Recent Advances in the Prehistory of South-east Asia

C.F.W. HIGHAM

THIRTY YEARS AGO, when I was seeking my first rung on a professional ladder, I asked Grahame Clark if he thought I should apply for a provincial post in England. His Delphic response was immediate: 'Higham', he said, 'do you want to be a porter or a station master?' He had recently returned from a term as visiting professor at the University of Otago in New Zealand (Figure 1), and before long I joined the diaspora of Cambridge prehistorians which in my case involved the world's most southerly university. I hope that my placement as far from Cambridge as it is possible to be did not reflect his personal preference, but one fact is undeniable: I found myself in a very large station, with tracks leading to many potential destinations.

It is difficult now to impress on a younger generation of archaeologists, the opportunities then presented as we found our feet in Australasia. There were very few departments of Archaeology and virtually no graduate programmes. Serious prehistoric research was only then gathering momentum in Australia; the Pacific was at best only sketchily documented and south-east Asia was hardly explored. My chosen route, quite by chance, took me to the mainland of Asia and by degrees, it has been possible to identify the main elements of its prehistoric past.

South-east Asia, broadly defined, includes the monsoon lands which stretch from the valley of the Yangzi River south and west to Burma (Figures 2 and 3). The present diversity of people, environments, languages, and human societies defies quick synthesis: within a matter of hours, you can leave some of the world's largest cities and enter rainforests still populated by hunter gatherers, or from a tourist hotel you can rub shoulders with the sea gypsies, who move by boat from base to camp over hundreds of leagues, living from the resources provided by the sea and coastal fringe.

There are several reasons why this area merits attention from anyone interested in world prehistory. It sustains approximately one-sixth of humanity, and was the springboard for three of the major expansionary movements in human history. The first involved the

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Figure 1. Sir Grahame Clark during his tenure of a visiting chair at the University of Otago, New Zealand.

settlement of greater Australia, the second the expansion of Austronesian-speaking people to Easter Island in one direction and Malagasy in the other. It saw the transition to rice agriculture in the Yangzi Valley, which resulted in a third expansion, involving the movement of proto-Austroasiatic speakers south to a broad tract from Guangdong to Bengal. South-east Asia then saw the development of a distinctive bronze age, it participated in the trade network which linked the Roman and Chinese empires, and produced one of the most singular civilizations known, that of Angkor.

The hunter-gatherer societies of south-east Asia have received rather a bad press. In the interior, there are numerous small rock shelters which reveal intermittent occupation over the past 40,000 years. The range of material culture is unexciting and the canopied forest habitat laced with streams did not encourage innovation. The broad spectrum gathering and hunting undertaken from such sites is best illustrated at Spirit Cave, located on a hill slope in northern Thailand. Typical of the widespread Hoabinhian tradition, it was a base for hunting and the collection of a wide range of plants. At nearby Banyan Valley Cave, rice has been recovered, but only in late contexts and according to Yen (1977), it was almost certainly a wild variety.

Such sites, however, provide only a partial picture. South-east Asia is surrounded by

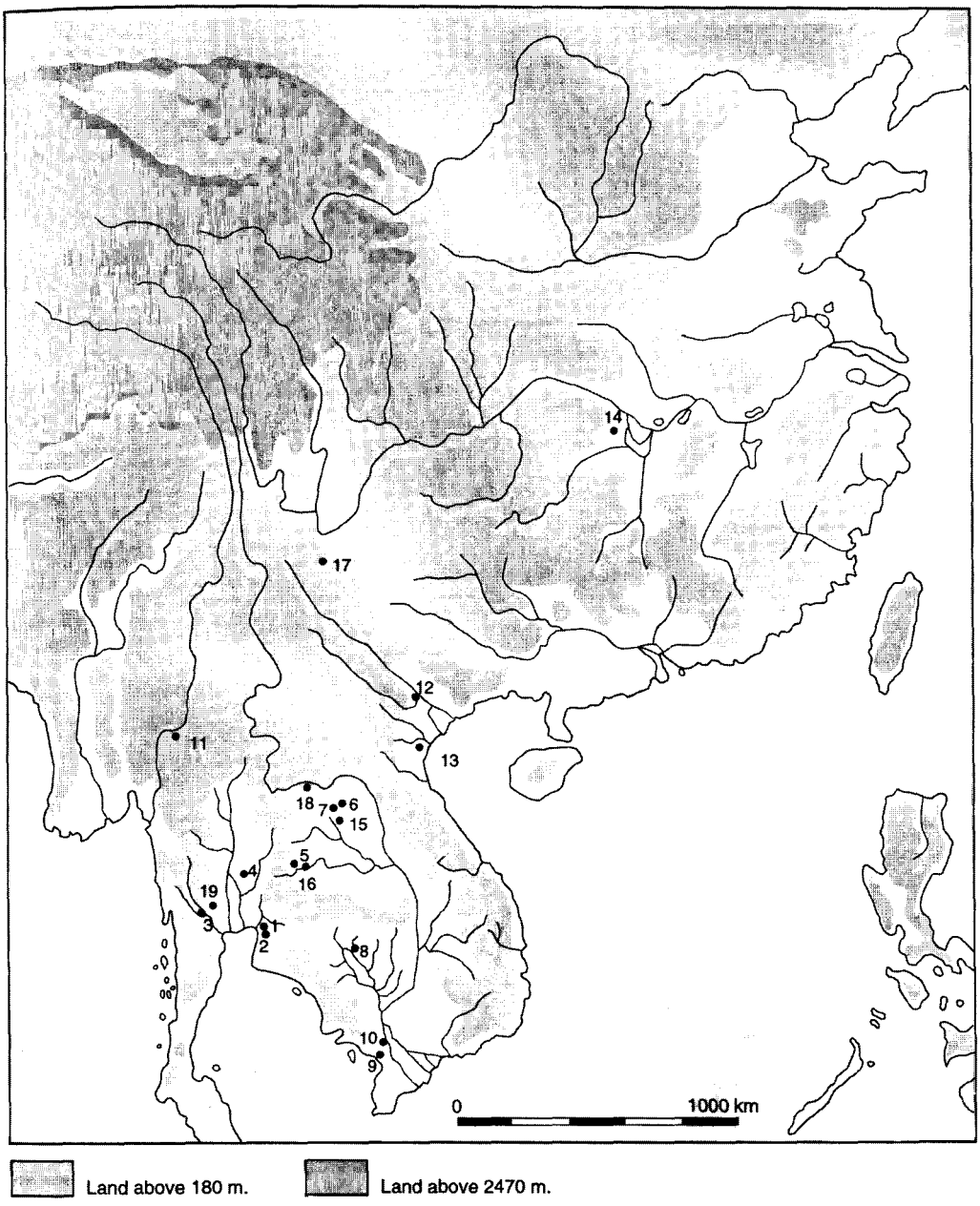

Figure 2. East and south-east Asia, showing sites mentioned in the text: 1. Khok Phanom Di; 2. Nong Nor; 3. Ban Kao; 4. Non Pa Wai; 5. Noen U-Loke, Non Muang Kao; 6. Ban Chiang; 7. Ban Phak Top; 8. Angkor; 9. Oc Eo; 10. Angkor Borei; 11. Spirit Cave, Banyan Valley Cave; 12. Phung Nguyen; 13. Dong Son; 14. Pengtoushan; 15. Ban Na Di; 16. Ban Lum Khao; 17. Shizhaishan, Lijiashan; 18. Phu Lon; 19. Ban Don Ta Phet.

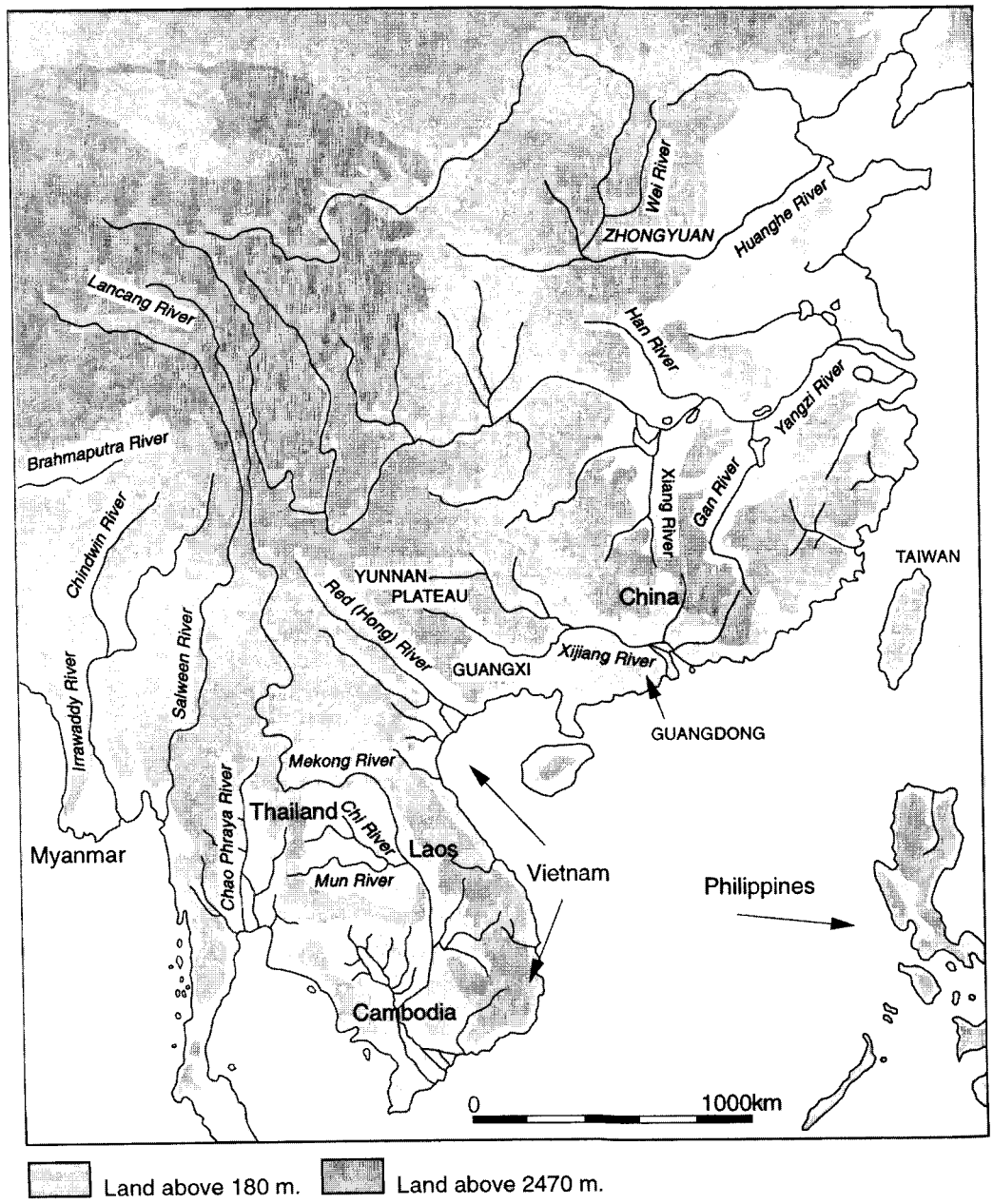

Figure 3. East and south-east Asia, showing the countries and major rivers.

broad continental shelves, and we have lost to the rising sea much evidence for the marine adaptation. From Japan to northern Australia, old shorelines formed during the Holocene high sea level, which date from about 4000 BC, harbour prehistoric settlements. While preceding sites have been drowned, two excavations behind the present Gulf of Siam have given us a glimpse of the richness and variety of such maritime hunter gatherers. Nong Nor was occupied for little more than a season, about 2500 BC (Higham & Thosarat 1998). It covers about 0.1 of a hectare, and may have harboured 30 or 40 people at most. The site was located on or very near a mangrove-fringed marine embayment, from which the occupants fished for tiger and bull sharks, eagle rays, and hunted dolphins. They collected millions of shellfish and made a variety of decorated pottery vessels as well as polished stone adzes. There is no evidence for any form of cultivated plant or domestic animal. People who could bring in some of the most ferocious sharks known must have been able sailors and this is to be expected: their ancestors crossed to Australia over 50,000 years previously.

Similar coastal settlements in south-east Asia have often been described as the 'Coastal Neolithic'. If this implies the domestication of plants or animals, then it is a serious misnomer, for no evidence for a transition to agriculture has yet been identified. The continuous heat, and low impact of seasonality conferred by proximity to the sea encourage great biological vigour, a situation which does not engender deep-seated economic innovation.

This continuity can be seen at Khok Phanom Di, located only 14 km to the north of Nong Nor. Similar pottery vessels and other items of material culture were present in the lowest layers, and again the occupants took advantage of the wealth to be found on the edge of a major estuary. On this occasion, however, settlement endured for five centuries, beginning in about 2000 BC. Rachanie Thosarat and I excavated this site in 1985, and we are still discovering new aspects of the kaleidoscopic set of variables which come from the cultural and biological remains. The occupants lived in one of the world's richest habitats, the tropical estuary. Its wealth in terms of biological vigour had a darker side: the environment was subject to change, which at times could be rapid and unpredictable. It was also, we think, shared with malarial mosquitoes. This site was, nevertheless, occupied through five centuries of change, and we can trace how the successive generations adapted. They began living near or within a mangrove belt backed by saline flats, collected shellfish from the mudflats and fished in the estuary and open sea beyond. Somehow, they obtained rice, but not, we think, through local cultivation for the environment was not supportive. By degrees, the mound accumulated and the dead were interred in tight clusters. The forest of post-holes surrounding groups of graves, and complementary distribution of shellfish deposits, suggest communal mortuary structures. Locally made pots of considerable beauty were placed with the dead, along with shell and fish-bone jewellery. Within an asbestos shroud, the bodies were laid out on wooden biers. We find that men, women, children, and infants, many infants, were grouped together in death. With time, the dead accumulated over their predecessors until the cemetery reached a depth of 5 m. By tracing genetically determined skeletal characteristics, and one day we hope, the sequencing

of DNA, it seems that these people were related. We can count about 17 generations (Higham & Bannanurag 1990).

At first, there was very high infant mortality. The people suffered from anaemia linked to a haemoglobinopathy such as thalassaemia. Men, however, had robust upper body musculature associated perhaps with seafaring. By the fourth mortuary phase, freshwater lakes had formed near the site, men became weaker physically and we find shell-harvesting knives and granite hoes. We think that people began cultivating rice, but not for long: soon saline conditions returned, and artefacts indicating cultivation ceased to be found. Yet we find a burst of mortuary wealth associated with new exotic goods, as if exchange relationships intensified. We think that women made the pots which could have been fed into an exchange network, certainly some women were buried with extraordinary mortuary finery, including in one case over 120,000 shell beads (Figure 4). It was also at this period that a woman was interred within a rectangular mortuary structure featuring clay wall foundations and a plastered clay floor. In front of her tomb lay a row of less wealthy burials which included men, women, children, and two newly-born infants, probably twins, entwined in a single grave.

Given his lifelong dedication to the European Mesolithic, Grahame Clark showed considerable interest in Khok Phanom Di, and encouraged the Society of Antiquaries of London to publish the seven-volume report in its Research Report series.

As these coastal communities continued in their time-honoured way, major changes had already occurred in the middle Yangzi Valley which were to influence the course of prehistory over a very considerable area. At about the same time as in the Levant, and perhaps influenced by the same climatic changes centred on the Younger Dryas period, we find the establishment of settled villages such as Pengtoushan, in which rice was prominent in the diet (Yan Wenming 1991). In my view, one of the most interesting recent departures in Old World prehistory has been the proposed link between the expansion of agriculturists and the dispersal of related languages. I do not wish to enter the debate on the Indo-European languages, but in east and south-east Asia, two linguists have proposed that Austronesian and Austroasiatic languages share in the Austric phylum, a common origin (Reid 1993; Blust 1996). They have placed the Austric homeland in the Yangzi Valley. Austroasiatic languages are distributed from eastern India to southern China, and include languages spoken in Vietnam, Cambodia, Thailand, and Burma. Robert Blust has suggested that they were brought into south-east Asia by expansive rice farmers. Going a stage further, Peter Bellwood (1993) has further proposed that the people in question were southern Mongoloid.

If the climatic vagaries and extensive marshland bordering the Yangzi conspired to favour the transition to agriculture, the hot monsoonal lowlands of the Mekong, Chao Phraya, and Red River basins were receptive to intrusive settlement by farmers. I am reminded of the distribution of Danubian 1 settlement in the European loess which Grahame Clark used to show his undergraduates. Many south-east Asian agricultural settlements have been excavated, and we have the image of small, segmentary communities, cutting

Figure 4. Burial 15 at Khok Phanom Di included over 120,000 shell beads, and illustrates the wealth of this coastal hunter-gatherer community.

back the forest in the margins of tributary streams, planting out some rice, and, to judge from the faunal remains, eating virtually anything that moved, from elephant, rhinoceros, and crocodile to a host of fish and shellfish species. These people introduced the domestic dog, descended from the Chinese wolf, and herded cattle and pigs.

In the lower Red River Valley above Hanoi, we encounter a network of sites ascribed to the Phung Nguyen culture (Ha Van Tan 1980). The well-watered Sakhon Nakhon Basin of north-east Thailand bore witness to early agricultural settlement at Ban Phak Top and Ban Chiang (Gorman & Charoenwongsa 1976; Schauffler 1976; Bannanurag & Bamrungwongse 1991). In central Thailand, the excavations of Ban Kao and Non Pa Wai have revealed the establishment of Neolithic communities. In each of these areas, it would

be hard to argue in favour of initial settlement before the later third millennium BC. This date also applies to the early establishment of rice farming in eastern India (Glover & Higham 1996).

This new departure in south-east Asia prehistory with its widespread manifestation and initial settlement of the inland tributary river margins, it is argued, best explains the widespread distribution of Austroasiatic languages. Blust has suggested that the speakers of proto-Vietnamese languages travelled down the Red River, while proto-Khmer speakers used the Mekong, proto-Mon the Chao Phraya and Salween, and proto-Munda speakers, the Brahmaputra. This implies that the upper Yangzi region was the hub or centre of dispersal. While still speculative, this model best harmonizes with the available evidence.

Some time after 1500 BC, these people began to smelt and cast copper and tin, and alloy the two metals into bronze. We do not know yet whether this technique developed locally, or was introduced through the system of exchange in goods and ideas which linked the Yangzi homeland with Lingnan and Vietnam. The recovery of Chinese jades in late Neolithic burials in Vietnam and southern China certainly indicates a form of contact linking the two regions. Whichever the case, south-east Asia sustained a bronze age which, over a millennium, displays individuality in its techniques and the items cast. We can now trace the stages in this industry, from the mines to the processing floor, from the smelting furnace to the ingot moulds. In the production centres, there is some evidence that activity was seasonal, continuing over many centuries. Non Pa Wai and Phu Lon are mining centres, where the copper was concentrated and cast into ingots and a variety of implements or ornaments (White & Pigott 1996). Most finished artefacts at the former were cast from unalloyed copper, while the ingots must presumably have entered pre-existing exchange systems. At villages remote from the mines, such as Ban Na Di, we can pick up the story: ingots of copper and tin were mixed and brought to melting point in small clay furnaces, then cast into bivalve sandstone moulds into axes, spears, or arrowheads, or by using the lost wax technique and clay moulds, into ornaments.

Sites like Ban Na Di, Nong Nor in its second phase, Ban Chiang, and Ban Lum Khao reveal intimate details of the mortuary ritual and way of life of these bronze age communities. They displayed an interest in ornaments made of exotic substances: slate, marble, carnelian, nephrite, talc, serpentine, marine shell, and tin and copper as well as bronze. Pottery vessels and parts of animals, perhaps sacrificial in origin, were invariably included in mortuary rituals. When sufficient areas are exposed, we find that some groups of individuals were somewhat richer than others; there may have been some competitive ranking, but it was not marked. Bronzes were always relatively rare, and not associated with people otherwise rich in terms of mortuary offerings. At Ban Lum Khao, not one of 110 graves included a bronze grave good, and in no other site are more than one in five graves accompanied by bronzes.

From 500 BC, there were a series of deep and pervasive changes. Iron was smelted, and forged into ornaments, tools, and weapons. South-east Asia became a vital component of an exchange network which linked the Roman and Chinese empires. The Han Empire

bore down on the defeated state of Chu in the Yangzi Valley, and in an imperial expansion no less dramatic in its consequences than in Europe under the Caesars, absorbed south-east Asian chiefdoms up to the Truong Son Cordillera. In Yunnan and Vietnam, we can appreciate the vigour of such chiefdoms through the cemeteries of the Dian and Dong Son cultures. The mastery of bronze casting, exemplary evidence for warfare, ritual, feasting, the chase, and accumulation of exotic valuables and the wealth of certain individuals provide one of the best reflections of a chiefdom known. At Shizhaishan and Lijiashan in Yunnan, royal tomb furniture included exquisite models of houses and scenes of ritual, feasting, warfare, and the chase. The Dong Son drums from northern Vietnam likewise reveal in their decoration, opulent warrior aristocrats directing operations from war pirogues. We can admire the plumed warriors and the decorated weaponry with which they were interred, often in sealed wooden boat coffins. It is intriguing to speculate what such societies might have become had they not been enveloped by the homogenizing hand of Han imperialism.

South of the Fortress of the Sky, as the Han described the Truong Son range, we encounter contemporary trends to complexity without quite the same degree of emphasis on warfare. At Ban Don Ta Phet, Ian Glover has uncovered a most important Iron Age cemetery (Glover 1989; 1996). Again, we encounter rich graves containing exotic valuables, such as carnelian, nephrite, glass, and agate ornaments. And once more, we find a surge in the local production of masterpieces in bronze. At this site, there was a special emphasis on high tin bronze bowls bearing languid scenes of animals, plants, and elaborately coiffured women. One particular ornament, a carnelian lion, stands out as an early representation of the Buddha. Radiocarbon dates suggest a date early in the fourth century BC for this, the earliest indication of new religious currents which were soon to dominate.

The Mun Valley during this period saw an extraordinary rash of large settlements ringed by earthworks. We are now in the midst of investigating such a site at Noen U-Loke, and our first season revealed a mortuary sequence divided into five phases all covering the Iron Age from about 300 BC to AD 400. The burial ritual changed with time. The earliest grave incorporated bronze torcs, tiger teeth pendants, an iron spearhead and two of bronze, and pottery vessels containing fish. Later, we found that people were partially cremated in beds of burning rice, along with glass, agate and carnelian beads, bronze bells, and ornaments. One individual was buried with more bronze artefacts than have come from the entire assemblage of hundreds of preceding bronze age graves: three belts, about 150 bangles, finger and toe rings, and silver earcoils bearing gold foil. Burial 113 included a necklace of 66 gold beads, as well as many fashioned from agate and glass (Figure 5). These people of Noen U-Loke represent the societies which were to establish, in due course, the early civilizations of south-east Asia. At the nearby site of Non Muang Kao, elaboration of the mortuary ritual during this period is seen in the provision of clay-lined and lidded graves.

Many states developed from about AD 200. The earliest is found in the deltaic plains of the lower Mekong, where Oc Eo has long been known, while Miriam Stark is currently

Figure 5. The Iron Age cemetery of Neon U-Loke included many very rich burials. This person was interred with a necklace incorporating gold, agate, and glass beads.

excavating at the 1100 ha walled city of Angkor Borei. The state of Dvaravati developed in central Thailand, that of Angkor in Cambodia and the adjacent Mun Valley in Thailand. The Cham state was found on the coastal plain of Vietnam. All have in common the selective adoption by local overlords of exotic Hindu or Buddhist religions, the Sanskrit or Pali languages, and the notion of the divine ruler. All were sustained by that most responsive of plants, rice. Rice today is the staple for half of humanity. This, alone, surely gives south-east Asia a prominent place in any consideration of human prehistory.

Some years ago, Grahame Clark was the prime mover in urging the British Academy to encourage research in south-east Asia. First taking the form of a physical presence, and later as a committee charged to disburse research funds, this initiative has seen the expansion of British activity in this vital region. Throughout my 30 years of research in south-

east Asia, I have been regularly in touch with Sir Grahame and his responses have always been full of interest and incisive advice. Few have commanded his capacity to identify the significant and set a course for research.

No one has covered more miles than I to attend this day of celebration for his career, for to travel further would be to start my return journey to New Zealand. Grahame would have delighted in the irony that on this very day, the All Blacks are playing England but the sacrifice of not watching is willingly made in order to salute the memory of Sir Grahame Clark, teacher, mentor, friend.

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ential theoretical models proposed by American anthropologist Julian Steward and others as the new cultural ecology. Clark was a pioneer in the teaching of world prehistory. He trained a whole generation of Cambridge graduates whom he encouraged to work in distant parts of the world. Some of them eventually moved to the United States, bringing his anthropological and ecological approach with them. Grahame Clark's most influential book was *World Prehistory* (1961), which provided the first synthesis that incorporated both New and Old World archaeology into a single global whole. This work, over three editions, provided the conceptual basis for the much more sophisticated world archaeology of today and the inspiration for important comparative studies of early civilizations.

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Recent Advances in the Prehistory of South-east Asia

Prehistoric archaeology in south-east Asia has often lagged behind that of other regions because of its terrain, languages, and politics. Yet the record of human diversity and achievement in colonization, subsistence, and metallurgy is now exceptionally well-documented through a series of multidisciplinary projects. The paper presents an overview of recent field studies and notes the encouragement given by Grahame Clark to south-east Asian archaeology.

LARS LARSSON

Settlement and Palaeoecology in the Scandinavian Mesolithic

Professor Grahame Clark devoted special interest to the Scandinavian Mesolithic, and his research in the area was to serve as a model for several generations of Mesolithic scholars in northern Europe and an encouragement to extend the forms of analysis. The aim of this paper is to follow up certain themes that Grahame Clark considered to be of particular interest, and also to add information from some current research efforts.

As regards the transition Late Palaeolithic–Mesolithic, important new investigations have given us a better knowledge of the deglaciation phase and have also shown that the Ahrensburg culture had a previously unrecognized spread along the west coast of Scandinavia, and it is in connection with this that we can trace the material change to a typical Mesolithic context.

Investigations in marine archaeology in recent years have given us some, albeit fragmentary, knowledge of submerged coastal settlement in southern Scandinavia in the Early Mesolithic. Work on the bottom of Öresund, the sound between present-day eastern Denmark and southern Sweden, shows how extensive this coastal settlement was. The results mean that we must reconsider earlier models of the relation between coastal and inland settlement.