity	Beginnings of modern transition		
+1900					MODERN TRANSITIONAL PERIOD			

Figure 1. Chart of Chronological Periods.

been placed in shallow burial pits. Two skeletons found near Bulathsinhala even had red ochre (iron oxide) spread on the bones. This must have been an intentional part of an ancient burial ritual carried out about 5 thousand years ago. This kind of burial ritual using red ochre on the body is known throughout the Old World in prehistoric times.

The stone tools used by prehistoric men in Sri Lanka are all very small, and were usually made by detaching flakes from pebbles of quartz. Small tool industries like these are called microlithic (under 4 cm in length). Sri Lanka's recent evidence indicates geometrically shaped microlithic industries began here by 30 thousand years ago—much earlier than in most of the rest of the world. Except in tropical Africa, the use of small geometrical microlithic stone tools does not become widespread in the Old World until about 12 thousand years ago.

The distribution of the presently-identified prehistoric sites on the island indicates that prehistoric man occupied a number of different habitats, from the maritime belt and the lowland plains of the Wet and Dry Zones to the high plateaus and rain-forests of the central and southwestern mountain region. In short, he had adapted himself to living in the many different environmental conditions that could be encountered in the island. However, the environmental conditions during the Pleistocene may have been different than today. Evidence from Africa and elsewhere in Asia indicates that the glacial and interglacial periods of the northern latitudes also had major correlates in the climate of the Tropics with major alterations in the monsoon system. The details of these climatic changes and their effects on vegetation and other aspects of Pleistocene environment are important fields for further research here in Sri Lanka—and one in which archaeological discoveries provide vital data for close collaboration with other scientific fields.

Protohistoric Period (PHP) (c. 1000-250 BC)

Little or no data is available yet concerning when and how the important transition occurred from the itinerant, hunting-and-gathering mode of life of the Prehistoric Period to one of settled, village-based food production using rice agriculture. There is general agreement, however, that the beginnings of agriculture in Sri Lanka must have taken place sometime during the early first millennium BC—or perhaps, in an incipient form, somewhat earlier—and were accompanied by the introduction of metal and pottery. One of the important questions now confronting Sri Lankan archaeologists and historians is who exactly were the agents of these changes; whether these changes took place principally as a result of large-scale migrations from the Indian subcontinent, by means of internal developments, or—as seems likely—by a combination of factors that promoted the transfer of techno-cultural elements and the acculturation of the indigenous Stone Age population.

This entire sequence of transitions and transformations—still imperfectly understood—from the early beginnings of agriculture to the formation of a clearly visible historical civilization, is presently referred to as the "Protohistoric Period," and its final stages, as the "Protohistoric-Early Historic (PHEH) transition." The "Early Historic" end of this transition represents the transformation from a pre-literate agrarian society to a literate, historical civilization marked by the emergence of clear social stratification, advanced political institutions, primary urbanization, money economy, craft and commercial guilds, and the establishment and generalized spread of an organized religious institution.

Currently, the main indicators of the distribution of Protohistoric and some Early Historic settlements are megalithic (large stone) and other related burial sites containing a distinctive pottery with red exterior surfaces and black, reduction-fired interiors (Black-and-Red Ware, BRW). Both the forms and fabrics of Black-and-Red Ware show minor developmental changes between these two periods. Six different types of burials occur, as fragmentary, disarticulated skeletons inside ceramic urns or smaller vessels, in excavated pits, in box-like stone cists, enclosed by circular stone cairns with or without a covering tumulus, and as extended burials in pits. The few sites discovered so far with evidence of habitation rather than burials require further investigation and dating refinements. An example from Ibbankatuva will be discussed. These burial and pottery-bearing habitation sites, however, clearly indicate the presence of settled Iron Age agriculturalists in the period preceding, and in some instance overlapping, the beginnings of history.

Early Historic Period (EHP) (c. 250 BC-500 AC)

The beginnings of the historical epoch in Sri Lanka are traditionally assigned to the reign of King Devanampiya Tissa (250-210 BC) and his conversion to Buddhism by the *thera* Mahinda, the son and emissary of the Indian Emperor Asoka (269-232 BC). The major historical changes ushered in during the reigns of kings such as Devanampiya Tissa and Dutugemunu and continued and developed under their immediate successors are reflected in the archaeological record by four distinct phenomena:

1. The widespread diffusion of reservoir ('tank') irrigation associated with wet-rice cultivation (This agrarian system provided the economic basis for the other developments.);

2. The appearance and proliferation of Early Brahmi inscriptions (EBI);

3. The development of rock-shelter monasteries, monumental architecture and other material expressions of the spread and patronage of Buddhism;

4. The growth of urban and port centres and participation in long-distance trade networks.

The most extensively studied and reliably dated of these phenomena are the Early Brahmi inscriptions. These inscriptions are short donatory epigraphs, usually engraved near the drip-ledges of partially man-made rock-shelters. They use the "Early Sinhala" or "Proto-Sinhala" language and the Indian Brahmi alphabet to record the granting of caves to the Buddhist *sangha* as monastic residences. These epigraphs represent the earliest historical documents found in the island. Their presence indicates that iron technology was sufficiently advanced to produce metal chisels hard enough (perhaps even early steels or proto-steels) to enable the cutting of drip-ledges and the engraving of letters on the hard rock-outcrops and boulders in which the rock-shelters were located.

Middle Historic Period (MHP) (c.500-1230 AC)

The historical epoch begun by the Early Historic developments saw the emergence and exponential growth of the highly complex and advanced agrarian civilization of the later Early and Middle Historical Periods. The ruins of great monasteries and capital cities, colossal man-made reservoirs and canals, numerous inscriptions, and a large body of ancient art and literature still survive as testimony to the existence on this island of one of the small but important historical civilizations of Asia, whose early and middle phases lasted for a period of nearly sixteen centuries, from about the 3rd century BC to the 13th century AC. The diffusion throughout the island—with some regional exceptions—of rural settlements, essentially based on agriculture, but also involving craft manufacture and trade, and of cities and other urban, port and religious centres, is well evidenced by historical and epigraphic records and by extensive archaeological remains. Most of the major monumental complexes, such as Anuradhapura, Sigiriya, and Polonnaruwa, and several less important ones, have been studied in some detail, as have been many other archaeological and architectural sites and monuments. Extensive work has also been done on the inscriptional records and the ancient irrigation networks.

Late Historic Period (LHP) (c.1230-1815 AC)

Sri Lanka's historical civilization, however, continued beyond the Middle Historic Period into what we may call the Late Historic Period (LHP), from about the mid-13th century until the early or mid-19th century AC. The 13th century marks a significant watershed in Sri Lankan history. From this time onward major changes took place in the nature of the historical society and in its patterns of settlement—first as a result (mainly) of internal developments in the period between the 13th and the 16th centuries, and subsequently, as a consequence of the encounter with European colonialism, between the 16th and the 19th centuries.

The most visible sign of the changes that took place during the LHP was the shift in the main centres of political, economic and cultural activity from the Dry Zone plains of the north-central, eastern and southeastern regions to the wet lowlands of the southwest, to the central highlands and to the extreme north. Shifts in the concentration and distribution of population probably paralleled these changes. This is indicated by the decay and abandonment of the major irrigation networks some time during the course of the LHP; by the phenomenon of 'the shifting capitals' and the general drift to the southwest; and by the rise of the port cities of the western and southwestern maritime zone, sometimes referred to as the 'second urbanization.' Conventionally viewed by historians as a period of decline, a loss of momentum affecting the entire civilization, recent interpretations of the LHP suggest instead a transition to more complex and varied forms of economic and political organization and of cultural production. The wealth and creativity of this period seem to be expressed in ways very different from those of the earlier periods. These developments, however, have still only been studied in a preliminary way. The available evidence from the LHP is of a very different nature—at once more complex, more fragmentary and more chronologically diverse than what remains from the earlier periods.

The later Late Historic Period is the time of the 'third urbanization.' This third urbanization constitutes the development of the colonial cities, ports and trading centres of

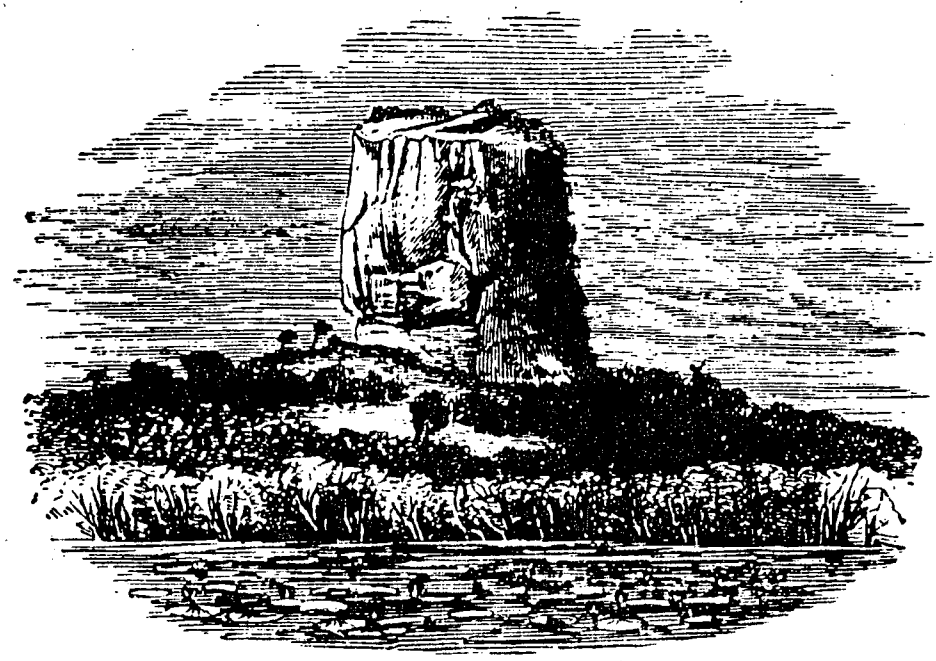
the pre-modern era between the 16th and the mid-19th centuries. These cities, dominated as they were by external processes, still remain an important area for archaeological investigation and conservation.

SIGIRIYA AND ENVIRONS*

A Brief Description of Sigiriya

Sigiriya Region

The Sigiriya-Dambulla region forms a distinct topographic unit of undulating plain extending northward from the northern edge of the Central Highlands and lies at a elevation between 150 and 300 metres. The area lies along the major watershed boundary between rivers flowing westward into the Gulf of Mannar and those flowing the eastward into the Bay of Bengal. The area forms the upper catchments (or sources) of several streams that are tributaries of the northern Dry Zone's major rivers, the Yan Oya, the Mahaweli Ganga and the Kala Oya. Sigiriya rock and its twin to the north, Pidurangala, are erosional remnants of migmatic garnet-bearing gneisses standing about 200 metres above the surrounding plain. The rocks of the area are part of the Highland Series and include quartzites, charnokites and gneisses as well as a limestone that extends from Naula to Habarana in a 2 to 4 km wide band. This



Fortified Rock of Sigiri, "Ceylon" Sir Emerson Tennent (1860). Wood engraving by Mr. A. Nicholl.

* This is an edited version (by M. Prickett), largely of marerial provided by S. Bandaranayake.

limestone band passes just east of Sigiriya. The iron production site at Alakolawewa and a number of settlement and iron productions sites of the upper Kiri Oya are found along this limestone band. Most of the region's soils are classified as Reddish Brown Earths. These have altered to low-humic gley soils in areas of long-time water logging through paddy cultivation.

The Sigiriya area lies in the Dry Zone as it is in the rain shadow during the southwestern monsoon. The annual rainfall is about 1650 mm, about half of which falls between mid-October and mid-January. June and July are the driest months and the vegetation dies back, dried by the moistureless wind of the southwestern monsoon. The extended dry season makes drought one of the greatest limiting factors on human settlement in the region. Even today the seasonal struggle for adequate drinking and bathing water is a major concern of the local villagers (and archaeologists).

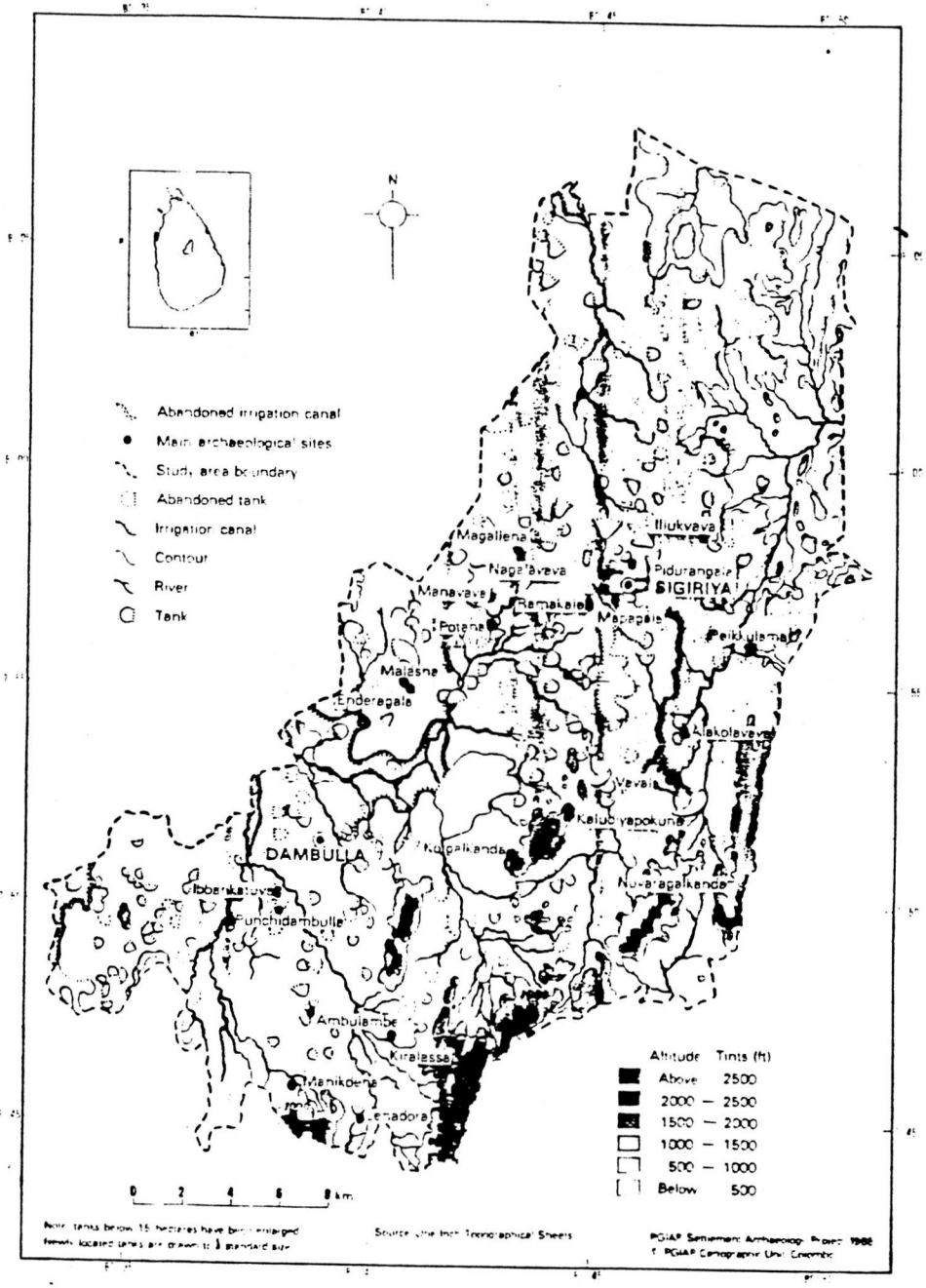
Recent archaeological explorations in the Sigiriya-Dambulla area have discovered several hundred archaeological sites (Figure 2). The sites demonstrate occupation in the region from the Prehistoric Period onward. The locational distribution of these sites across the region forms the settlement pattern. The ancient settlement network includes not only the village habitation sites but also ancient irrigation systems, cemeteries, specialized craft production sites, quarries and other locations of resource extraction, over a dozen monasteries, and the former administrative center at Sigiriya itself.

Sigiriya Site

Sigiriya is well known as the late 5th century fortified citadel (or fortress) and hideout of king Kasyapa I, perched on top of the Sigiriya rock 200 metres above the surrounding plain. This upper palace complex covers almost 3 hectares. Below the rock and less well known are the Sigiriya Gardens—the earliest still remaining landscaped gardens in Asia (Figure 3). The entire western precinct (west of the rock) covers 90 hectares and forms an elaborate royal pleasure garden in 4 parts. A central, geometrically designed water garden is flanked by two unexcavated parks to the north and south. An asymmetrically designed boulder or rock garden lies nearest the base of Sigiriya rock itself. Both the boulder garden and the rock are enclosed by an inner wall forming an inner citadel. The whole area of the rock and the western precinct (and probably the still unexcavated eastern precinct as well) are enclosed by a series of 3 concentric earthen ramparts (walls) and two water-filled moats. Gates were located on each side. The whole enclosed area forms a carefully laid out, symmetrically planned walled city complex. This palace and garden complex of rock-associated architecture used an intricate system of water supply including tanks, moats, lakes, canals and water gardens with fountains.

Wall paintings, located in plaster-lined erosional hollows on the west face of the big rock, are world famous, but traces of paintings are also found in the rock shelters at its base. Small terracotta figurines copying the lovely ladies in the paintings have been excavated and were probably intended as souvenirs for the ancient tourists who visited the site in the later first millennium.

Although Sigiriya is famous for its late 5th century constructions, the Cultural Triangle excavations have clearly demonstrated that the site was occupied for a long time before and



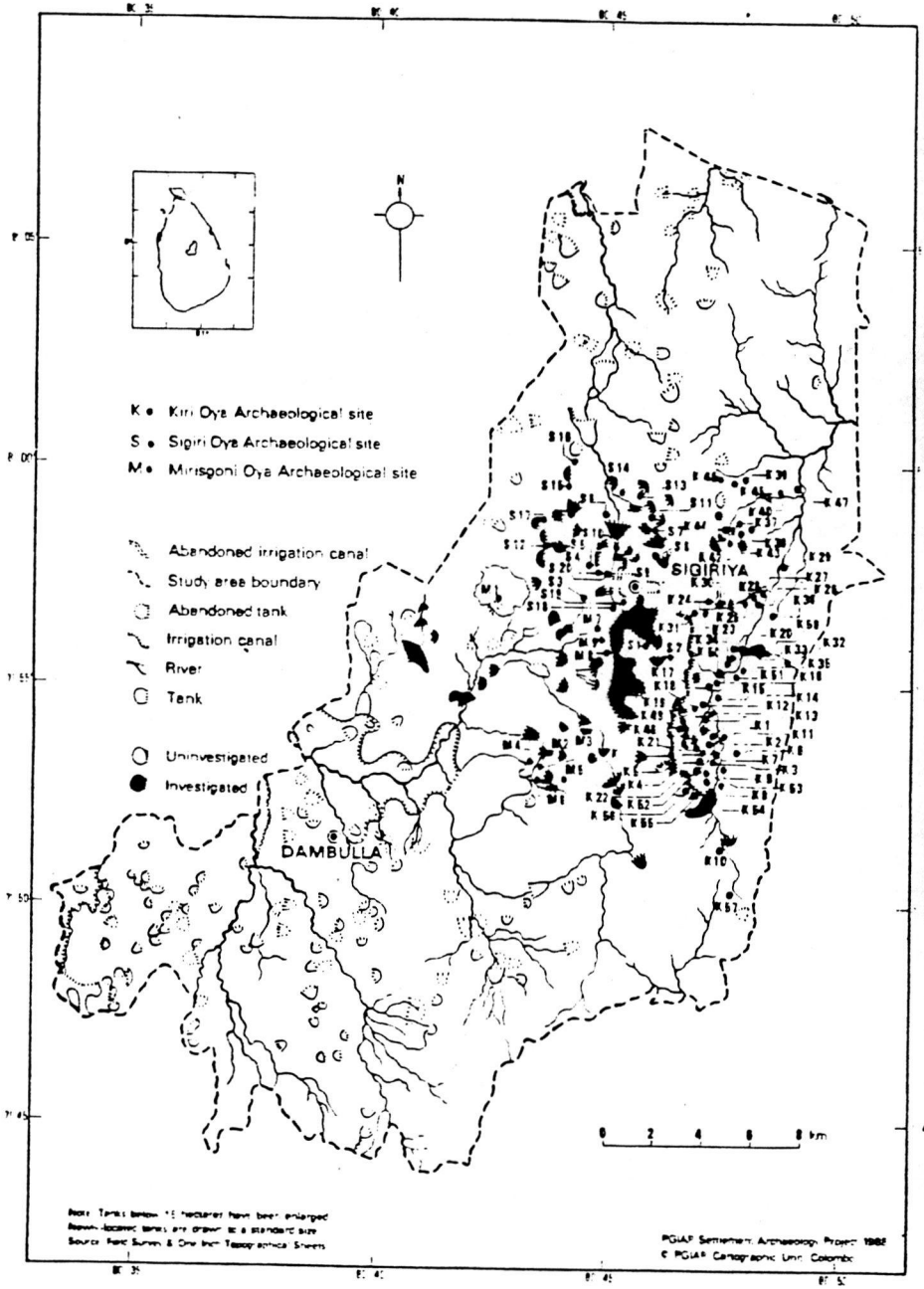


Figure 2. Maps of Sigiriya Region.

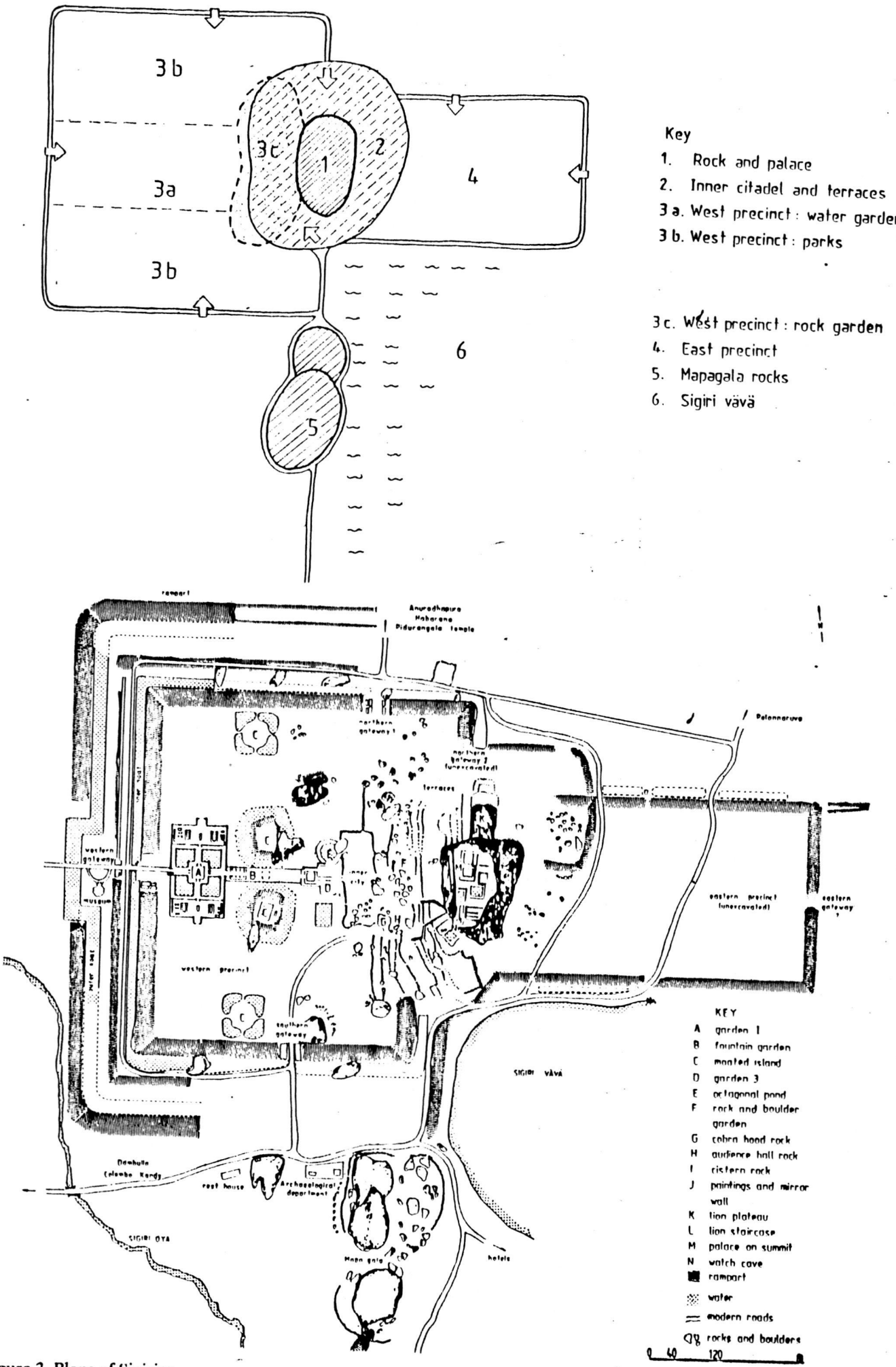


Figure 3. Plans of Sigiriya.

after. Rock shelters with prehistoric remains have been found within the rampart. Rock shelters in the boulder garden have Early Brahmi inscriptions recording the gift of the caves for monastic use. Considerable areas in the western precinct continued in use as monasteries after the fall of Kasyapa's capital in 495 AD. The monastic use seems to continue until the 12th or 13th century and hundreds of famous poetic graffiti on the Mirror Wall, written by ancient tourists who visited the site from all over Sri Lanka, were inscribed during that same period.

A Brief Description of Other Archaeological Sites

Prehistoric Cave Site

Prehistoric man lived and worked in many different places as he moved through the forests in search of food. Depending on the weather and the geography, he camped both in the open air and in natural rock shelters and caves. Open-air camp sites are very difficult to find, although one was identified underneath later settlement remains on the ancient beach at Mantai near Mannar. Researchers have also located stone tool and shell remains indicating open air sites in coastal Pleistocene sand dunes along the western and southern coasts, as well as on ridge tops in the interior. These are typical locations for ancient hunters to use as lookouts while hunting for animals and as fishing sites for gathering shellfish, crabs, dugong and other edible creatures of the sea coast.

The cave sites usually contain much more material than the open air ones. The cave interiors are usually dry and the remains of food and other activities are much better preserved from rain and other erosional processes. However, the cave contents have often been disturbed by borrowing rodents or destroyed by Historic Period occupations. The cave deposits usually contain the discarded debris of the prehistoric inhabitants—broken tools; shells, bones and seeds left from meals; discarded waste from making stone and bone tools and other objects; and features produced during their everyday activities, such as hearths, pits, wind-breaks, and graves.

Iron Production Site at Alakolawewa

An ancient iron production site was found at Alakolawewa, about 7 km southeast of Sigiriya during surveys of the Sigiriya Archaeological Project in 1988. Excavations have been carried out for two seasons. The site was marked by enormous heaps of slag—the vesicular silica-rich stone which is left after the iron ore has been smelted and the iron extracted. The heavy, black slag still contains a substantial percentage of iron. The location and amount of slag indicates to the archaeologist the location and scale of ancient production in that place. Alakolawewa has vast quantities of slag, which indicates massive, industrial quantity production in ancient times, perhaps even before Sigiriya rock was used for King Kasyapa's palace in the late 5th century AC.

The excavations have uncovered a row of iron smelting furnaces that are partly cut into rock and partly extending outward so that they could be easily broken into and cleaned out for the next use. The laboratory analyses indicate that the iron ore used was extremely rich and pure. It must have been quarried somewhere near the Alakolawewa site because transporting

iron ore by bullock carts or other means through the Sigiriya jungles would not have been an easy task in ancient times. The specific mining localities have not yet been discovered.

Megalithic Cemetery and Settlement at Ibbankatuva

Ibbankatuva is a very good example of the most common type of Megalithic cemetery found in Sri Lanka. The cemetery extends over more than 5 hectares and contains a number of grave clusters, each with several stone grave cists. Each individual grave cist is rectangular in shape and is constructed of large slabs of stone standing on edge. These are often covered by a large horizontal capstone to form a box-like structure of stone. A number of grave cists have been excavated. Many of them contained large earthenware pots, often covered with a flatter earthenware dish or tray-bowl. The pots and cist graves contained grave goods such as beads in various materials (carnelian, agate, quartz, bone, glass) and artifacts of iron, copper alloy and gold, iron slag, mica and the seeds of various plants. A number of pots with cremated remains were also placed outside but near the cists and sometimes at a distance between the cists. An intact cremation platform, unique in Sri Lankan archaeology, was found associated with one of the grave clusters.

On the edge of Ibbankatuva tank, near the cemetery, are the remains of a settlement site inhabited by the people who built the cemetery. The location shows the traditional pattern of a small, probably agricultural, village on the edge of a small tank with the cemetery nearby on higher land that could not be irrigated. The settlement site has two main phases of use during the Protohistoric and Early Historic Periods. The earlier, Protohistoric Period remains found in the lower layer contain clay floors and post holes of small huts that were probably the houses of the village inhabitants. In addition, burned animal bones and broken earthenware pottery of the Black-and-Red Ware type characteristic of this time are found as the left-overs of the ancient kitchen garbage. This is the only village settlement of protohistoric date as yet excavated in Sri Lanka, except for the settlement in the lowest layers at the citadel of Anuradhapura.