



Siran Deraniyagala: Founder of Modern Sri Lankan Archaeology

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Abstract

Research on the prehistory of Sri Lanka and the name of Siran Deraniyagala are entwined in a lasting legacy. Harvard-trained prehistorian and former Director-General of the Department of Archaeology of the Government of Sri Lanka, Deraniyagala was the founder of modern Sri Lankan prehistoric archaeology and has been responsible for significant discoveries, while setting the direction and emphases in the study of prehistory for the island and the region. Siran Upendra Deraniyagala was born in 1942 to a prominent family of scholars with his father being the famous naturalist Dr. Paulus Edward Pieris (P.E.P) Deraniyagala and his paternal grandfather the famous historian Sir Paul E. Pieris. Having joined the Archaeological Survey of Ceylon as the first Assistant Commissioner of the Excavation Branch and eventually in the position of Director-General, Siran Deraniyagala guided the archaeological scene of Sri Lanka with problem oriented archaeological research. His research methodology and outstanding knowledge of survey and stratigraphic practice and excavation set the stage for subsequent professionalism in field archaeology in the country.

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Early Life and Education

The study of the prehistory of Sri Lanka and the name of Deraniyagala are intertwined or one could argue – even synonymous. Such is the legacy of Siran Deraniyagala. Harvard-trained prehistorian and former Director-General of the Department of Archaeology of the Government of Sri Lanka, he was the founder of modern Sri Lankan prehistoric archaeology and has been responsible for significant discoveries, while setting the direction and emphases in the study of prehistory for the island and the region. From his research to training a small nucleus of field archaeologists, Siran Deraniyagala is one of the most distinguished prehistorians of South Asia and is credited with the introduction of problem-oriented archaeological research in Sri Lanka.

Born in Ratnapura on March 1, 1942, Siran Upendra Deraniyagala was the third son of the famous Dr. Paulus Edward Pieris (P.E.P) Deraniyagala, Director of National Museums and Sri Lanka's foremost naturalist and Mrs. Prini Ekneligoda Molamure. He was the younger brother to Arjun and Ranil and elder brother to Isanth. Siran Deraniyagala was the representative of a distinguished family ancestry, his paternal grandfather was the well-known historian and civil servant/administrator and patriot, Sir Deraniyagala Paulus Edward Pieris Samarasinghe Sriwardhana; and his mother was a great-niece of Molamure Maduwanwela Disawe (who was iconic for his pride and independence as a Sinhalese aristocrat from Sabaragamuwa at the height of British rule), and granddaughter of the famed beauty and heiress Iddamalgoda Kumarihami (Dias, 1979). Siran spent his early childhood in Molamure Walawwa in Ratnapura and resided at his ancestral home, the historical Ekneligoda Walawwa in Kuruwita until his death.

Siran Deraniyagala first began his schooling at St. Thomas' Preparatory School, Kollupitiya, followed by a residency at its Bandarawela branch as a boarder aged nine. His secondary schooling was at St. Thomas' College Gurutalawa and Mt Lavinia. At age 15 he departed for London where he completed his GCE Advanced Levels in Greek, English and History in 1959. He was the youngest entrant that year, at age 17, to the prestigious Trinity College of the University of Cambridge. Having entered the same college of the university as his father and grandfather, young Siran Deraniyagala first read Architecture and Fine Arts under Sir Leslie Martin, but changed tack to complete his Bachelor's degree in Sanskrit studies. In many ways Deraniyagala followed in his father's footsteps, such as his entering Trinity College Cambridge, judo training (his father was Sri Lanka's pioneer in judo in addition to being reputedly its finest boxer) and finally his choice of prehistory for postgraduate studies culminating at Harvard. In these years spent in England, he spent his term breaks with a friend of his mother's, Dame Agatha Christie and her husband, renowned archaeologist Sir Max Mallowan (Perera & Hiscock, 2022). His interactions with the couple and in particular Sir Mallowan influenced his desire to pursue archaeology.

On completion of his BA in Architecture and Sanskrit from the University of Cambridge in 1963, on the advice of Sir Max Mallowan and Sir Mortimer Wheeler, he enrolled at the Institute of Archaeology in London (now University College London) under the guidance of Professors Kenneth de Burgh Codrington and Frederick Zeuner. The former (a direct descendant of Sir John Codrington, Standard Bearer of King

Henry V at Agincourt in the 15th century) was endowed with a deep knowledge and lived-experience of South Asian culture coupled with remarkable intuition. In many ways this study programme guided Deraniyagala's future research endeavours, including an emphasis on the environment as a context for archaeological interpretation. His studies encompassed a wide range of subjects, such as cultural anthropology, history, field archaeology, analytical archaeology, biological anthropology, and artefact conservation. Deraniyagala completed his postgraduate diploma in 1965, at just 23 years of age. His outstanding intellect and overall performance won him the prestigious Gordon Childe Prize of the Institute of Archaeology, which was awarded to the two outstanding all-round students of the year. His MA from Cambridge University followed.

Deraniyagala's return to Sri Lanka was overland, by hitch-hiking and public transport, through Europe, the Middle East, Afghanistan, Pakistan and India. In order to gain a hands-on acquaintance of South Asian prehistoric and protohistoric material, Codrington arranged for his *protégé* to study the extensive collections of artefacts curated in various institutes in India, where he spent a year as a guest at several leading archaeological institutions such as the Deccan College, Pune with Professor H. D. Sankalia and his junior colleague V.N. Misra, the MS University, Baroda with Professor R.N. Mehta, the Birbal Sahni Institute of Palaeobotany, Lucknow with the palaeobotanist Vishnu-Mittre, and the Indian Archaeological Survey in Delhi as well as its field school in Kalibangan with B.B. Lal and B.K. Thapar, who were students of Sir Mortimer Wheeler and later Directors-General of the Archaeological Survey of India.

Archaeological Approach and Groundwork

Siran Deraniyagala, upon his return, joined the Department of Archaeology of the Government of Sri Lanka in 1968 as the Assistant Commissioner heading the new Excavation Branch. He was in charge of research excavations, both prehistoric and historic, throughout the Island (1968-1983). Raja de Silva (1967-1979) was then the Commissioner (now titled Director-General) of the Department of Archaeology who was unstinting in his support of the 26-year-old Deraniyagala's fledgling research endeavours.

The establishment of the Excavation Branch of the Department of Archaeology headed by S.U. Deraniyagala in 1968 marked a watershed in prehistoric research in Sri Lanka. After his appointment, Deraniyagala reviewed the overall archaeological scenario in Sri Lanka, and realised the vast potential of the Island's prehistoric archaeology, which remained considerably less documented and researched than its historical period. Deraniyagala identified thematic problems, selected those within the purview of the Excavation Branch, and devised ways of resolving them. These problems were (a) the absence of a chronological framework to which prehistoric assemblages could be referred, even tentatively, (b) lack of a cohesive palaeo-environmental history, (c) ignorance on human/environment interactions, with particular reference to subsistence strategies, and (d) lack of placement of Sri Lanka's prehistory within the context of South Asian and world prehistory (Deraniyagala, 1988).

A multi-stage approach was planned by Deraniyagala with a view to filling the above-mentioned lacunae in the knowledge of Sri Lanka's prehistory. It permitted him the maximum flexibility and opportunity for revamping his strategies as the research proceeded, and to narrow down the major gaps in the available knowledge of the prehistory of Sri Lanka. For the first time, the island's prehistoric archaeology received the full-time professional attention it deserved. The investigations thereafter were conducted in five stages. Stage I comprised the synthesising of previous research followed by problem formulation; Stage II, the undertaking of spot-surveys indicated by Stage I; Stage III, problem-orientated excavation of sites highlighted in the previous stage; Stage IV, synthesis and publication of results of preceding stages, and finally the formulation of a fresh problématique to be addressed in Stage V. In Stage IV the extant prehistoric data retrieved were reviewed under the headings of (a) theoretical framework, (b) chronology, (c) technology, (d) subsistence, (e) settlement, (f) art and ornament, (g) ritual, (h) social organisation, (i) physical anthropology and (j) palaeo-environment. These stages were executed over the next few decades through the Excavation Branch of the Department of Archaeology under the direct guidance and supervision of Deraniyagala. His leadership in Stages I-IV was single-handed in the absence of suitably trained assistants in the country.

Stage I commenced with a literature survey, the platform from which Stage II was launched on a prioritised basis. Stage I also included a set of probes namely at the prehistoric site of Bellan-bandī Palassa and at Anuradhapura, the Early and Middle Historic capital of the island, in its inner city referred to as the 'Citadel'. The open-air site of Bellan-bandī Palassa is located in the dry lowlands directly beneath the Kalthota escarpment. The records left by P.E.P. Deraniyagala of his excavation and finds were deemed scanty in critical areas of stratigraphy, chronology and cultural evolution. Two particular problems were the inadequacy of the existing stratigraphy and the lack of radiometric dating of the deposits, and the issue of the presence of pottery in association with lithics in the upper horizons (Deraniyagala & Kennedy, 1972). As for the analysis of stone artefacts, as applied to Stages I through IV of the research design, the earlier classificatory systems employed by C. Hartley, N.A. and H.V.V. Noone and B. Allchin were considered inadequate. Deraniyagala devised of a more satisfactory system for the tasks in hand. It was the basis for developing a non-tool-specific system, which incorporated a synthesis of attribute analysis as enunciated by Movius and his team (1968) and the intuitive approach to typology exemplified by F. Bordes (1961).

The new classificatory system involved the agglomerative creation of lithic classes and types followed by a divisive process of formulating sub-types and variants. This procedure has broad applicability as well as flexibility and the resultant system was more than adequate for the purposes for which it was devised. It offers researchers a system amenable to a global approach to undertake lithic analysis, and a useful descriptive introduction to the study of lithic assemblages in terms of style, function and technology. It should be noted that artefacts from a wide array of sites spread island-wide were classified by Deraniyagala on the basis of this classificatory scheme, as synthesised in his doctoral thesis of 1988 for Harvard University.

A second major project was the excavation of a pioneering sondage down to the bedrock in the Citadel of the Early and Middle Historic capital of Anuradhapura.

This took place in 1969 in collaboration with Professor Codrington of the Institute of Archaeology in London. The major research aim was to delineate the transition between the Protohistoric and Early Historic periods, and to define the upper limit of Sri Lanka's Stone Age. This landmark excavation provided definitive proof that field archaeology in Sri Lanka held tremendous possibilities for future research; and it set the stage for professionalism in the field, based on new methods and techniques that explicitly introduced the concept of stratigraphic excavation to Sri Lanka for the first time.

The fieldwork in 1969 at the site of Gedige in the Anuradhapura Citadel, as well as the processing of finds and writing of the final report were executed by Deraniyagala (Deraniyagala, 1972). When analysing the pottery, Deraniyagala devised a ceramic classification system based on ware-cum-form analysis and ethnographic analogy. This classificatory system superseded the tentative attempts of Coomarswamy (1906), P.E.P. Deraniyagala (1958; 1960) Gunasekara et al. (1972) and Deraniyagala (1972b), the last being a mere interim step for the Gedige classification. Initial sorting was conducted on the basis of ware. The variables considered comprised texture, colour of paste and surface, and surface lustre. The classification was arranged in a three-tiered hierarchy of primary (macro), secondary (meso) and tertiary (variant) wares. The next stage in procedure was to sort the pottery according to form. This was arranged in a four-tiered hierarchy comprising macro, meso, micro and variant categories. The classification adopted at Gedige in 1969 was the basis for further refinements, which up to now have proved to be adequate for preliminary assessments of Proto- and Early Historic assemblages; Deraniyagala had since indicated several refinements that would be desirable for future in-depth applications (Deraniyagala 1984b). The final site report, including the ceramic classification, was published in 1972 in *Ancient Ceylon* No. 2. As per international peer-reviews, it proved to be a landmark in Sri Lankan archaeology.

Having completed Stage I of the research design, in Stage II, Deraniyagala focused on investigating the occurrence of a Palaeolithic phase in Sri Lanka and palaeo-climatic change. Extensive coastal deposits in the north-western, northern and south-eastern Dry Zone of the Island were covered with basal alluvial gravels capped by fossil aeolian dunes. They had been initially studied by E. J. Wayland (1915; 1919) who referred to them as 'Plateau Deposits' and subsequently re-defined according to current stratigraphic practice as the Iranamadu Formation by Deraniyagala (1976). In Sri Lanka, these deposits constituted the best locations to commence investigations of Stage II. In 1971-1972 Deraniyagala undertook a more in-depth, and in many ways pioneering, geo-archaeological survey of these deposits throughout the extensive area of their distribution in the Island as shown on the *Soil Maps* (scale: one-inch-to-the-mile) of Sri Lanka compiled by the Department of Irrigation. The latter was a ground-breaking instance of cooperation between these two departments; and it set an example for future cooperation on the studies in the archaeology of ancient water management in Sri Lanka.

The exploration of the Iranamadu Formation in Stage II culminated in the selection of three promising sites in the south, Bundala Wellegangoda, Pathirajawela and Lewagangoda (with a back-up project in the Reddish Brown Earth's lag gravels at Embilipitiya Site 43) for intensive controlled macro-stratigraphic sampling by

excavation in 1972. These excavations constituted Stage III of the research design. They produced results of a quality that was well consistent with expectations. Deraniyagala's treatment of the depositional environment of the Iranamadu Formation represented the first attempt at reconstructing the physical environment of Sri Lanka's prehistoric inhabitants. He postulated that the altitudes of the gravels related to the then prevailing sea levels, which had subsequently been modified by local tectonic uplift. Deraniyagala proposed a tentative chronology on these grounds, extending back into the Middle Pleistocene. This was followed by Thermoluminescence (TL) dating of two sets of dunes at Pathirajawela to ca 70,000 and 25,000 BP by A.K. Singhvi and colleagues (1986). Subsequently, Optically Stimulated Luminescence (OSL) assays were conducted by M. Abeyratne (1996 and 1997) and the Oxford Archaeological Laboratory (unpublished) with mixed results; although they do appear to indicate ages of ca 150,000 and 80,000 BP for the basal gravels at 15m and 8m above sea level respectively. The traces of human presence were confined to lithic artefacts, which have been analysed in some detail by Deraniyagala (1988) employing the classificatory system described above. It was significant that the 50m gravels, with a tentative age estimate of over 125,000 BP, yielded a few exceptionally small hammer-stones and backed microliths. These artefacts could be assumed to have been produced by anatomically modern humans with the behavioural and cognitive flexibility for producing small (<2cm) stone tools.

Between 1972-1973 Deraniyagala processed the finds, conducted analytical work and wrote up the site reports that highlighted the significance of the Iranamadu Formation for palaeo-climatic investigations at a global scale. To cite the eminent palaeo-climatologist and geo-archaeologist Professor R.W. Fairbridge in his review of Deraniyagala's (1992) publication (*Geoarchaeology* (1997, vol. 12(7)): "[It] brings into focus the extraordinarily useful position occupied by Sri Lanka in helping solve one of the planet Earth's most elusive climatic challenges...."

Doctoral Research and Comprehensive Work in Sri Lanka

Stage IV of Deraniyagala's research design was embarked upon when in 1973 he was granted a fellowship for doctoral studies at the Department of Anthropology of Harvard University. His admittance for doctoral studies to both Cambridge and Harvard Universities at this juncture is a testimony to his outstanding ability and dedication to synthesising and interpreting the prehistory of Sri Lanka. During his five years at Harvard from 1973 to 1978 he had almost individual supervision under the renowned prehistorian Professor Hallam Movius, who was assisted by C. C. Lamberg Karlovsky and R. Tringham. They provided him with a wider theoretical and methodological base than he had previously been equipped with and exposure to American anthropology-orientated archaeology. Tringham in particular explicitly noted and encouraged Deraniyagala's penchant for clear definitions and critical thinking. This programme of courses at Harvard involved intense study and exposure to the world's foremost archaeologists in a wide range of subjects covering what was considered state-of-the-art theory, method, and practice, coupled with field training at

various prehistoric sites; in France with Professors A Leroi-Gourhan, H. de Lumley and J.-Ph. Rigaud and in the Netherlands with R. Newell.

Deraniyagala also undertook summer studies at Cambridge complementing the Harvard programmes in gaining access to South Asia-specific information, particularly relating to environmental contexts. The sum of these activities provided Deraniyagala with vital breathing space for absorbing state-of-the-art theory, method and practice from both the U.S.A. and Europe, which constituted a crucial transfer of technological know-how to Sri Lankan archaeological applications.

In 1978 Deraniyagala returned to Sri Lanka. Parallel with his Stage IV of the research design, which was synthesis, comparative interpretation and publication of the results of Stages I to III. He initiated Stage V, which included a series of rock-shelter excavations in the lowland Wet Zone between 1979 and 1986. Stage IV was completed when he submitted his doctoral thesis to Harvard University in 1988, by synthesising the data secured from Stages I-III and the preliminary results from Stage V. The resultant publication, *The Prehistory of Sri Lanka: an Ecological Perspective*, 1st edition (Deraniyagala, 1988), is considered to be the first comprehensive in-depth account of the prehistory of Sri Lanka. A slightly revised 2nd edition, incorporating preliminary results from cave excavations of Stage V, was published by the Department of Archaeology in 1992 under the same title. This landmark work surveyed almost the entirety of knowledge available on prehistoric archaeology in Sri Lanka at the time of writing and soon became a go-to reference work for South Asian prehistory.

Stage V of Deraniyagala's research agenda comprised the investigation of selected caves and rock-shelters with prehistoric habitation deposits in the lowland Wet Zone. These had been tested by P.E.P. Deraniyagala several decades earlier and noted in Stage I of the research design. Siran Deraniyagala recognised the importance of these sites for providing long, well-sealed continuous sequences, with better preservation conditions than in the Iranamadu Formation, where the open-air sites are devoid of all vestiges of organic remains, with only the inorganic items such as lithics having survived post-depositional tropical weathering. On the basis of P.E.P. Deraniyagala's shallow probe in the early 1960's Siran Deraniyagala initially test-excavated Kithulgala Beli-lena and revealed a rich habitation deposit.

In commencing this excavation project, Deraniyagala, focused not only on continuing his own research endeavours but also mentored the next generation of field archaeologists. By the late 1960's the first graduates in archaeology from the University of Peradeniya under Professor P.L. Prematilleke engaged in practical training at the Department of Archaeology.

As an outcome of this training programme, Deraniyagala appointed W.H. Wijayapala, a Peradeniya graduate, as his assistant for Kithulgala Beli-lena. Excavations were conducted from 1978 to 1983, reaching bed-rock at a depth of approximately four metres from the surface, comprising nine major occupation phases and several sub-phases. For the first time in Sri Lankan archaeology, radiometric dating was given its due importance and a series of radiocarbon dates were secured. When recently calibrated by the present writer they revealed an occupation sequence dating from 31,070 to 3,878 cal. BP. The Kithulgala excavation constituted the

foundation of Wijayapala's own career in prehistoric research, and its data were subsequently used as the basis for his doctoral dissertation at the University of Peradeniya (Wijayapala, 1997).

In order to broaden the validity of the Kithulgala results, the Batadomba-lena cave at Kuruwita was next excavated by Deraniyagala as a part of Stage V, with the present writer as chief field supervisor. In all, four two-month seasons of excavations between 1979 and 1982, yielded a wealth of data. The overall sequence and findings as revealed from Batadomba-lena was very much in conformity with that of Beli-lena Kithulgala, revolutionising several existing long-held concepts concerning Sri Lanka, South Asian and indeed World Archaeology. Microlithic technology in Europe and South Asia was originally considered a Holocene phenomenon (Misra, 2001). However, Sri Lanka's new radiometric ages indicated that microlithic industries dated back to ca. 28,000 BP (uncalibrated C14 in Sri Lanka at Kithulgala, Batadomba-lena, Bundala site 49, and Bundala-Pathirajawela site 50; Deraniyagala 1984, 1986, 1988, 1992, 2007). When these dates were first announced by Deraniyagala to the international academia in the early 1980's, considerable scepticism followed. Proper acknowledgment had to await recognition of parallel discoveries such as by van Noten in Matupi Cave in Zaire (Cornelissen 2002; Hiscock and O'Corner 2006). Today there is general agreement as to the validity of the age of the Batadomba-lena microliths, for instance in recent publications by Mellars and Petraglia (Mellars, 2006; Petraglia et al., 2009; Perera et al., 2011). As for the human remains, it is noteworthy that K.A.R. Kennedy considered one of the mandibles to match the morphology of the Heidelberg and Ternifine mandibles: perhaps as a case of atavistic survival. It is noteworthy that back in the 1960's K.P. Oakley of the Natural History Museum in London, famed for his exposure of the Piltdown Hoax, considered Batadomba-lena (and Bellan-bandi Palassa) sufficiently important for him to travel especially to Sri Lanka to visit the site despite his failing health. Deraniyagala accompanied Oakley in this visit.

In 1983 Deraniyagala relinquished his position as Assistant Commissioner of the Excavations Branch and handed over the baton of continuing Stage V of the research design investigating prehistoric caves and rock-shelters. His *protégé* W.H. Wijayapala took over leading the branch and excavated, most notably, the exceptionally large cave and rock-shelter of Fa Hien-lena in the south-western lowland Wet Zone in 1986. This cave site had been ear-marked by Deraniyagala in 1968 for future investigation when human resources permitted. The resultant data were included in Wijayapala's doctoral thesis (1997). They extended the chronology of Sri Lanka's prehistoric cave deposits to over 34,000 BP, thereby exceeding those of Kithulgala and Batadomba-lena. Of particular importance was the discovery of human remains from the lowermost horizon excavated by Wijayapala, which were identified by K.A.R. Kennedy as belonging to anatomically modern humans, which happened to be the earliest discovered so far in South Asia; hence, to retrieve a more adequate sample, further excavations had to be undertaken in 2007 by the Excavations Branch with its acting head Namal Kodituwakku, followed by the present writer (2008-2013) with the guidance of Deraniyagala.

With the present writer's appointment as Assistant Commissioner of the Excavation Branch in 2000, Stage V of Deraniyagala's research design was continued focusing on the in-depth investigation of the Late Pleistocene cave and rock-shelter

habitation sites from where Deraniyagala left off. It was first implemented as a collaborative project between the Department of Archaeology and the Australian National University (2003-2007) and subsequently by the Max Planck Institute for the Science of Human History of Germany. This second phase of Stage V was able to adopt multidisciplinary approaches with state-of-the art methods, theory and practice in analysing and interpreting the data under the tutelage of specialists of international repute. These ventures also resulted in the present writer's own doctoral dissertation from the Australian National University in Canberra (Perera, 2008) and Oshan Wedage's doctoral dissertation for the University of Jena and the Max Planck Institute in Germany (Wedage, 2020).

While there is no question as to the quality and repute of Deraniyagala the scholar, Deraniyagala the mentor also shines, as is clear from the above, where he diligently mentored the late W.H. Wijayapala, the present writer and Oshan Wedage from archaeological field officers to the successful completion of our doctoral dissertations, while keeping a watchful eye on our individual and our teams' endeavours.

Research on and Service to Sri Lanka

In 1983, just seven years before the centenary year of the Department of Archaeology of Sri Lanka, archaeological research was stimulated by the cabinet appointing Deraniyagala as Adviser in Excavations. This saw the inception of yet a new phase of archaeological research in Sri Lanka. Since Deraniyagala's appointment as Adviser, the programme of the Excavation Branch was not only directed towards continuing Stage V of prehistoric research under his successors, but also towards embarking upon a parallel line of enquiry headed by Deraniyagala into the protohistoric episode (transitional between the prehistoric and historical periods) as well as into the Early Historic period of Sri Lanka.

The excavation of the Citadel of Anuradhapura was resumed by Deraniyagala in 1984. It involved the re-opening of the 1969 excavation pit at the Gedige site. The excavation was conducted meso-stratigraphically to ensure greater definition in the sample sequence than had been secured through the macro-stratigraphic procedure adopted in 1969. The Citadel was test-excavated over several field seasons between 1984 and 1988 to develop a clearer perspective of the general stratigraphy and the establishing of a secure radiometric dating of the site and its associated cultural content. A series of 13 sondages were excavated meso-stratigraphically through ca. 9-10m of occupational deposit down to bedrock. An excellent series of 45 radiocarbon dates were obtained for these contexts. The Citadel excavation also traced the succession of cultural phases from the microlithic phase with a microlithic industry dated to ca. 5,850 cal. BP, followed by a long hiatus, and then the protohistoric Iron Age (ca. 2,800 cal. BP) associated with the development of Anuradhapura as a capital city (Deraniyagala, 1972a; 1992) that extended over at least 50ha (Deraniyagala, 1990; 1992). One of the most significant discoveries of this excavation was the Brahmi script-inscribed pottery radiocarbon dated to 600-500 BC from two of the test-pits heralding the commencement of the Early Historic period of Anuradhapura

(Deraniyagala, 1992; Seneviratna, 1994); subsequently tested and confirmed by a team from the University of Cambridge (Coningham et al., 1999).

In the early 1980's the Central Cultural Fund and the Postgraduate Institute of Archaeology (PGIAR) of the University of Kelaniya were established and graduates in archaeology were engaged in various archaeological projects of the Central Cultural Fund and the Department of Archaeology in Sri Lanka. Events since the 1980's have set in motion fundamental changes in the profession and practice of archaeology and in the structure of its management in Sri Lanka. Numerous universities commenced teaching archaeology or some aspect of it, and the resultant large body of graduate students ensured diversity of research interests. While there is no single direction in contemporary archaeological practice, some issues engendered debate among leading archaeologists during the 1980's with regard to the training of archaeologists.

To navigate these issues Deraniyagala argued that the building up of adequate research scholars and field archaeologists is entirely dependent upon the availability of teachers with the requisite training. He also viewed that until Sri Lankan archaeologists achieve the desired level of academic sophistication, it is not only appropriate to encourage foreign input to service those aspects of projects, but also initiate collaborative projects with foreign teams to do justice to the research and to heighten awareness among Sri Lankan archaeologists on acceptable practice. He postulated that such collaboration is essential in the short-term as a means of addressing the present dearth of local expertise in the middle and upper echelons of the technical hierarchy. Deraniyagala also affirmed the value of long-term projects as a means of transferring much needed state-of-art technology from countries with such resources, as Sri Lanka was lagging in several aspects of post-World War II scientific practice, particularly in field archaeology. Acting on this premise, Deraniyagala invited selected foreign teams to collaborate with the Excavations Branch in continuing the research excavations at protohistoric and Early Historic sites in Sri Lanka. During that time Deraniyagala provided operational guidance to these projects.

The first such major collaboration was the excavation of Mantota, which is documented as having been the island's premier port from the commencement of the Early Historic Period to the end of the Middle Historic Period. The excavation was a joint project between the Oriental Institute of the University of Chicago and the Department of Archaeology of the Government of Sri Lanka with Professor J. Carswell and Deraniyagala as co-directors; together with input from Harvard University's M.E. Prickett as field director, and of British and Indian field supervisors. Seven sondages and a trench were excavated stratigraphically in three field seasons: 1980, 1982, and 1983. The full potential of controlled excavation on a relatively large scale was first demonstrated in the 1983 excavation season when context (Harris) matrices were first used in Sri Lanka by A. Graham from England, who was then the field director. The latter system was formally introduced to the Department's excavation procedure by Deraniyagala in 1985, with guidance from J. Howell of Cambridge University, at the Gedige test pit in the Citadel of Anuradhapura. The fieldwork offered graduate students from Sri Lankan universities as well as officers from both the Department of Archaeology and the Central Cultural Fund a useful introduction and training in field archaeology. Civil disturbances in Sri Lanka abruptly interrupted proceedings in 1983

and a major part of the project was left unfinished with most of the excavated area not having reached below Middle Historic contexts. In 2013 the final report was published (Carswell et al., 2013), which comprised major contributions and specialist reports on the Middle Historic archaeology of Sri Lanka.

As Advisor to the Department of Archaeology, another major collaborative project spearheaded by Deraniyagala was the Samanalawewa Archaeological Project in 1988-90. This project was supported by Balfour Beatty Ltd., a British construction firm, and conducted by G. Juleff of the Institute of Archaeology, London, in collaboration with the Excavation Branch of the Department of Archaeology. This project constituted an archaeological rescue operation and formed part of the impact assessment for the larger Samanalawewa hydro-electric scheme. Over 300 sites representing prehistoric to Middle Historic periods were identified, including over 150 iron working sites. These sites are located on exposed hilltops and in the valleys in the vicinity of Samanalawewa close to Belihul-oya in the Intermediate Zone's uplands. They yielded radiocarbon dates spanning from 3rd century BC to the 11th century AD, as precursors to a long tradition of iron working extending into the early 20th century (Juleff, 1998). The results of this project, also published in *Nature* 379 (1996), were revolutionary, highlighting an hitherto unknown technology of Southwest Monsoon-driven iron-ore smelting directly into steel, which awakened interest among top-rung archaeo-metallurgists worldwide.

A third major collaborative project was the re-excavation of the site of Salgahawatta (ASW-88) of the Anuradhapura Citadel. The main objective was to re-examine the sequence obtained by Deraniyagala, with particular targeting of the unexpectedly early dates for the lowermost Protohistoric Iron Age levels and the pre-Ashokan Brahmi script heralding the Early Historic Period. The announcement by Deraniyagala of Early Brahmi inscriptions on potsherds from contexts AMP-75 and ASW-88 in his excavations, which were radiocarbon dated to ca. 600-500 BC did not receive immediate acceptance in the wider archaeological community (Deraniyagala, 1992). This was due to scholars being entrenched within the traditional interpretation of the antiquity of the Brahmi inscriptions, which until then had been dated to the period of Emperor Ashoka (ca. 250 BC) whose inscriptions on rock constituted the earliest securely dated specimens of writing in India. In order to clear any doubts about the reliability of his claims, Deraniyagala decided to expose his test-excavations to be further sampled by an independent team of archaeologists with no parochial bias. Against this backdrop, he invited a British team, headed by Professor F. R. Allchin of Cambridge University and his assistant R. Coningham to collaborate with the Excavations Branch in continuing the excavations in the Citadel of Anuradhapura. In 1989-1994 the excavation at the ASW test pit was enlarged to enhance the stratigraphic resolution and sample size secured by Deraniyagala in 1988; with an emphasis on obtaining more material for dating. The cultural sequence as identified by the British excavators was very much in conformity with the previous one recognised by Deraniyagala. As per the goals of the project, finer stratigraphic resolution delineated, leaving little room for sampling error of crucial contexts. The resultant report was significant (Coningham et al., 1999) and it served as the core of Coningham's doctoral dissertation for the University of Cambridge. A large assemblage of cultural material was retrieved including more potsherds inscribed with

pre-Ashokan Early Brahmi script radiocarbon dated to ca. 450-350 BC. These dates have now been corroborated by excavations at Kodumanal and Porunthal in South India (Rajan et al., 2013) and at Andarawewa to the west of Anuradhapura (Mendis, 2019). The new dating for the beginnings of writing in South Asia, stemming from the discoveries in Anuradhapura in 1988-1992, has activated a paradigm shift in the archaeology of South Asia.

This line of collaborative archaeological research assumed its rightful place of significance in the history of archaeological investigation in Sri Lanka, when Professor S. Bandaranayake then the first Director of the Postgraduate Institute of Archaeology (PGIAR) invited a German team, headed by Professor K. Kilian of the German Archaeological Institute's Commission for Comparative Archaeology (KAVA) in the early 1990's to collaborate in the excavation of the protohistoric Iron Age burial site of Ibbankatuwa, and a Swedish team under M. Mogren for the Settlement Archaeology project of the Dambulla region (Adikari, 1994). The latter Swedish team, at Deraniyagala's suggestion, undertook yet another project, the sampling of the swamps occurring in the Horton Plains for data on human palaeo-ecology. These investigations led by T.R. Premathilake (2003) of the PGIAR for his doctoral research at the University of Stockholm led to results of global significance, apparently indicative of Sri Lanka being a node of plant domestication and livestock herding commencing at ca. 17,000 BP. Considerable strides were also made in the furtherance of collaborative projects with centres of excellence abroad when, on Deraniyagala's initiative, Roland Silva then Director-General of the Department of Archaeology and W. H. Wijayapala, Assistant Director of the Excavations Branch invited the above-mentioned German team, led by H. J. Weisshaar, to excavate within the Early Historic city-site of Tissamaharama. Simultaneously Professor H. Roth of Bonn University headed another team excavating the ancient southern port of Godavaya (Weisshaar et al., 2006). Finally, it is worthy of note that Deraniyagala was instrumental in launching the Kantharodai archaeological project excavating the settlement, with the present writer collaborating with Professor B. Helwing (2021) of the University of Sydney.

While serving as special Advisor, Deraniyagala was appointed as the Director-General of the Department of Archaeology of the Government of Sri Lanka in 1992 succeeding Mr. M. H. Sirisoma; he led the Department until 2001, whereupon he retired from public service. Deraniyagala's position as Director-General of the Department of Archaeology placed him at the helm of Sri Lanka's apex institution for the management of its archaeological heritage. Accordingly, he headed and coordinated several 'thrust' programmes, notably (a) formulation of a National Archaeological Policy; (b) inventorisation of sites, monuments and movable antiquities; (c) protection (notably legal) of the island's archaeological heritage, (d) its maintenance; (e) its conservation; (f) research; (g) enhancement of public awareness; and (h) vertical integration of archaeological policy planning with national planning.

The Antiquities Ordinance of Sri Lanka is the main legal document for the management of the island's archaeological heritage. It was first drawn up in 1940, and since then had defied attempts at any major amendment. Deraniyagala succeeded in this latter task in 1998 with considerable single-minded incisiveness; and it was titled the *Antiquities (Amendment) Act No. 24*. New features included the re-definition of the powers/duties of the Director-General of Archaeology; enhanced punishments for

infringing on the provisions of the act; the re-definition of the term 'monument' to explicitly include all sites other than buildings with cultural remains such as prehistoric camp sites and ancient water management systems (e.g., tanks); the inclusion of the territorial sea to come within the Act's purview; and the institution of Archaeological Impact Assessments as a compulsory prelude to certain categories of activities such as land clearing.

As required by the amended Ordinance, Deraniyagala crafted the National Archaeological Policy in the mid-1990s. This saw adoption by Parliament in 2006, by which time Deraniyagala had retired from public service, yet acted as a member of the Advisory Committee to the Director-General. It is seen as a major landmark in the history of the Department. This milestone document constitutes perhaps the only national archaeological policy in an Asian country. Deraniyagala also took the lead in formulating Codes for the practice of archaeology in Sri Lanka: for Conduct, Excavations, and the Conservation of Architecture, Wall-Paintings and Artefacts, respectively.

The *National Archaeological Policy and the Codes of Practice* is a holistic document that sets out the need for lateral integration of Sri Lanka's archaeological planning and implementation with the other major stakeholders. These include primarily Sri Lanka Council of Archaeologists, which is the professional body for safeguarding ethics and standards of archaeology in Sri Lanka, the Central Cultural Fund, the four main universities, the provincial universities and, primarily for the transfer of state-of-the-art methods and techniques in the field and in analyses, and foreign institutions. Through this mechanism, it was envisaged that the widest spectrum of Sri Lankan human resources will be brought to bear on the implementation of future projects. In addition, training has been accorded the highest priority, and, wherever considered necessary, this should see Sri Lankan archaeologists being trained to meet international standards required to make any tangible qualitative progress.

Based on the National Archaeological Policy and its requirements, Deraniyagala drew up a masterplan for its implementation, which was submitted to the Director-General of Archaeology. At the request of the Ministry for Culture and the Director-General of Archaeology he then proceeded to draw up a proposal to restructure the Department to meet the requirements of the masterplan, on short-, medium- and long-term bases. It was stressed that prioritisation was crucial for cost- and time-effective implementation of the masterplan, in this regard, assessment of the 'significance' of a site, monument or moveable antiquity was to be the basis of assigning priorities. Hence the criteria for assessing significance were explicitly set out in the National Archaeological Policy.

Sri Lanka has a proud record of high-quality prehistoric research initiated by Siran Deraniyagala that has informed global discussion. His research methodology and outstanding knowledge of survey and stratigraphic practice and excavation set the stage for subsequent professionalism in field archaeology in the country. His contributions and initiatives will undoubtedly have long-term benefits for Sri Lanka's remarkable archaeological heritage. The visionary and holistic approach of Deraniyagala in scientific inquiry gained him a reputation as a rigorous and trail-blazing scholar and as the founder of modern Sri Lankan archaeology.

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