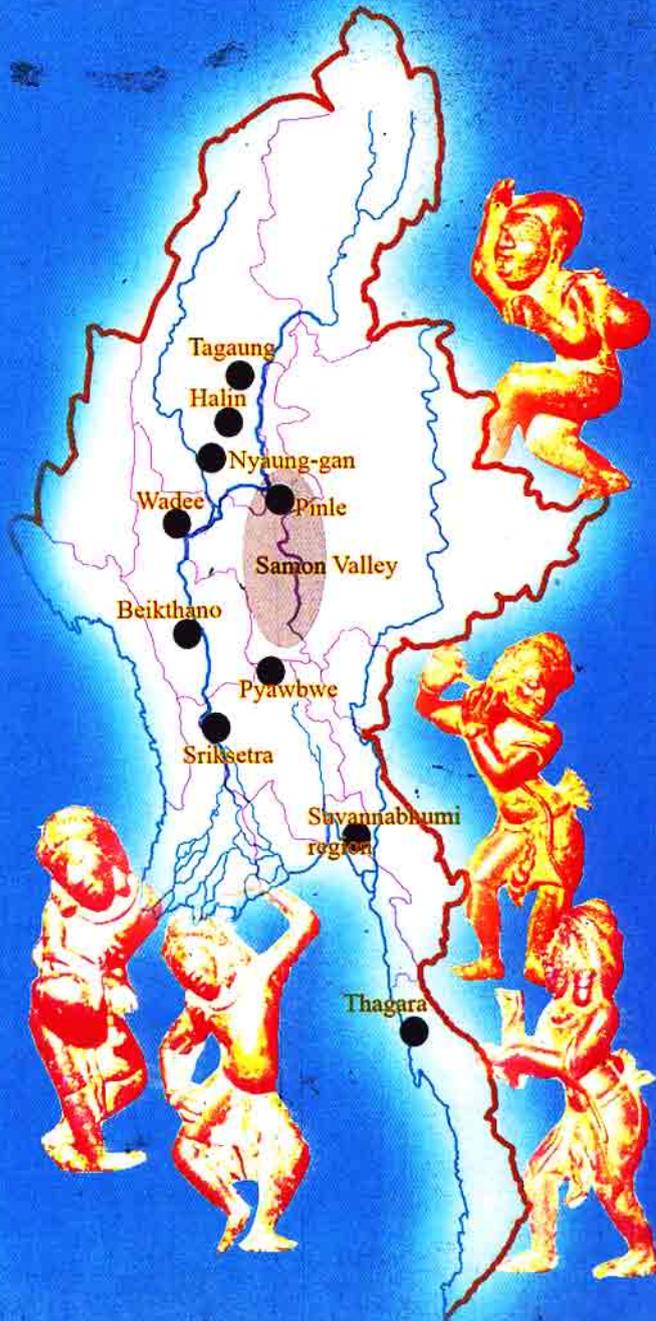




The Pyu Landscape: Collected Articles
by
Elizabeth Howard Moore



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by

ELIZABETH HOWARD MOORE

Myanmar Archaeological Publication Series

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PREFACE

The articles in this volume were made possible by the many Ministry of Culture scholars with whom I have studied and travelled to ancient sites in Myanmar. Their keen awareness and enthusiasm for archaeology has attuned my eyes and thoughts over the years. I am gratified to be able to acknowledge and thank the Minister and his Staff, and the many individuals. In bringing forth this volume, I am also appreciative of the permission given by the various publications in which these articles first appeared. The ready welcome given to collaborative publications in English by the Ministry of Culture has helped greatly to add momentum to the completion of this book.

My first trip to Myanmar was as an independent scholar coming to see the acknowledgement in the Judson Chapel to my missionary grandfather, Dr. Randolph Lee Howard, who taught philosophy and logic at Judson College from 1913-1927. My cooperation with the Ministry of Culture began in 1989 with donation of aerial photographs from the World War II archive of the Williams-Hunt Collection (SOAS) to the then-combined post of Director-General for and Archaeology and Archives. Following an introduction by Dr. U Thaw Kaung, the early 1990s articles written with U Aung Myint (Forestry, rtd) began an investigation of the walled sites and culture of the Pyu which is still ongoing. Through U Aung Myint, I was able to meet U Maung Maung Htin and his pupil U Win Maung (Tampawaddy) who contributed much on these studies. With the help of Ma San San Maw, Librarian with the Department of Archaeology, I spent long hours sifting through earlier archives, publications and the artefacts in the small museum at the Yangon office. U San Win, later Director General of Archaeology, was also working at Yangon office and kindly introduced me to the department epigraphist U Sein Maung Oo. The hiatus in Pyu publications during the 1990s was due to research on the later periods of Myanmar art, the *hintha* and *kinnari* motifs with Ma San San Maw and well as the Mandalay Palace reconstruction through the staff of the Mandalay Branch.

12. Ancient Knowledge and the use of landscape: Walled settlements in Lower Myanmar	269
13. The Gold Coast: <i>Suvannabhumi?</i> Lower Myanmar Walled Sites of the First Millennium A.D.', with San Win.	289
14. Early Walled Sites of Dawei: Thagara and Mokti, with Than Swe (Dawei)	321
15. Place and space in early Burma: a new look at 'Pyu Culture'	343

APPENDICES

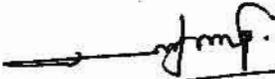
Bio Data of Author	369
Acknowledgement of original place of publication	370
Index	372

FOREWORD

The articles brought together in *The Pyu landscape: collected articles* by Elizabeth Howard Moore reflect the long-term cooperation of the Ministry of Culture, Department of Archaeology, National Museum and Library with international scholars on one of the most significant aspects of our heritage, the origins of our Buddhist culture.

The articles are arranged topically according to archaeological aspects from the Bronze Age to the urbanization and artefacts of the Myanmar peoples of the first millennium CE. They move from Tagaung in the north of the country to the southern coastal region site of Thagara, showing many local adaptations in the early Buddhist kingdoms. All have been written in conjunction with scholars from this department and others who have carried out research and travelled with the author to document the sites on the ground.

I have great pleasure in commending our publication bringing the articles together.



U Kyaw Hsan

Union Minister of Ministry of Culture

February 2012

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February, 2012

TABLE OF CONTENTS

Foreword	v
Preface	vii
1. Nyaung-gan: A Preliminary Note on a Bronze Age Cemetery near Mandalay, Myanmar (Burma), with Pauk Pauk	1
2. Myanmar bronzes and the Dian cultures of Yunnan	17
3. Pyawbwe and Tagaung: Ethnicity and ritual change in the pre-Bagan landscape of Myanmar	35
4. Myanmar archaeology: Tagaung and the Pyu	65
5. Bronze and Iron Age Sites in Upper Myanmar Chindwin, Samon, and Pyu	81
6. Change in the landscape of first millennium AD Myanmar, with Win Maung (Tampawaddy)	101
7. Finger-marked designs on ancient bricks in Myanmar, with Aung Myint.	125
8. Beads of Myanmar (Burma): line decorated beads amongst the Pyu and Chin, with Aung Myint.	153
9. Interpreting Pyu material culture: Royal chronologies and finger-marked bricks	193
10. The Early Buddhist Archaeology of Myanmar: Tagaung, Thagara, and the Mon-Pyu dichotomy.	231
11. Archaeology of the Shan Plateau, the Bronze to Buddhist Transition	247

After the 1998 discovery of the Bronze Age site of Nyaung-gan a new era and set of questions entered, reflected in the articles on Nyaung-gan, a survey of Bronze-iron and Pyu sites in along the Chindwin and Samon River valleys and comparison of artefacts with Yunnan. In these, I discuss links between the Bronze-Iron artefacts and the already sophisticated and at times contemporary material culture of the early walled cities of the Pyu. While future exploration may revise my view, I suggest in these articles how the turn from Yunnan to South Asia with the rise of enclosed Buddhist communities mitigates against cultural stability. In later articles, I elaborate on the growing prehistoric evidence at Halin where the debate on occupational versus cultural continuity is taken up again. New material in the south is also brought into later articles, including the polished stone tool and ring assemblage from Mayangon near Thaton as well as the stone implements around Dawei. Both underline how questions of ethnicity and cultural identification underlie but can also obscure understanding of the prehistoric occupation of Upper and Lower Myanmar.

Exploration of these issues has formed part of many dialogues with scholars from the Ministry of Culture over the years of exploring the sites in these articles. These include informal discussions at Branch offices in Tagaung, Mandalay, Pyay, Bagan, Taungdwingyi and Bago on various occasions, on the rescue excavations at Tagaung with U Chit San Win and at the Tagaung site museum with Daw Sanda Khin. Subsequent discovery by U Thein Lwin of a seated bronze image of the Buddha at Beikthano and the further exploration of Sriksetra through the Field Archaeology Training School staff at Pyay all highlighted the many ways that religious and royal norms from South Asia to were tailored local geographies and social circumstances.

During these years, I was introduced to Daw Nanda Hmun, Daw Nu Mra Zan, Ma Htay Htay Swe and U Kyaw Win (Manotha) with whom I learned much about the arts, artefacts and anthropology related to my various studies. From 2004, I have had the opportunity to work with staff from the Department of Archaeology, Historical Research Department, and Myanmar Historical Commission at sites in the Mon State and around Dawei, Tanintharyi Province. I particularly thank U Than Swe (Dawei) and U San Win for their exchanges about walled settlements in Lower Myanmar. My thanks also go to U Kyaw Myo Win, U Myint Aung, U San Win and staff in Naw Pyi Taw for the many occasions they have worked together and also facilitated travel. The specifics of the early Buddhist cultures at Mon and Tanintharyi sites again underlines how multiple polities in Upper and Lower Myanmar transmitted ideas and material culture via inland and maritime trade routes. These discussions, as well as a brief survey of the rise of Buddhist culture on the Shan Plateau, underlie the articles of the last five years.

The publication of *The Pyu Landscape* recalls new issues of the last two decades that in turn has raised questions on the relationship of early and later phases of the nascent Buddhist kingdoms not only to prehistory and Bagan but to each other. While at one time, it was thought that the early

Buddhist polities formed a habitation and cultural sequence, new discoveries have shown the contemporaneity and multi-period occupation of sites in both Upper and Lower Myanmar. Comparison of artefacts and the availability of more absolute dating and stratigraphic sequences has clarified a wealth of regional societies, each reflecting the local ecology, topography and interchange with surrounding cultural areas. Archaeology has been at the heart of obtaining first-hand evidence of the multiple groups along and south of the Ayeyarwaddy, all of which has widened and changed our definitions of 'Pyu' civilization. As emphasized in the final article of this volume, new research allows us to move beyond a simple 'Mon-Pyu' dichotomy to define Myanmar's early Buddhist traditions. *The Pyu Landscape* includes many types of peoples, with their rich variation at the heart of the country's Buddhist culture today.



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February 2012

1917 Yang-gang Preliminary Notes
on a Bronze Age Cemetery
near Mandalay,
Myanmar (Burma), with Pauk Pauk

Nyaung-gan : A Preliminary Note on a Bronze Age Cemetery near Mandalay, Myanmar (Burma)

ELIZABETH MOORE AND PAUK PAUK

There is no dated Bronze Age material from Myanmar and the distribution of Bronze Age sites remains virtually unexplored. Even nonprovenienced bronze tools are rare in comparison to the abundance of lithic material (Morris 1938). Given the country's wealth of nonferrous ore deposits, a long sequence of prehistoric metallurgy is a reasonable expectation.

In January and February 1998, the Department of Archaeology, Ministry of Culture, carried out preliminary excavations south of Nyaung-gan Village, 120 km northwest of Mandalay. Four pits yielded a series of inhumation burials. Ceramic vessels comprised the predominant grave goods, and some large pots were possibly secondary burial urns. Bronze tools but not ornaments were found on some of the skeletons. Freshwater shells were also present. Stone artifacts included rings, beads, and tools. No iron was recovered, although six lead rolls were among the surface finds.

The site, in the country's arid zone, is located on the edge of a crater, one of a line of volcanoes spanning the Chindwin River. The area, traditionally known as *Tampadipa* or "land of copper" has abundant copper deposits. The Nyaung-gan cemetery is presented here as a Bronze Age site, and the finds are discussed in relation to material from both earlier and later periods. The bronze, stone, and ceramic goods from Nyaung-gan provide provenienced and typologically specific assemblages to begin to inform us about the mortuary culture of Bronze Age Myanmar.

THE SITE AND ITS SETTING

The Nyaung-gan cemetery site lies 107 m above sea level at 95°04'0E, 22°24'N (Fig. 1). It covers some 75 by 180 m, and is 2.4 km southwest of Ywatha Village in the Nyaung-gan Village tract (Ni Ni Myint 1998). Nyaung-gan Village takes its name from the Nyaung, one of the many species of *Ficus* or banyan tree and is situated in Budalin Township, Sagaing division, Lower Chindwin district. The area is bounded to the west and south by the Chindwin River and the Pondaung- Ponnayadaung ranges; to the east by the Mu and Irrawaddy rivers (*Burma Gazetteer* 1912 : 1). The

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Fig. 1. The Nyaung-gan crater and surrounding villages of Nyaung-gan, Ywatha, and Ok-aing. Ya Thae Kon is seen south of Ok-aing and further to the southwest, the edge of the Twindaung crater. Courtesy Office of Strategic Studies.

Chindwin is navigable for some 400 km north from the site, while the Irrawaddy is navigable year round to Bhamo (Penzer 1922 : 3-4).

Rainfall in the region is low, averaging 675 mm per annum, virtually all of it falling between May and October. Between November and March there is seldom more than 1.3 cm of rain. This regime mirrors that of Pagan, Myingan division (*Burma Gazetteer* 1924 : 13, 1925 : 12). The soil is light alluvial, with groundnuts and other oil crops such as sesame (*Burma Gazetteer* 1912 : 78). Many fields of sunflowers are seen today, and in the area around Nyaung-gan, numerous bananas. The zone is also planted with millet, particularly suited to the light soil and arid conditions (Dobby 1950 : 170).

The cemetery south of the village is on the edge of a shallow explosion-crater without a lake and is in the same line as the crater of Twin, east of the Chindwin (*Burma Gazetteer* 1912 : 215). The Nyaung-gan crater is the most northerly of a line of volcanoes aligned southwest to northeast described as late Cenozoic (Hutchison 1989 : 225; Stephenson and Marshall 1984). The formation has long been noted, with early twentieth-century reports describing eleven craters, a ridge of volcanic rock crossing the Shwezaye defile of the Chindwin River, and two located near Ok-aing, south of Nyaung-gan (*Burma Gazetteer* 1912 : 8).

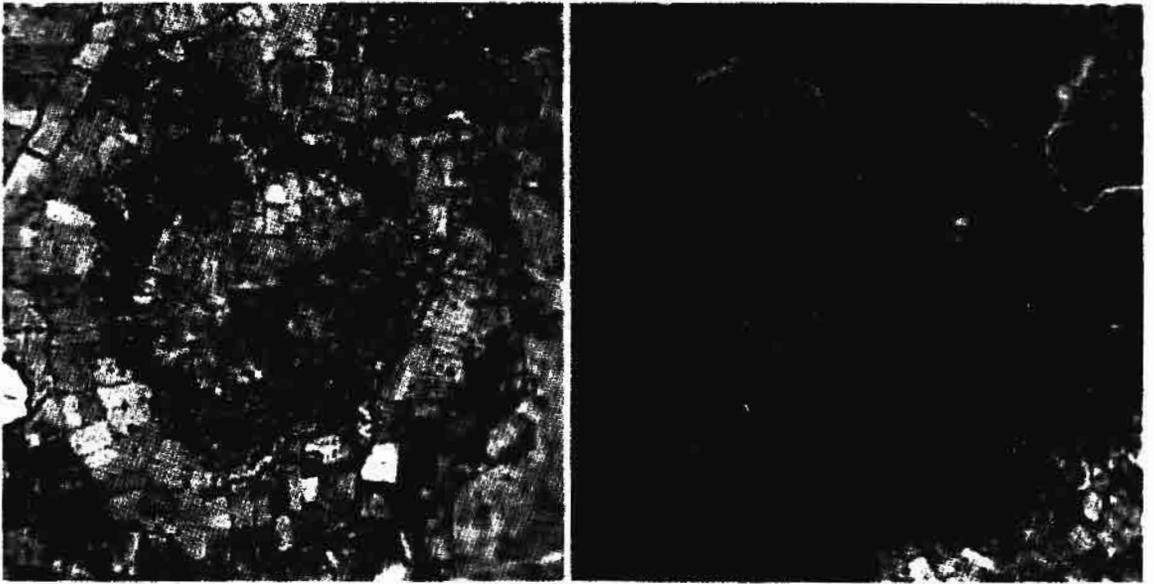


Fig. 2. Comparison of Nyaung-gan crater (left) and Twindaung (right). Courtesy Office of Strategic Studies.

The nearest crater to the site, Twindaung, has a diameter of just over a kilometer, similar to Nyaung-gan (Fig. 2). However, the Twindaung peak is higher and the crater deeper than Nyaung-gan. Twindaung reaches a height of 229 m, falling to 68 m at lake level, with the lake another 30 m deep. In comparison, Nyaung-gan drops only some 50 m from crest to crater floor. The green water of the Twindaung crater is caused by sulphate of soda. The *twin-po* insect found in the lake is dried and used as a condiment in pickled tea. The micro-algae *Spirulina* is marketed as a food supplement. The other three craters, Taungbyauk, Twindaung to the west, and Leshe, are on the opposite bank of the Chindwin, south of Yama Chaung Creek. They appear to have broken out along the Chindwin Valley, perhaps accounting for the narrowing of the river channel at this point (Chhibber 1927 : 173). All are sited within areas of volcanic ash and tuff. The main rock types are olivine basalt, hornblende-augite andesite, with some quartz diorite, and, especially at Twindaung, pyroxenite.

On the opposite bank of the Chindwin, west of Monywa and south of the Yama Chaung, are three significant porphyry copper deposits: Sabedaung, Kyesindaung, and Letpadaung. These are in Pliocene-Quaternary intrusive formations, acid rocks in contrast to the basic craters to the north (Chhibber 1934, fig.5; Hutchison 1996: 156). Late nineteenth-century accounts mention the remains of an old copper mine at Letpadaung (Jones 1887 : 176). Along the bank of the Chindwin, near Kyaukmyet, there are a number of domed chambers, spaced about 30 ft apart. They are not vented, making use of the sloping riverbank for an updraft. Villagers say these kilns were used for lime, although lime kilns are normally two-chambered with a vent. Slightly inland around Kyesindaung there are shafts about 1 m in diameter, with highly vitrified interiors. Villagers are currently resmelting the refractory lining of these kilns to obtain copper.

Ancient smelting may have been carried out using copper-bearing rock ore with or without pre-treatment. Traditional methods for both types of production may be seen today. In the Tampawaddy



Fig. 3. The cemetery site shown in relation to Nan Oo Hpaya pagoda, the enclosed area of Thein Yin Yazagyo, and the Paw Daw Mu Hpay a pagoda. Courtesy Office of Strategic Studies.

quarter of Mandalay, crushed ore is placed above layers of charcoal. Bellows force air into the chamber and a pool of copper forms on the bottom of the crucible.¹ Alternatively, the porphyritic copper-bearing stones may have first been crushed, panned, and then placed in a solution. Crystals form on the surface, which are then baked. This increases the copper content from the natural level of 7 percent to some 25 percent, and is easily smelted. The value of the porphyritic copper sulphate deposits of Kyesindaung has long been recognized, with the word *dhota* or sulphate being part of a traditional honoring accorded to the king (e.g., Maung Tin 1914).

THE CEMETERY AND SURROUNDING AREA

The cemetery is located on a flattened spur, linked to Nan Oo Hpaya (pagoda) to form a U-shaped ridge on the northwest rim of Nyaung-gan crater (Fig. 3). On the cemetery plateau, drainage has created a steep gully, now the northwest boundary of the site.² The Nan Oo Hpaya ridge is to the east. On its highest point is a *zayat* (pavilion) dedicated to Shin Ma Chauk (Lady of the Precipice). She is said to favor red roses and has an April festival. Her story is linked to her husband Na Ga Dha Tha, a king who first came to Twindaung, and then retreated to Thein Yin Yazagyo ("hiding place"). Remains of a brick wall (107 by 122 m) enclose Thein Yin Yazagyo, on the northwest end of the Nan Oo ridge. Although the Department of Archaeology dug test pits at Thein Yin Yazagyo, only Konbaung period (eighteenth–nineteenth century A.D.) pottery was recovered. Thein Yin Yazagyo's pagoda, Paw Daw Mu Hpaya, to the northeast, has a *zayat*, but it is a rest house not a spirit shrine like Shin Ma Chauk's. The straight northern rim with the Paw Daw Mu ridge differs from the curving west part of the crater where Nan Oo and the cemetery are found. The two parts may reflect different phases of volcanic activity, and a similar pattern is seen southeast of Twindaung.

There are a number of wells on the crater floor and abundant stone materials, both resources that would have enhanced its attraction for ancient occupation. The ground water in the southern part of the crater interior is higher than in the northwest where the cemetery is located. A garden

well in the south portion of the crater bottom reached water at 1.2 m, although the well was dug to 5.9 m. The owners haul water manually, and said the well had water year round. A second well, in the northwest part of the crater floor, was dug through 10.4 m of sand and 1.8 m of clay to a depth of 12.2 m, but bedrock was not reached. This well can be pumped for a few hours only before running dry—however, the water always refills.

West of the cemetery to Ok-aing Village, the land is flat. Fields south of Okaing are known as Ya Thae Kon, the “mound of the forest-dwelling ascetic.” The area is dry, located north of the streams off Twindaung and south of those draining west to the Chindwin. It is the low point between the Nyaung-gan and Twindaung craters. Villagers speak of it as an ancient village where stone tools and rings were produced. There are a number of basaltic boulders over a meter high. Apart from these, the ground is flat, with few elevated portions to explain the name *kon* or mound.

Cultivation leading to erosion of the cemetery site by a villager, Chit Hlaing, has flattened the ridge and exacerbated the slope while gradually exposing the cemetery. Now sixty-four years old, Chit Hlaing came to Nyaung-gan at fourteen, having been born in Mandalay, where his father was an ironmonger. He married a local woman, and as she did not have fields, he was forced to find vacant land. The cemetery area had not, in local recollection, been cultivated before. Chit Hlaing cleared it of trees and leveled it. In the rainy season, and in some years, he began to find prehistoric tools. The first two were a halberd, similar to one recovered during excavation, and a large paddle-shaped bronze axe. When he uncovered the first skeleton, he grew afraid, and felt the skeleton was laughing at him. He quietly kept the tools in his home, not even cleaning them. Other villagers knew of his finds, but none found similar pieces. Around 1996, a carpenter in the village who had been apprenticed to a traditional architect, Win Maung of Tanpawaddy, mentioned Chit Hlaing’s collection. Win Maung visited Chit Hlaing many times, finding him at first fearful to talk about the site, but then relieved to recount his troubling finds. Thus, prior to the preliminary excavations of the Department of Archaeology, objects had been recovered and an unknown amount of overburden removed. As a result, many burials, particularly those on the lower slope of the cemetery plateau, were virtually at surface level.

The Excavation Pits

Four pits totalling nearly 400 sq m were excavated: SE pit, 8.2 by 24.3 m with 23 burial features; M pit, 7.3 by 12.1 m, with 5 features; NW pit, 5.5 by 10.7 m, with 15 features; and NE pit, 4.6 by 7.0 m, with 2 features. Finds include pottery, human and animal bones, stone and bronze tools. The majority of bronzes also come from the SE pit, which had a concentration of bronzes in the middle section of the pit. There were also 88 small shell beads recovered, and 1 freshwater bivalve shell.

Many questions await further study. These include the contents of different types of pots, the stratigraphic and chronological relationship of overlapping burials and pots, and the presence of additional bronze and stone artifacts on burials only partially exposed.

Stone Rings and Pounders

The types of stone rings found around Nyaung-gan and Ok-aing area have traditionally been associated with a nonmetal-using Neolithic period. They are not regarded as Pyu artifacts, although they have been recovered at Halin. However, there are stone rings from Taungthaman, near Arnapura, where iron is also reported. Rings have been found at many sites in the Central Zone divi-

sions of Mandalay, Sagaing, and Magwe. Further research and excavation are needed to see if there are sites with inhumation burials, stone rings, and tools but no metal.

While the Nyaung-gan rings all are stone, their shape varies to include circular, triangular, and ovoid examples. The hole is always a perfect circle, although not always centered. Several were drilled with holes for repair. Most stone rings from sites in Thailand are also circular, repairs indicating that they, too, were highly valued. However, they are more often circular and flanged. At Ban Chiang, northeast Thailand, both bronze and stone bangles are reported for the Middle period (c. 1000–300 B.C.), some with holes (e.g., Labbe' 1985 : 39; White 1982 : 39). At the nearby first millennium B.C. site of Ban Na Di, nine complete or partial stone bracelets were found, principally in the earlier phases of the site where bronze was rare. Initially dated 900–100 B.C., this phase is now dated 600–400 B.C. Bronze bracelets were found in later phases of the site but in conjunction with shell rather than stone bracelets. One of the early phase marble examples had holes and traces of bronze wire used for repair (Higham 1996 : 204; Higham and Kijngam 1984 : 435, 460).

Some of the stone rings from Nyaung-gan burials were on the wrist, others on the leg, by the shoulder, or pelvic area. One burial in the NW pit had three rings, one on the upper right shoulder, one on the pelvic area, and one underneath the left arm, a varied placement implying a range of ritual meanings including, perhaps, fertility. This is supported by a bronze relief figure (66 cm high) of a "mother goddess" from Mahlaing Township, Mandalay division, that has a ring inscribed around the pelvis (Win Maung 1998 : 85).

Measurements of the diameters of the holes in 30 rings from Halin and Nyaung-gan ranged from 3.0–7.0 cm with an average of 5.04 cm. The average length was 11.84 cm, width 9.8 cm, and thickness 0.90 cm. Five rings in the National Museum from Taungthaman were also measured (Fig. 4). Two were very different from any of the Nyaung-gan finds: one had a flange around the inner hole, another was star-shaped with nine points. The internal holes were similar in diameter at 5.3 cm, and the rings themselves are more nearly circular, from 14.3–15.6 cm. They were also slightly thicker at 1.28 cm.³ Very similar rings made from stone, turtle shell, and bronze are known from western Thailand.

Most of the stone in the Nyaung-gan crater and around Ok-aing is derived from acidic parent lava. Materials provisionally identified include crystalline igneous andesitic rocks, dolerite (diabase), basalt, rhyolite (greenish apatite), serpentinite-bearing rock, and silicified tuffs.⁴ Quartzes are also found on the crater floor, and around Ok-aing, but were not used for the manufacture of stone rings.

Stone rings, axes, and basalt pounders appear to have been made around Ya Thae Kon. Ya Thae Kon's location between Twindaung and the Nyaung-gan craters makes it an obvious source of basalt and other igneous rocks for rings and stone pounders. One broken polished stone axe (4 cm long, 3.5 cm wide, with a 2 cm-long beveled end) was recovered from the Nyaung-gan crater floor during the August 1998 survey. Additional stone objects from the site included two beads, one surface find and one from Feature SE8, measuring 17.5 and 14 cm with a diameter of 0.7 cm. Both had four holes: one at each end, and one on each long side.

A basalt poulder from the Nyaung-gan site now in the National Museum, Yangon, is similar to those found during a survey south of Ok-aing. All the Okaing pieces were recently broken. They were of similar dimensions, ovoid in section with a diameter ranging from 3.5 to 4.5 cm. Their original height appears to be 10–15 cm. They are beveled on one end, with a flattened round top showing wear from pounding. The function of the pounders remains to be clarified. The edge can



Fig. 4. Stone rings from Nyaung-gan. Black ovoid ring in upper part of picture (from SE pit) is 15 cm long, 13 cm wide, 1.1 cm thick, with a hole diameter of 5.5 cm. Triangular ring on bottom left (from NW pit) is 9.7 cm long, 7.5 cm wide, 1.0 cm thick, with a hole diameter of 3.6 cm. Disc is 3.6 cm in diameter and 0.4 cm thick. Courtesy Office of Strategic Studies.

be sharp, so they could have been used for cutting wood or bamboo. This is related to suggestions that methods used for cutting of the inner disc of the stone rings were similar to those seen today among some of the hill peoples. This method uses a section of bamboo with a sharp bevel on one end, kept steady by wood brackets. It is turned with a rope or strap twisted around the midsection, with sand and water used as grinding materials. As the bamboo becomes dull, it is replaced by another section.

Pottery

A rough count was made of pottery vessels in the burial features. Some of the very small vessels resemble ingot moulds excavated in central Thailand (Bennett 1988 : 131). A small number of the larger vessels, some 60 cm in diameter, lay in rows of two or three, above burials, and most were filled with smaller pots. The relationships of the large urns to the burials was not always clear because, in places, there were several underlying skeletons. It remains uncertain whether they are secondary burial urns or offerings for the inhumations.

Another vessel type that occurs only in the NW and SE pits has a pedestal with three upright supports on the dish. Some supports are rounded, others flat with holes. There are also holes along the outside of the pot where the supports were attached. These vessels may have been stoves with a fire in the bowl below the smaller pot supported by the uprights.⁵ Another possibility is that they were for alcohol production, similar to ones used for small-scale distillation today. In this, four

pots are used: (1) a large vessel over the fire containing water, fermented with tree bark and sugar; (2) a middle pot with holes in the base; (3) a small pot supported inside the middle one; and (4) an uppermost vessel filled with cold water. In this process, steam from the fermented mixture rises through the holes in the middle pot, condenses on the base of the top vessel containing cold water and then drips into the small pot below.⁶

Bronze Tools

The 18 bronze tools from Nyaung-gan, now in the National Museum, range in weight from 8.4 to 234.9 g. They include spears, points, axes, and a halberd. The longest blade measures 24.5 cm, although the heaviest is a paddle-shaped tool (Fig. 5).

Copper ingots and bronze casting moulds are absent, highlighting the need for further survey. The stratigraphic and material culture relationship of pots and skeletons also needs more analysis. Half of the tools now in the National Museum come from burial contexts. Five tools were associated with pot burials and four found on inhumation burials. The other nine were either from outside the pits or previously recovered by Chit Hlaing. The halberd from burial M5 is very similar to the first tool Chit Hlaing recalls finding. A third halberd, of similar size, has been recovered from Halin. However, the shaft of the Halin halberd bears a finely made raised pattern of cross-hatching bordered by lateral lines.⁷

Three small bronze samples, perhaps casting spillage rather than artifacts, from the Ya Thae Kon area were submitted to the University Research Centre for X-ray fluorescence analysis. Copper, in roughly the same proportion in all three samples, was the main element, with tin and lead as minor components. Tin was very low in one sample, slightly higher in the others, one of which also had traces of iron, lead, and arsenic.⁸ Five further fragments collected from the same area during the August 1998 survey also appeared to be casting spillage. November 1998 analysis of a bronze axe from Salingyi, on the opposite bank of the Chindwin (courtesy of the Nara Cultural Properties Research Institute), showed an extremely high (99.5 percent) copper content.

OTHER PREHISTORIC MATERIALS FROM MYANMAR

Stone Age

Having introduced the Nyaung-gan area and the preliminary excavation finds, the following sections discuss finds from the excavation in relation to the earlier Stone Age and later Pyu periods.

To date, there are few provenienced and dated stone tools from prehistoric sites in Myanmar. The limestone cave of Padah-lin (96°18'E, 21°06'N; Map 2) on the Shan Plateau, has been the most thoroughly explored (Aung Thaw 1969a, 1971; Aung Thwin 1982 : 5). Uncalibrated radiocarbon dates from charcoal and bone samples indicate a broad age range of c. 13,400±200–1750±80 b.p. but there is little reported evidence for the contexts and associations of the material. The pebble choppers, adzes, and scrapers are by convention labeled Mesolithic or Hoabinhian. Also recorded from Padah-lin were flakes, edge-ground tools, and an unfinished shouldered adze (Aung Thaw 1969a : 12–13). Recently other caves have been identified in this area with similar assemblages.



Fig. 5. Some of the bronze tools from the Nyaung-gan site. From left, upper row: National Museum no. 193/14-2 paddle-shaped tool recovered by Chit Hlaing; National Museum no. 193/17-5 burial feature SE6; National Museum no. 193/18-1 halberd from burial feature M5; 193/14-18 small axe recovered by Chit Hlaing; National Museum no. 193/14-16 from burial feature SE12. Front row, from left 193/17-5 from burial feature SE8, recovered in small pot; National Museum no. 193/14-17 from burial NW4. Courtesy Office of Strategic Studies.

The Pyu Period

This is dated between the first and ninth centuries A.D., and is associated with the absorption of Buddhist and Hindu concepts into traditional cults. Pyu sites are typically walled enclosures with a central palace structure and a mixture of inhumation and cremation burials. Artifacts include stone beads, bronze bracelets and sculptures, silver "coins," and iron tools. Issues yet to be resolved include the degree to which the use of bronze and iron tools and weapons overlap; the extent to which stone tools continued in use; whether the stone rings were exclusive to the Bronze Age; and possible continuities in burial customs. There are many so-called Pyu sites yet to be fully investigated, and in this period epigraphy continues to guide archaeology, with the labels Pyu and Mon implying that inscriptions related to linguistic groups may be used to define cultures—a problematic procedure.

In comparing Pyu and Bronze Age sites the obvious differences are the scale of the sites and the appearance of Indic-related material at the former. Nyaunggan has not yet yielded any Buddhist or Hindu sculpture, nor evidence of brick structures. So far, no walls have been discovered around Nyaung-gan, and the enclosed area north of the cemetery, Thein Yin Yazagyo, has yielded only eighteenth–nineteenth-century sherds.

Pyu sites have yielded a range of iron tools and weapons. Bronze artifacts are principally ornaments, sculpture, and urns. Bronze finger rings and bangles and copper latch eyes were excavated at Beikthano (Aung Thaw 1968 : 55, fig. 84). At Srikshetra, bronze sculptures included a small figure of Avalokitesvara; five beautifully executed figures of dancers, and a 28-cm-high elaborate bronze bell (Aung Thaw 1972 : 29, 31). Bronze mirrors were among the finds at Halin, and it was noted that villagers had melted down many metal goods (Aung Thaw 1972 : 12).

Silver objects are also common at Pyu sites, notably silver coins found at Beikthano, Srikshetra, Halin, and other sites, and the silver gilt urn from the Khin Ba mound is an exceptional piece (Aung Thaw 1972 : 28; Guy 1997 : 92, fig. 5). Surface survey at the Pyu site of Maingmaw (96°12'E, 21°71'N) yielded lead rolls with traces of writing inscribed on them, and eight similar lead rolls, measuring 1.3–1.5 cm, are among the surface finds at Nyaung-gan. Lead artifacts excavated at Beikthano included flat circular pieces of lead, a lead ball, and a small weight in the shape of a truncated cone (Aung Thaw 1968 : 54). Stone molds for casting, presumably gold ornaments, were found at both Maingmaw and Beikthano (Aung Thaw 1968 : 148; Aung Thwin 1982–1983: 18). These finds show that by the early first millennium A.D. a range of metals were being employed to make numerous objects for ritual, agricultural, military, and ornamental use. What remains to be explored is the absence, both at Pyu sites and Nyaung-gan, of molds for bronze casting, and of elaborate bronze ornamental or ritual objects, such as drums and urns like those from sites in China, Thailand, Cambodia, or Viet Nam.

Since Halin is the closest Pyu site to Nyaung-gan, comparisons between the sites is of interest. The earlier phases of Halin have been assigned to the first to sixth centuries A.D. In 1996, a low mound (HL19) was excavated in the west part of Halin. Three complete skeletons were unearthed with urns found near their heads (San Win 1996, unpublished report). The combination of inhumations and secondary burial urns follows the pattern of earlier excavations (Aung Thwin 1982–1983; Myint Aung 1970), and also recalls the Nyaung-gan finds. Finally, as discussed earlier, pre-Pyu bronzes and stone rings found at Halin are similar to those from Nyaung-gan.

SUMMARY

Nyaung-gan adds a new dimension to the prehistory of Myanmar. Despite many differences between Pyu sites and their repertory of finds, the presence of Nyaung-gan type bronzes at Halin suggests the possibility of an earlier occupation of some Pyu sites. The cemetery location is also significant, both its siting on the crater and adjacent to the rich copper deposits on the opposite bank of the Chindwin. The area's low rainfall and access to navigable waterways links it to other sites in the central zone, Pyu, and Pagan. The discoveries at Nyaung-gan extend into prehistory a long-term pattern of occupation, technological developments, and the beginnings of urbanism within the most arid region of the country. Further research may also bear out evidence of continuity in mortuary practices between Pyu and earlier periods, such as the use of inhumation and urn burials. The possibility of Bronze Age burials at Pyu sites also deserves further investigation.

ACKNOWLEDGMENTS

The support of Col. Than Tun, Maj. Bo Bo, Maj. Khin Maung Win, and the staff of the Office of Strategic Studies have been invaluable in coordinating the research leading to this preliminary report. We also thank the Ministry of Culture, the Ministry of Education, and the Myanmar Ivanhoe Copper Company Limited (MICCL). Teachers and headmen at Halin and Nyaung-gan villages have also been generous with their time. We would like to thank Chit Hlaing for his patience in answering many questions. All errors in interpretation are, however, our responsibility.

NOTES

1. Win Maung (Tampawaddy), pers. comm. August 1998.
2. Aung Myin, assisted by Khin Maung Si and Myo Myint Win, Monywa Waterway Department, Ministry of Transport, carried out a preliminary survey of the site on 2 August 1998. From a datum of 0.0 located 7 m southwest of SE pit, the site falls to -0.84 m below datum in the ravine, rising to +7.04 m above datum on the edge of the cemetery plateau, 62 m northeast of the datum.
3. Courtesy Kyaw Win, National Museum, Yangon, with assistance from Daw Htay Htay Swe.
4. Department of Geology, Yangon University (Pe Maung Than), Mandalay University (Prof. Kan Saw), and Kyaw Win, MICCL. Any errors in identification are the authors' responsibility.
5. Capt. Kyaw Zin Thet, Monywa Command, pers. comm. August 1998.
6. Win Maung (Tampawaddy), pers. comm. August 1998.
7. Ibid.
8. San Nyein, University of Yangon found the samples during survey in May 1998.

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ABSTRACT

Preliminary excavations were made in 1998 at a cemetery south of Nyaung-gan Village, near Mandalay, in central Myanmar (Burma). The site is located on the edge of a volcanic crater; there are nearby copper deposits. Three main types of artifacts were recovered from the excavation: ceramics, stone rings, and bronzes. Survey of the surrounding area includes possible smelting and stone ring production sites. Much remains to be learned about the Nyaung-gan cemetery, but it is already clear that the finds from the site contribute greatly to the knowledge of Myanmar prehistory. KEYWORDS: Burma, Myanmar, prehistory, Pyu, stone rings, Southeast Asia.

**2. Myanmar bronzes and the
Dian cultures of Yunnan**

Myanmar bronzes and the Dian cultures of Yunnan

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ABSTRACT

Bronze artefacts from the Samon Valley (circa 19-22° N, 95-97°E) in central Myanmar are strikingly similar to pieces from Lijiashan, 80 km south of Kunming, Yunnan. The affinities to Lijiashan are greater than those to the larger and more renowned cemetery of Shizhaishan. The dates of the Samon Culture overlap with the earlier Dian cemeteries. Most of the Samon finds are not found outside Myanmar, such as small wire packets, floral ornaments and 'mother goddess' figures. The Samon Valley and Upper Myanmar may be the areas referred to in Chinese texts as beyond the 'barbarian' regions that came under Han control in the early centuries CE. And, as seen in Yunnan at this time, the Samon Culture may have experienced political change reflecting Han expansion and fluctuating alliances between Myanmar, Yunnan, and South Asia.

INTRODUCTION – MYANMAR AND YUNNAN BRONZES

Bronze artefacts excavated since 1998 from the Samon Valley of central Myanmar have identified a new Bronze-Iron Age culture. The greatest concentration of sites is along the short Samon River but the sites are located over a distance of 230 km along a north - south axis from Halin

(Wetlet Township, 22°29'7.57"N, 95°51'3.58"E) to Lewe (19°38'2.49"N, 96° 6'39.88"E) (Figure 1). In the same region there are sites of the as yet undated Neolithic, first millennium CE Buddhist, 14th to 17th century CE Inwa (Ava) and 19th century CE Mandalay periods. The few absolute dates for the Samon Culture are c. 600 BCE–400 CE, with hints of occupation dating to 900 BCE (Pautreau et al. 2006, 2007:87). In 2009, excavations at Ywa Gon Gyi, Thazi, a possible Neolithic habitation layer was unearthed below Iron Age mortuary layers (Coupey 2009:3). However, the overall relationship of cemeteries to habitation sites in the Samon and Chindwin river valleys remains unclear as most excavations are cemetery sites. Most of the Samon bronzes are not seen outside Myanmar, including 'mother-goddess' figures, bronze packets (*kye doke*), floral ornaments, swords and axes. There are also semi-precious stone rings, glass rings and beads with some generic forms, such as spherical carnelian beads. Other artefacts, including green stone beads in the shape of an elephant and carnelian beads in the shape of a tiger with a cub in the mouth, are unique to Myanmar. Most, but not all, of the bronzes and other Samon artefacts appear to have been manufactured from local resources. In addition to metals and -precious stones, the Samon region has salt

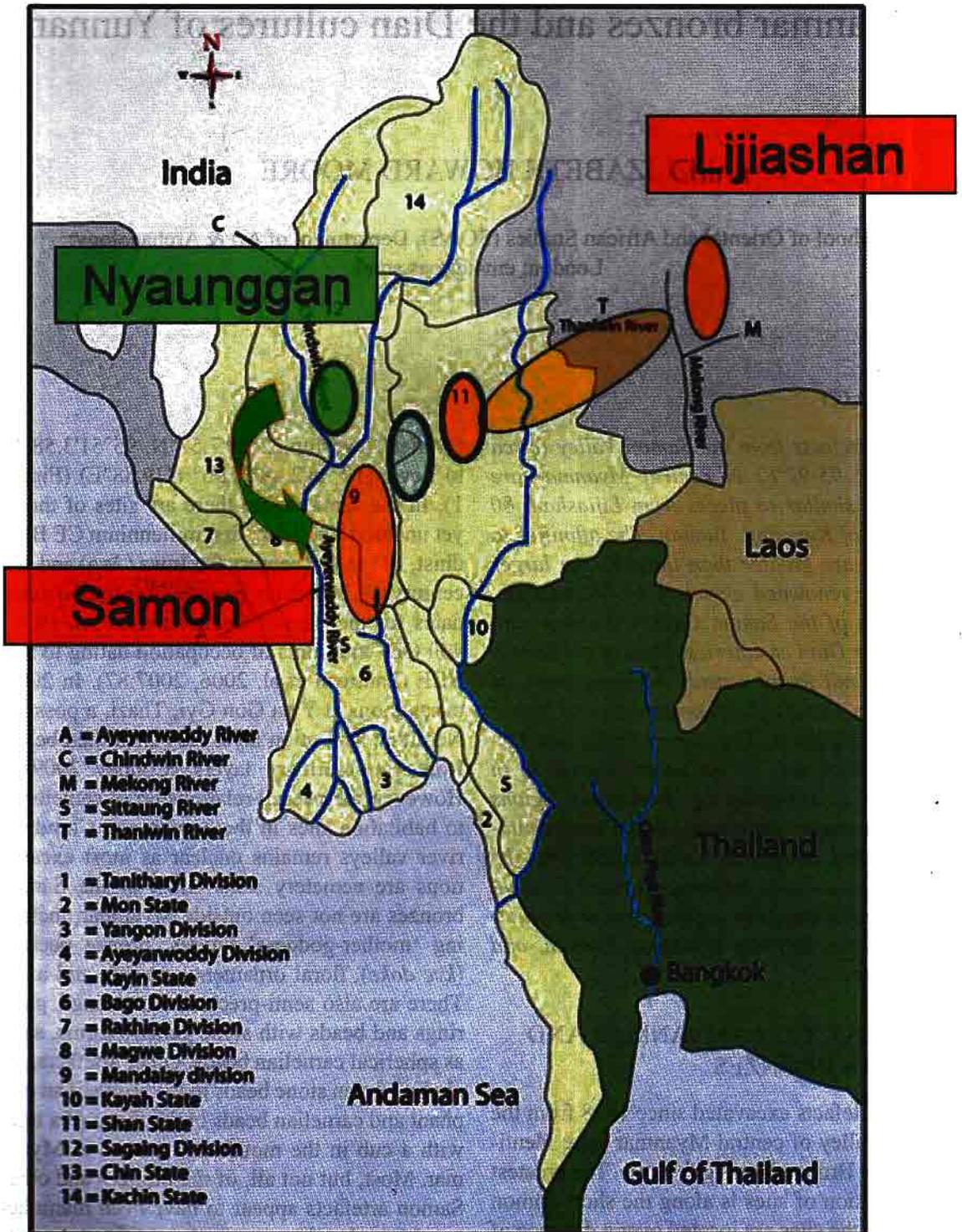


Figure 1. Regional map

deposits and cotton production. Many of these goods were also valued in Yunnan, with cotton and salt traded with Nanchao in the later first millennium CE (Guy 1995:67).

Some bronzes from the Samon region appear to have been imported from Shizhaishan and Lijiashan, near Kunming. These include Heger I cowrie-drum containers, musical instruments, and ritual ladles or mouth organs. There are also parallels in burial traditions between the Samon Valley and the Yunnan sites around Kunming. For example, recent Shizhaishan excavations yielded headless burials and disarticulated inhumations that recall the 'mother-goddess' figures and disarticulated burials from Samon sites (Jiang Zhilong 2003; Pautreau 2007). The presence of both local and imported mortuary goods and the hints of similar burial customs in the Samon and Kunming regions highlight the significance of overland exchange between Central Myanmar and Yunnan. The primary, but not exclusive, trade route appears to have been along the Dhotawaddy (Myit Nge) River extending northeast from Mandalay to the present Chinese border at Muse. The northeast links to Muse were balanced by networks to the northwest and the Chindwin River.

The principal excavated site in the Chindwin Valley is Nyaunggan, Budalin, Sagaing Division (22°24'43.04"N, 95° 3'34.14"E) located 85 km west of Halin and 300 km northwest of Lewe. This area of Upper Myanmar was easily traversed overland or via the Ayeyarwaddy (Irrawaddy) and Chindwin rivers. Among the finds excavated from Nyaunggan in 1998–2001 were bronzes comparatively dated to c. 1500 BCE. However, most of the sites around Nyaunggan are non-metal sites, so the bronzes mark an elite burial area. The graves yielded a number of objects that appear to have been imitated or appropriated by the somewhat later Samon Valley cultures. This pattern of cultural appropriation recalls that of sedentary Kunming peoples by equestrian Dian seen in Yunnan artefacts (Calo

2008).

Artefacts found in the Lower Chindwin and Samon regions are compared below, following a summary of relevant aspects from the Dian sites. The article concludes by highlighting the role of trans-regional exchange in the transition from Neolithic villages to Bronze-Iron Age chiefdoms and the subsequent emergence of Buddhist kingdoms.

Dian and Upper Myanmar cultures

The Dian Culture is best known for its bronze artefacts, particularly the graphic figures on lids of cowrie-drum containers excavated in the 1950s and 1990s at Shizhaishan (25° 37'31.89"N, 100°17'7.08"E) and Lijiashan (24°24'34.84"N, 102°45'1.64"E). Lijiashan was excavated again in 1991–1992 and Shizhaishan in 1996. Shizhaishan artefacts from these recent excavations date to the Spring and Autumn Period (722–481 BCE) and middle of the Warring States Period (403–221 BCE). The dates, existence of ancestral veneration, and certain traits of these goods are similar to inhumations in the Samon Valley. However, Samon bronzes and their correlation to social change are different from the situation of Yunnan. The introduction of bronze was a threshold of social augmentation in China but not in mainland Southeast Asia, where such social change comes with the use of iron (Wang 2008). Higham and Higham (2009) have used a large body of absolute dates from Thailand to support this argument. While a comparable dataset is not yet available for Myanmar, their conclusion applies well to the Myanmar evidence described below.

Lower Chindwin Bronzes

In 1998, the Fine Arts Department, Ministry of Culture, undertook excavation of a cemetery on the northwest rim of an extinct volcano adjacent to the village of Nyaunggan, Budalin Township, Sagaing Division, 22°24'N, 95°04'E). Excava-

tions revealed a range of inhumation burials, stone rings, pottery, and bronze implements, dated to 1500-1000 BCE (Figure 2). Due to the absence of collagen remaining in bone samples, no absolute dates are available and the chronology remains comparative. The burials were supine inhumations, although a large pot with a skull and a number of large jars were found. There was a degree of social differentiation at the Nyaunggan cemetery. However, compared to the burials of the Samon Culture, there were fewer mortuary goods, only bronze weapons, no 'mother-goddess' figures, no kye doke (wire packets), no floral ornaments, and no glass or iron artefacts.

There are copper deposits in the Nyaunggan area that were used to manufacture bronze spears, axes, and *ge*, halberd-like implements akin to those in Yunnan (Chiang 2010). Local volcanic stones were used to make at least five different shapes of stone beads and rings (square, egg-shaped, triangular, round or pinion). These were placed on various parts of the body including the shoulder, arm, and pelvis. The most abundant grave good was pottery, ranging from small oil lamps and cups to large urns and 'distillation' vessels. Eighty-eight shell beads were recovered; these were perhaps used as amulets (San Nyein 1999:79). The shells are

from the family *Nassariidae*, a marine species; the larger shells are Peeled spire Dog Whelks (*Nassarius leptospirus*) and the smaller shells are Humped Dog Whelks (*Nassarius camelus*) (Ken Ross, Australian Department of Health & Ageing, and Richard C. Willan, Senior Curator, Molluscs, Museum & Art Gallery of the Northern Territory, Darwin, Australia, pers. comm., December 2008). While the existence of marine shells may suggest exchange with southern coastal areas, the finds may also indicate that the seacoast once stretched far into the central region of modern Myanmar (Tin Tun, Yangon University; Kyaw Kyaw Htay, Dawei University, pers. comm., December 2008). If this hypothesis is verified, the shells could indicate a different ecology for this arid (675 mm per annum) region two thousand years ago.

Samon Culture – changing geographical context

The artefactual evidence indicates that the Samon Culture was a central node networked in all directions (Figure 3). The region today is comprised of populations from many different ethnic groups. The clearest influences to the Samon Culture are from Yunnan and possibly Sichuan, but Chindwin riverine connections to the northwest may have also affected the Samon culture. In addition to the Dhotawaddy (Myit Nge) River, there are the Chaung Magyi, Shweli and Taping (Tabain) rivers and overland trade routes. There were also trade routes from the Samon to the south by river and overland.

Samon artefacts have been found around Inle Lake (20° 36' 17.89"N, 96° 54' 42.54"E) and near Lawsauk (21° 15' 2.13"N, 96° 51' 48.40"E). Inhumation burials in lime-hardened earthen graves with carnelian beads with white line designs found near Lewe (Pyinmana) mark the southern reach of the Samon culture documented to date (T.Tan; Win Maung (Tampawaddy), pers. comm., June 2008). Lewe lies in a 25 km long region of intermittent streams south of the



Figure 2. Chindwin artefacts

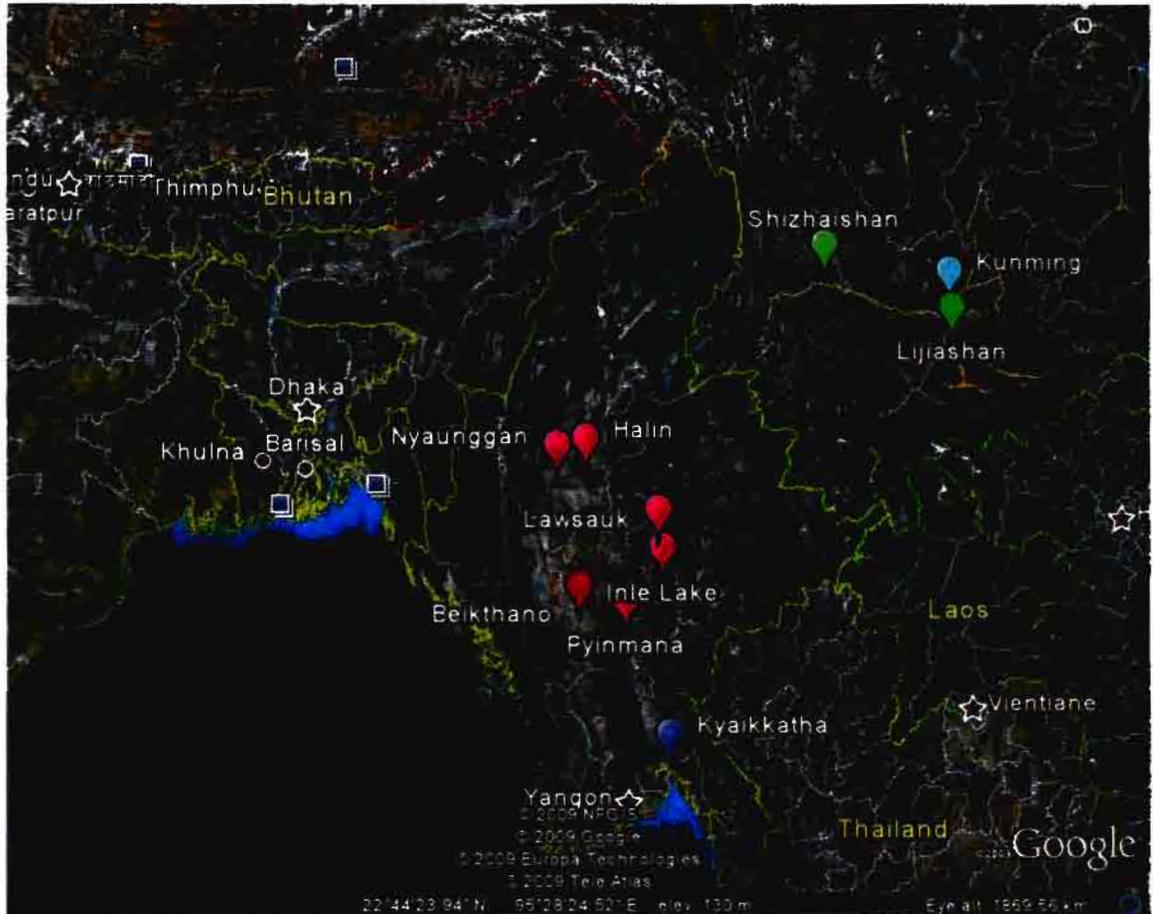


Figure 3. Chindwin Samon Lijiashan map

Samon that is thought by Myanmar geologists to have been connected south to the Sittaung River and the Andaman Sea. A maritime connection for the Samon culture would introduce additional trade contexts in which to assess the ritual norms of the Samon culture (Moore 2009; 2010). Finds such as the Dog Whelks in Chindwin burials (noted above) and hydrological evolution in the Samon River highlight long term changes to the Upper Myanmar environment.

Comparison of the Chindwin and Samon cultures

Mortuary wealth differed in the Chindwin and Samon regions. Chindwin goods were principally stone rings, bronze weapons, and pottery.

The copper resources of the Chindwin Valley are more concentrated than those of the Samon and, while evidence of copper smelting has been found in the Chindwin region, stone moulds for bronze axes have been found in the Samon. The hard volcanic stones around Nyaunggan and other craters in the Chindwin region appear to have been traded to the Samon Valley but most of the rings from the Samon Valley are from local stones or glass. In addition, 'T-shaped' or flanged round rings are found in the Samon Valley, while the rings in the Chindwin Valley have an inner hole with flat edges polished to create a smooth surface. In the Samon Valley, there are also bronze ritual goods, glass discs, some iron

implements, and line-decorated or zoomorphic semi-precious stone beads. None of these have been found in the Chindwin area.

The walled site of Halin (c. 100-800 CE) stands out in the Samon Valley distribution for several reasons, highlighting its prominence as a trading centre. Emissaries from the 9th century Chinese court recognized a P'iao or Pyu capital, perhaps Halin, at the time when Tibeto-Burman rule was established at Nanchao (Backus 1978:83-89; Guy 1995:64- 5). Some Halin wall fortifications, and its later role as a guard post, may date to this period of political consolidation and religious transformation in Yunnan. Halin is outside the Samon Valley proper, but a large quantity of Samon and also Chindwin artefacts have been found there. Excavation since 2004 of site HL25-28, southeast of the city, has provided much *in situ* data, with evidence of inhumation (Hudson 2009; Nyein Lwin, pers. comm., January 2010).

Despite Halin's proximity to Yunnan, this important site has not yet yielded bronzes imported from Yunnan. The imported goods come instead from around Pyawbwe (20°35'0" N 96°4'0"), in the southern part of the Samon Valley. This suggests that Halin was an interchange point between the Chindwin and the Samon cultures but leaves its relationship to Lijiashan unclear. The Samon Culture's appropriation of Chindwin mortuary custom is seen in the miniaturization of grave goods and, possibly, the use of Chindwin halberdshaped axe motifs in 'mother-goddess' figure frames. The balance of Chindwin-Samon artefacts thus provides a useful context for assessing the varying relationship of Halin and the southern Samon area around Pyawbwe to Lijiashan and other Yunnan sites. Significant Samon artefacts are described in two parts below: locally produced and imported goods.

Local Samon bronzes

The most striking locally made Samon bronze artefacts are the 'mother-goddess' figures, first recorded in 1998. (There are possible parallels in headless figures from Chengdu but I have only seen photographs of these.) The figures appear to have been produced by beaten relief in a similar manner to Myanmar bronze gongs, as were the majority of locally produced bronzes. The 'mother-goddess' figures are slim with round breasts and a womb beaten into smooth hemispheres; the leg bones and backbone are also in relief. The figures measure 60-90 cm long and have one to three torsos joined at breast and hip. They are headless (unless the curved neck is seen as a head) or they had a wooden or metal mask where the head would be. The figures are narrow, probably due to their use affixed to the top of coffins, carved from tree trunks or made from bamboo mats (Coupey 2009:2; Pautreau et al. 2003:61). Another local object is a flat floral ornament that was fixed to the sides of coffins (Win Maung (Tampawaddy) 2002-03:126-143).

The most ubiquitous bronze artefacts are kye doke, packets of pulled wires, 1.5 – 7.5 cm long (Figure 4). Although tests have yet to be carried out on the imported bronzes, the packets are more than 98% copper (Moore 2008; Pautreau et al. 2007). The 0.5 cm thick wires of the kye doke were 'tied' into bundles with wire and wrapped, with traces of cotton remaining on the surface. Skeletons had up to thirty bundles, their shape akin to bundles of growing or harvested rice stalks in the Halin region today. The packets also recall bundled ears of rice and barnyard millet from Haimenkou in the Erhai Lake area of Yunnan, where they are seen as an indicator of settled agriculture and animal husbandry (Kan Yong 1985: 26). It has also been suggested that the kye doke denoted age, were needles, or were ingots; the Yunnan parallels point to markers of wealth (Pautreau et al. 2001:100; Ian Glover, pers. comm., September 2004).

Other Samon bronzes are similar to pieces from Shizhaishan and Lijiashan but simpler. The axes (7-9 cm) are elongated with horizontal or vertical lines on the shaft, recalling pieces from Yunnan sites such as Daxingzhen and Jinguan but different from Chindwin axes, which are more rounded (Moore 2007:96; Kan Yong 1985:72, Fig. 14). The narrow Samon bronze spears are not elaborately decorated but have affinities to Shizhaishan examples (Murowchick 2002:161, Fig. 8). Spears in the Samon region were also made in miniature (c. 4 cm) and bundled into packets found in the hands or underneath the wrist of skeletons. These objects have been recovered from excavations and also villager digging.

Many irrigation works have been constructed in the Samon region over the last decade. In addition, the Samon beads are valued by collectors. As a result, villager 'bead hunting,' prior to Department of Archaeology excavations, has brought many grave goods to the antiquities market. These items are often not found in excavations. For example, over a dozen 'mother-goddess' figures are in private collections but none have yet been formally excavated. Given the rapid economic development of the region, these unprovenanced goods need to be included in profiling the Samon culture.

A prime example of the unprovenanced Samon artefact is a small (13 cm) bronze 'bird-man' pole found by a villager near Badi Gon, Pyawbwe (Moore 2007: 16,110) (Figure 5). The pole was inside a finely made bronze box containing a second standing human figure. The posture of the 'bird-man' closely resembles a bronze figure (c. 15 cm) from Lijiashan described as a Dian man kneeling on a drum. The Lijiashan figure decorates the end of a bronze spoon (39.5 cm), used as a ritual ladle in the Warring States period (475-221 BCE), from burial no.11 of Lijiashan cemetery (Hong Kong Museum of History 2004:87, Pl. 045). This type of vessel is also found in the Samon, one piece

having two figures on the end carrying a long drum or possibly bamboo tubes with tea. The Samon 'bird-man' and the Lijiashan spoon depict the man in a squatting position with calves drawn closely up against the thighs.

In the Samon 'bird-man,' the figure is 'held' by a bird with flexed legs and the section of the pole below the figure is unclear, whereas the Lijiashan piece has a 'drum'. The arms of both the Lijiashan and Samon figures are crossed on upturned knees. The head of the Samon piece is broken off, but the second figure in the Samon box, depicting a man proffering a long boat-like object, has a head with a similar to the Lijiashan figure with an off-center topknot. The legs of the Samon 'boat' figure are carefully made, the right knee being marginally drawn up and the flat foot slightly extended to the rear as if in motion. The dress is uncertain, but the ankles may have a trouser-like lower rim. A thick bronze ring is affixed to the upper back as if to suspend the piece.

The 'bird-man' and 'boat' figures were set in the bronze box facing each other. The box has slightly flared sides giving it a length of 14-18 cm. It has a tall lid (12 cm) made by fixing rectangular sheets together, recalling the manufacture of the much larger and more elaborate Dabona house-shaped coffin (Cremin 2010: Fig. 6). The surface is detailed in the manner of a cane-woven basket, with diagonal crossed woven bands on the body. Three narrower horizontal bands on the bottom and two on the top, below an inset flange, were made to nest the lid. The box with lid measures 21 cm. The box's meaning is uncertain, but the workmanship and iconography point to an elite, possibly ancestral, ritual use.

Trade bronzes

Local bronzes included 'mother-goddess' figures, floral ornaments, kye doke packets, axes and spears. Several appear to have been made

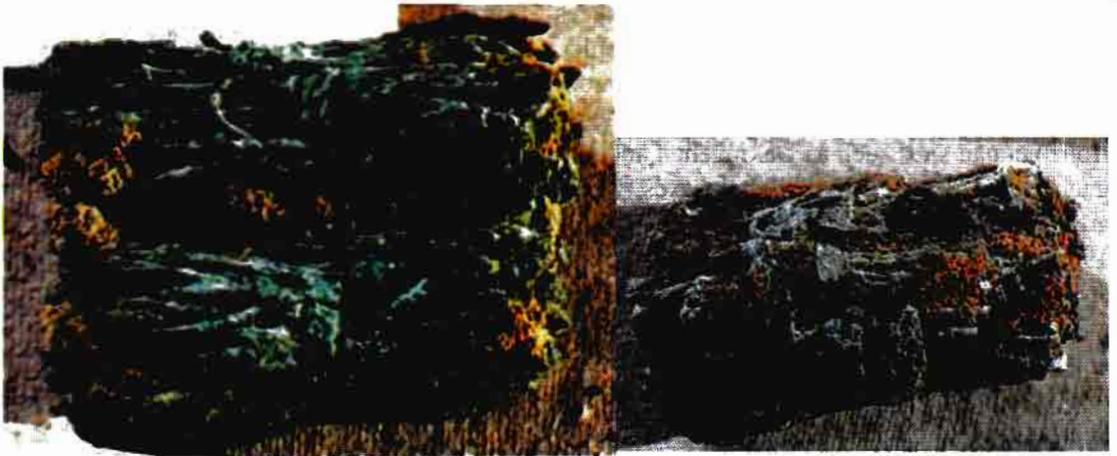


Figure 4. Kye doke (bronze packets) and rice chaff bundles



Figure 5. Bird-man pole, courtesy T. Tan

by beating rather than casting. Very different pieces are probably prestige trade items from Yunnan, principally Lijiashan: mouth organs, ladles, and bronze drums. One ladle found in the Samon region has a long handle (35 cm) with a gourd-shaped bowl (10 cm diameter) on one end and two human figures on the others end (Candido et al. 1987:52, Fig. 10 [60 cm, 1.4kg]; 64, fig. 21 [39.5 cm, 394gm]). The human figures are carrying a long object, possibly a drum or bamboo tubes (as noted above for the 'bird-man' box). A second piece is a 20 cm high slender, gourd-shaped vessel akin to hula sheng mouth-organs. The mouth of the gourd shaped vessel found in the Samon region is open (or damaged). Dian pieces were pierced for insertion of pipes and in some cases are surmounted by a bull (Murowchick 2002:167, Fig. 13 [28.2 cm]; Candido et al. 1987:64, Fig. 22 [35.5 cm, 2.72 kg]) (Figure 6).

Bells have also been found in the Samon. One is thickly cast, 15 cm tall with a 2 cm lug and flat braided bands at the top and bottom, akin to the border on amour from Lijiashan (Murowchick 2002:162, Fig. 10; Candido et al. 1987:50-1, Fig. 8 [9.5 x 13 cm, 342gm]). A second bell is smaller and rounder (10 cm height and diameter), unadorned apart from a series of faces incised near the bottom. These are 'right side up' when the bell is held upside down, and are lively childlike sketches of a face (Moore 2007:107-111).

Five or six Heger I drum-cowrie containers have been found in Myanmar, all with mushroom-shaped mantles decorated with feather-heads men, bulls, and rice barns on stilts (Calo' 2007:75). One drum, found a number of years ago in the relic chamber of the Shwezigon pagoda, is also of this type and closely resembles a piece found in Chieng Mai (Calo' 2007:75). Two are a rare Heger I Type with a star and geometric motifs but without the elaborate headdress figures. There is also a Wanjiaba type drum found at Sin Bo between Myitkyina

and Bhamo, Kachin State. Additional fragments have been recorded by Win Maung (Tampawaddy) from drums northeast of Mandalay. Another was found at a Bronze-Iron Age burial site by Yetagon Taung in the Shan foothills east of Mandalay. Two drum fragments have bird designs, an egret in one case and a plump bird perched on the hindquarters of a spotted bull with a hump and possibly dewlaps in the other (Cremmin 2010). Another Heger I drum (H. 40.5 cm, D. 51 cm), classified as a Dong Son Type A and today kept in Sagaing, has a boat on the upper mantle and 'feather-men' and a rice barn on the tympanum (Moore 2007:103-104, 242) (Figure 7). As noted below, cowries such as those stored in these drums were among the beads excavated in the Samon Valley. No drum-cowrie containers with three-dimensional figures on the tympanum giving a highly graphic picture of Dian culture have been found.

Iron, beads, and pottery

Relatively few iron artefacts have been found in the Samon area and no iron was found in the Chindwin excavations. It is possible, as suggested for the Dian region, that the iron pieces represent the later phases of the culture (Allard 1999:78). The most common Samon iron artefact is a broad petal-shaped blade (8-12 cm) set in a finely made bronze hilt (Win Maung (Tampawaddy) 2002-03). The hilts (7-10 cm in length) have a slender oval-shaped cross-section decorated with spirals and concentric circles around the midsection and rows of parallel incised lines on either end (Moore 2007:107; Win Maung (Tampawaddy) 2002-03:256). In their workmanship and decoration, they are akin to daggers from a number of Dian sites and may have been produced in Yunnan (Kan Yong 2002:160).

The numerous finely polished Samon beads are made from carnelian, green chalcedony, and fossil wood (Campbell-Cole 2003; Glover

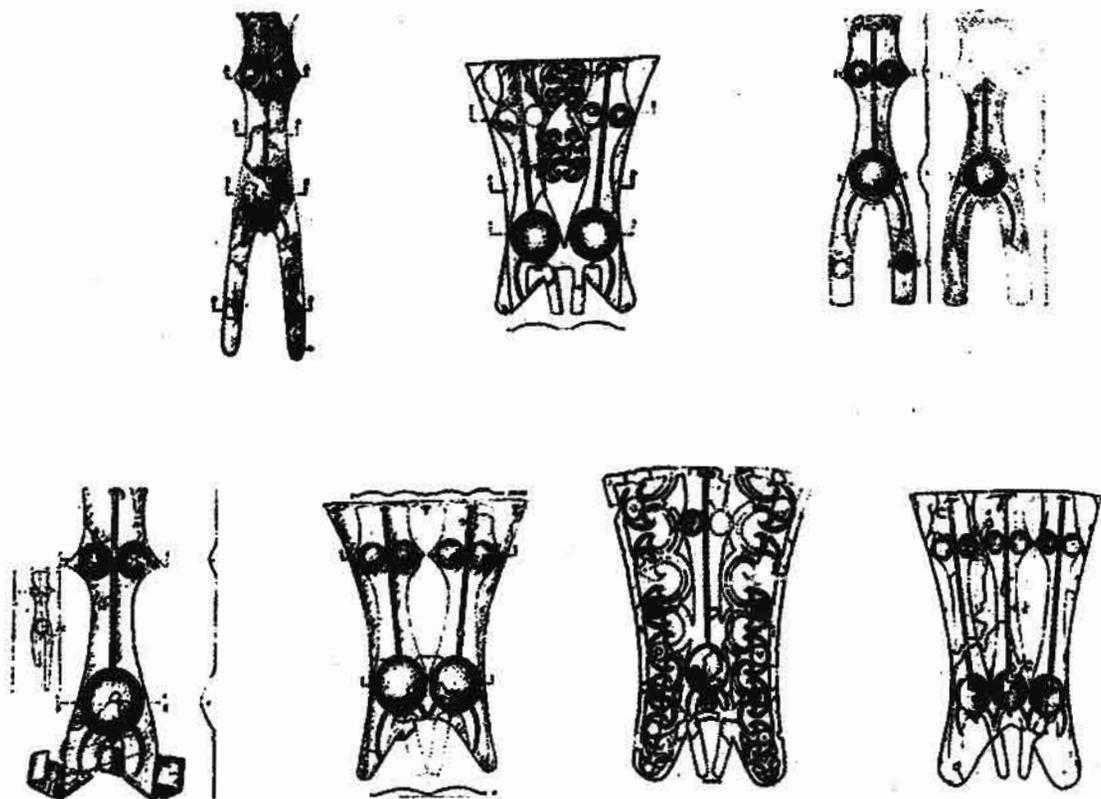


Figure 6. "Mother-Goddess" figures, courtesy Win Maung (Tampawaddy)

and Bellina 2001). The beads were often found on skeletons, together with one to ten small polished green, grey-green or maroon-brown pebbles possibly used for finishing pottery (Nigel Chang, pers.comm., December 2008). The pebbles were always in physical contact with the neck, arms or legs of the skeleton, as seen in burial S56 with seven grey and one white pebbles, four bronze packets, and four translucent red stone beads and two very small flat pebbles, approximately 12 cm to one side (Pautreau et al. 2007).

Perhaps the most spectacular bead form is the carnelian tiger, which in various materials and forms has been recorded in Central Thailand and southern China (Bellina in Pautreau

et al. 2007:73). However, in the Samon region there are many finds of tiger beads, most bearing a small cub, in white, chocolate, red and many hues of orange stone (Moore 2007:100–101, 117). The tigers have been likened to symbols of authority such as the bronze inscribed 'Tally Tigers' of the Qin dynasty (207–221 BCE) (Hudson 2002:1, Fig. 8; Murowchick 2002:162, Fig. 10; Pautreau et al. 2007:111). Shells were also used as beads, with cowries found in Samon excavations highlighting the trade in cowries from the Andaman Sea to Yunnan. In addition, glass beads and rings were abundant in Samon burials. Some of the ring shapes recall stone rings from the Lower Chindwin region while others are multiple round bangles found on the arms



Figure 7. Sagaing drum, courtesy Win Muang (Tampawaddy)

of skeletons. One long spiked bronze armlet has also been recorded at Halin that may have been imported from Yunnan.

In the Chindwin region Nyaunggan excavations, pottery was the most abundant mortuary good, but this figure drops considerably in the Samon region where graves contained other indicators of wealth and status, specifically bronze and beads (Hudson 2004:89–90). Of particular note is the distinctive form of what have been provisionally called ‘distillation’ pots. Based on ethnographic parallels from the Halin area, the vessels may have been used to produce an alcoholic liquid. They are pedestal pots with three perforated cylinders on the upper surface of the pot’s shallow bowl. When used, this would have supported a collection vessel placed below an upper pot with cool water that prompted vapor from the perforations to distil. Functional ‘distillation’ vessels are seen in the Lower Chindwin, although to date only the non-functional variety (some 4 cm diameter) has been recovered from Samon sites (Moore 2007:93–94; Win Maung 2002–03). It is possible that the fermented substance produced with the pots was used for ritual purposes, explaining its later production

in miniature. Relevant motifs occur on bronze drums from Guang-nan, East Yunnan showing tall jars being dipped with libation cups (Dewall 1981:335, Fig. 48.1, 337-8, Fig. 48.6).

While conjectural, the ritual distillation fits with the blossoming display of wealth seen in the Samon burials, a more complex ranking of social status compared to the Lower Chindwin region. The Chindwin goods seen in miniature in the Samon imply an appropriation of resources and trade routes that as noted earlier recalls the appropriation of sedentary peoples by equestrian Dian seen in Yunnan artefacts. Increasing Samon wealth is also highlighted by a number of large elephant tusks found by Myauk Mee Kon villagers. These are analogous to tusk deposits from near Chengdu, central Sichuan where some 70 tusks were found with lifesize bronze human heads, ‘spirit trees’, jades, and ritual vessels dated to the late second millennium BCE (Murowchick 2002:140).

CONCLUSIONS

The Samon Culture is not directly mentioned in Myanmar traditional histories or chronicles, but these may allude to earlier troubled times with the repeated conquering of fabulous animals, such as flying white tigers and giant boars. Chronicles are often relegated to ‘myth’ but carry important social memory, highlighting the need to redefine ‘tradition’ in contexts quite different from Europe. This is particularly the case in the Buddhist culture in Myanmar where the past can be seen as active in the present. A parallel exists in Tibet where understanding of time, history, and chronology have highly developed local meanings which have evolved over long periods (Galey 2007:215-216, 235-236; Hobsbawm and Ranger 1983/1992; Repo 2010). The Samon Culture findings are the first bridge between the Buddhist chronicles and pre-historic beliefs. Data from the Samon Culture is increasing with more excavation and docu-

mentation. This is providing new interpretations very different from the prior focus on descriptive empirical data. The Samon Culture is in these ways a major change to both the history and the discipline of archaeology in Myanmar.

As in the Dian region, Samon studies remain artefact typologies and burial descriptions rather than being able to define different categories of sites (Allard 1999:85). It is clear that Upper Myanmar was not a simply a 'Dian' cultural sphere but a distinct development needing local definitions. Again, seen in the Dian region, this appears to have been 'a process of locally driven amalgamation and transformation of diverse non-local elements' in a multi-ethnic 'heterogeneous cultural environment' (Allard 1999:84). Given the many significant implications of the Samon and Yunnan relationship, the question of 'first' or origins becomes simplistic.

Comparison of Samon artefacts to Yunnan shows particular links to Lijiashan, a smaller and less renowned site than Shizhaishan. Thus, the Samon finds bring Myanmar into a discourse of wider overland and maritime exchange c. 500 BCE to 800 CE. Regional trade included bronze vessels from Yunnan and cowries, cotton, salt and possibly tea from the Samon (Moore 2009a; Tan 2009). Further investigation may also be merited in Tibet in relation to the 'musk route' (Philip Denwood, pers. comm., 2008). East of the salt-rich Namtso Lake and the Damxung region, the Nu River within eastern Tibet then turns south as the Thanlwin (Salween) of the Shan Plateau. Of note are stone implements with 'distinct rounded shoulders and arched blades' of the Nu and Lancang. These are seen later around Lake Er linked to ecological changes and movements of peoples in the second millennium BCE (Chiou-Peng 2008: 34-43, 40-1). While the climate and materials differ from Myanmar, the seasonal movement of livestock in Tibet recalls Myanmar traditions of ancient migration from the 'northwest'. Seasonal migration may also have prompted use of in-gyi,

or seasonal lakes, that were vital in the transition from the Bronze-Iron Age chiefdoms and to Buddhist kingdoms.

The Chindwin and Samon artefacts bespeak multiple origins, with the 'Ah-thi' or original people of Samon Valley perhaps providing a refuge for sedentary dwellers around the Dian and Xingyun lakes of the Shizhaishan and Lijiashan Cultures (Than Tun 2005: iii). The two regions have similar profiles of wet rice agriculture and animal husbandry. The sedentary to equestrian Dian profile of cultural appropriation has parallels in Myanmar with the seeming taking of motifs and materials from the Chindwin to the Samon. This suggests a local origin connected to the northwest and not a north to south movement of technology. Again, however, searching for a singular origin can be misleading for there were multiple routes of interchange. The Samon Culture, rich though it may have been, died out with increasing Han domination and the growing 'Sinicization' of artefacts from Yunnan (Chiou-Peng 2008: 34-43).

The Samon and Upper Myanmar Cultures may have been recognized by the Han but only as lying beyond the 'barbarian' regions of Yunnan. The transition from Bronze-Iron Age to Buddhist politics in Myanmar was catalyzed by trade with South Asia, Yunnan, and Central Asia. This included a rapid increase in iron production, more sophisticated exploitation of seasonal lakes, use of semi-precious stones and gems, and precious metals, such as silver and gold. It was not necessarily a smooth transition with an abrupt shift from Yunnan to South Asia in the politics and culture of Myanmar perhaps correlated to Han expansion and fluctuating relations between Yunnan, Tibet, and the Han court. When understood in this context, Myanmar moves from being a 'buffer' between South Asia and China to center stage in the changing kingdoms of first millennium CE South and East Asia.

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3. Pyawbwe and Tagaung:

**Ethnicity and ritual change in the
pre-Bagan landscape of Myanmar**

Pyawbwe and Tagaung: Ethnicity and ritual change in the pre-Bagan landscape of Myanmar

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INTRODUCTION

Pyu contacts with South Asia have been examined time and again, but despite the long dialogue between Upper Myanmar and southwest China, the role of Yunnan has received far less attention. From long before the making of ceremonial stone rings to the consecration of temples at Bagan, this interchange drew in many different groups moving across the landscape. Within this broad, flat terrain, the Pyu began to build walls *circa* 300 BC - 300 AD. We do not know to what extent their domains or groupings were defined by these walls. We know even less of the patronage networks underpinning the diverse religious sects suggested by their varied artefacts.

It is possible, however, to understand the breadth of meaning embedded in the Pyu sacred landscape. This was, and is, both concentrated within particular locales and distributed along wider reaching paths. In the same way that 'Pyu' can designate a walled site as well as a language in variable condensed contexts, and a culture in a more general sense (Bradley 1994:96), Pyu paths intersected with those of local and more distant groups. Some artefacts of these 'others', found in the Lower Chindwin (c. 21.20-22.30n x 94.45- 95.30e) and Samon (c.19.40-22.00n x 95.30-96.15e) valleys of Upper Myanmar have technological affinities but no formal spiritual kinship with the Hindu-Buddhist culture of the Pyu. These objects do, however, resonate ritually and technically with aspects of Yunnan cultures in the late first millennium AD. Likewise, events up through the Ninth century AD demonstrate the continuity of Pyu-Yunnan connections.

To perhaps a greater degree than the rest of the mainland, Myanmar exchange with Yunnan greatly influenced prehistoric production and trade. This was increasingly countered at the turn of the millennium and early centuries AD by contact with Tibet and South Asia. Thus the Iron Age in India (*circa* 700-350 BC) and the construction of embankments for water control and defence at sites such as Pataliputa (Indrawoath 2004: 133) was likely to have been known on mainland South-east Asia. These contacts also promoted a host of well patronised and consequently varied ritual

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communities whose formation, especially in Hindu-Buddhist contexts, may have offered a viable means of economic growth and territorial identification in the face of proliferating Yunnan-oriented wealth in the Samon region north and south of Mandalay. The southward extent of such involvement is illustrated by several bronze musical instruments from Pyawbwe (20.36n x 96.12e) discussed in the second half of this paper.

The introduction of bronze, illustrated here by objects from the Chindwin valley and related areas, does not appear to have been associated with great social and production change. However, it is suggested that such changes are evident in the Samon materials. While differently played out in the Chindwin-Samon-Pyu case, parallels can be seen in analysis of the Yunnan Dian (Shizhaishan) bronze cultures in the mid- to late first millennium BC.²

Recent finds from Tagaung (23.10n x 96.01e) and Pyawbwe suggest that not only was transformation underway, but that the emergence of walled centres within the widespread distribution of artefacts called 'Pyu' was fostered in part by an accelerated specialisation of the Samon bronze production. This increased diversity is apparent in contrasts between the Chindwin and Samon ritual objects, where a progressively more competitive climate of resource control, patronage and hierarchy contributed to the manufacture of an ever greater variety of objects. Thus rather than discussing the Pyu in order to identify particular rulers or sects, the Chindwin and Samon context for the Pyu is used here to raise the wider issues of chronology, cultural appropriation and ethnicity discussed below.

CHRONOLOGY - UPPER MYANMAR AND YUNNAN

There are questions and ambiguities at three points of the time span concerned, briefly noted here before working back through the chronology. The earliest discussion stems from the Chindwin materials of circa 1500 - 1000 BC. The Chindwin bronzes are all weapons found in mortuary contexts such as those excavated at the Nyaunggan cemetery (22.24n x 95.04e) in Budalin, Sagaing. Ritual objects from these sites are principally polished stone rings, mortuary pottery and possibly 'distillation' vessels. It appears that parts of the Chindwin population used bronze for burial in the midst of extensive Neolithic cultures (Moore 2005). Like cemetery sites such as Wanjiaba (Eighth to Fourth century BC) and Dabona, east of Lake Er (Murowchick 2002: 140), no settlements have been documented so far, with all finds being from cemeteries or surface survey.

The Samon region may have appropriated some of these Chindwin ritual goods. For example, many Chindwin polished stone ring shapes disappear and the Samon rings are glass as well as stone.

² 'Dian' is the term most commonly used to describe the artefacts from the cemetery of Shizhaishan near Lake Dian, Kunming. The bronzes are also called Dongson, reflecting riverine exchange networks between Yunnan and Vietnam (Cao' 2004a). The earliest bronzes from Yunnan date back to *circa* 700 BC but the most well known of the Dian materials are dated to *circa* 400 BC to 100 AD.

Also, miniatures appear in Samon burials, including spears, bronze packets and 'distillation' pots. To some degree this process resonates with the Dian appropriation of pre-existing ritual objects. However, unlike the equestrian incursions into Yunnan, the Samon repertoire does not have the same clear dichotomy between mobile conqueror and settled native populaces as seen in the highly graphic art of the Dian. Weapons rather than agricultural tools are the Samon norm, and one double burial at Hnaw Kan was associated with the deposit of a horse (Pautreau et al 2001: 99, 2003:62, 2004). However, no clear counterpart is seen to the merging argued for the drum-shaped cowry containers of Shizhaishan, which combine a ritual object (the bronze drum) with one of authority (the cowry shell container) (Namio Egami 1985: viii, x).

The potentially wide ethnic diversity during this time is suggested by an interesting aside by Luce that the human designs on the Dian bronze drums resembled the high tail feather figures of the Austronesian Kalimantan Dayak groups - and that similar groups may have occupied Myanmar. For the most part, however, Luce restricts his examination to Chinese written sources on the Pyu and their descent from regions to the northeast (1969:3). Luce speculated that the Chinese occupation in eastern Yunnan around 109 BC augmented earlier trade routes to India, a pattern continuing after 69 AD when the Han established themselves on the border in Yunnan (1960: 307). Elsewhere, it is also suggested that the rise of the Iron Age Chinese may have caused existing networks to Southeast Asia to expand (Pirazzoli-T'Serstevens 1979: 127).

The underlying sense emerging from such suggestions is that changes and elaborations between and within different groups were constantly in motion, whether during the late centuries BC or the early centuries AD when Hindu-Buddhist teachings reached Upper Myanmar. And as noted above, it is argued here that the establishment of well patronised and eclectic ritual communities within the Samon and Pyu domains may have in part encouraged the construction of Pyu walls. These were certainly built time and time again, but many centuries later, Yunnan remains key in understanding events of the Ninth century AD discussed below.

THE PYU AT HALIN - POPULATION CENTRES, SEQUENCES AND GROUPS

Emissaries from the Chinese court recognized the P'iao (Pyu) capital, Halin or possibly Tagaung, noting the glazed bricks of the city wall in the Ninth century AD. The outer and presently visible Halin (22.28n x 95.45e) wall may date to this period, events related to political consolidation and religious transformation in Yunnan. Halin in this context was either allied with or subject to Nanchao, located in the region around the Erhai Lake some 500km to the north. This era saw the establishment of Tibeto-Burman rule with Nanchao and its successor, the Tali kingdom maintaining power until the invasions of the Mongol Kublai Khan in the mid-thirteenth century AD (Guy 1995:64-5, Backus 1978:83-89, Moore 2004).

Other links to Yunnan around this period are present in a large slab over a metre high unearthed southeast of the Halin city wall in 1929, near to the find spot of an inscription mentioning King Ruha

(Aung Thaw 1972:12). Just below the broken edge of the slab can be seen the feet and right hand of a figure of a Bodhisattva or Mettaya (Maitreya). Below are three rows of 53 devotees in a posture of veneration, some with head turned upwards, others facing forward. Some figures have long ears, others earrings and many wear necklaces. Some wear peaked caps, others have coiled hair, and a few wear coronets. The faces are animated, with the strongly portrayed noses recalling the faces depicted on bronze armlets excavated at Letpanywa, near Beikthano, described later in this paper (Nyein Lwin 2004). The stele figures are in tiers but the arrangement is not rigid, and those in the front row are seated informally (Luce 1985:150).

Although the sculpture is broken, this arrangement of figures, the expressiveness and detail of the carving, the size of the stele, and the posture of the upper image all make it significant. In addition, an eight-line Pyu inscription (with no interlinear Brahmi) was carved on the middle of the stele, underneath the large image. This mentions another royal figure, Sri Jatrajiku, perhaps the name of a queen. The bun-like top-knot of some of the figures on the lower tier closely resembles that of a figure identified as Nanchao king on a 10th century AD hand scroll showing the dedication of an image of Avaloketisvara (scroll from Guy 1986). Here, the Nanchao king is dressed much as the figures on the stele. This can particularly be seen, for example, in the lowest row with the fifth figure from the right where the hair is gathered on the top, and the man wears a simple collar-like necklace.

These sympathetic Yunnan orientations do not correspond well to the commonly accepted scenario that the Pyu capital fell after Nanchao incursions in 832 AD and 835 AD. The captured Pyu were transported to Nanchao, supposedly signalling their decimation and the rise of Bagan (Backus 1978: 211, Gutman 1996:166). This often repeated rubric is based on one passage in Chinese accounts but it is one that bypasses another that mentions Pyu mercenaries in the Nanchao army. The first notes the 'plunder' of the Pyu, and how the exiled captives were reduced to "subsisting on such things as fish and insects. Such has been the end of that people." The second notes that "fierce soldiers" of the Pyu were part of the Nanchao troops during campaigns against Annam in the 850's (Backus 1978:212).

A Ninth century downfall of the Pyu sets Beikthano, Sriksetra and Halin within a sequence of capitals implying that one centre after another dominated much of present day central Myanmar. Tagaung is not even included, for as discussed below, it is only recently that excavation has at last substantiated the chronicle's record of its antiquity. There is little substantiation for the single centre sequence, particularly for Halin, which lacks even the traditional pairing seen with the chronicle accounts of Beikthano and Sriksetra (Pe Maung Tin and Luce 1960). The Beikthano dynasty is traced to Tagaung, not Halin, reinforcing the impression of multiple centres continually fluctuating in size and power.

The presence of multiple groups is suggested in Yunnan at this time by the varied clothing and actions seen in the pictorial compositions of early first millennium AD Dian bronze drums. The native Dian farmers are shown wearing their hair in buns, but the equestrian Kunming peoples wear

their hair in plaits (Namio Egami 1985: viii). These are taken as indicators of a 'multiethnic environment', and an 'entanglement of multiple cultural influences' (Calo' 2004). Both these concepts are relevant to the Pyu, as discussed below in relation to chronicle accounts and linguistic groups.

A sense of multiple and shifting boundaries and groups is present in the many toponyms in an early Seventeenth century AD chronicle, the *Zabu Koncha*. This lists some twenty sites as Pyu, north and south of the Chindwin-Ayeyarwaddy confluence. These begin with Halin, then shift to first the Upper Chindwin, then the Shwebo region near Halin, and next Ton Nge on the west bank of the Ayeyarwaddy across from Tagaung (Win Maung (Tampawaddy), 1999). While the antiquity of the *Zabu Koncha* and the correlation of names and places can be debated, there are other threads that bespeak a palimpsest of Pyu groups.

As summarised by Gutman and Hudson, Luce combined a number of sources to identify the presence of many groups within the Sino-Tibetan language family. These included ones mentioned in the chronicles such as the Sak-Kantu (Thet Kadu), the Kyan (Chin) and the Pyu (P'iao, Tircul) (Gutman and Hudson 2004: 151, Luce 1985). The Pyu domains are said to have stretched from Cambodia to India and Nanchao to the ocean, with multiple centres of variable authority. Some references speak of eighteen dependent kingdoms and Luce cites nine garrison cities, the principal one perhaps nearest to Nanchao. The tribes of the Pyu are also mentioned in various Chinese texts, their number ranging from 298 to 32 (1985:70-71). This is further elaborated by Luce in his discussion of the Kadu during the Eleventh century AD, calling Tagaung their 'eastern capital' (1969 v1:28). While Luce's arguments are in relation to Bagan many hundreds of years later, the repeated reference to numerous groups strongly suggests that while a newly settled group may have catalysed the construction of the walled cities of the Pyu, that these emerged in the context of earlier and multiple cultures.

As this implies, the focus of the present paper is on the question of multiple Tibeto-Burman groups. While a stimulating debate, the subject of the dispersal of Austro-Asiatic peoples within Myanmar falls outside the scope of this paper. The matter is briefly raised below in relation to the strategic location of Tagaung on the Ayeyarwaddy, early migrations and the later inception of wet rice farming (Higham 2002: 110, Higham 2004:51, Glover and Bellwood 2004: 11). It recurs in the description bronze musical instruments from the Samon, in comparing them to the Pyu or Mon musicians of the Ninth century AD. Luce advocated a Mon heartland in Kyaukse (1969: v1:30-1) and as noted above, speculated about earlier Austro-Asiatic peoples in Upper Myanmar. Several scholars discount Mon presence in Lower Myanmar until the medieval period, although this opinion is not universally held and does not fully account for the multiple walled sites of the Mon State and Tanintharyi Division (Indrawooth 2004: 135, Aung Thwin 1998, 2002, San Win 2002, Moore 2005a, 2006).

The spatial as well as ethnic configuration of Pyu material culture remains ambiguous, with the unverified sense that any object found even remotely within an area where a Pyu inscription has

been found bespeaks a populace that spoke Pyu. It also implies that the scripts used to write Pyu were developed in the context of a single Tibeto-Burman dialect. As noted by Bayard in relation to the presence of multiple languages and dialects, the lowlands of the first millennium BC may have approached the contemporary highlands in their complexity, with people perhaps changing dialects as expedient (Bayard 1979: 280, Gutman and Hudson 2004: 151).

The distribution of Pyu artefacts in relation to the large walled centres has likewise received little documentation, despite general acceptance that they cover much of the central plain. However, excavations in 2001 and 2002 by the Department of Archaeology, at the village of Letpanywa (19.48n x 95.58e), 30km southwest of Beikthano, yielded data supporting the impression that the use of finger-marked bricks was not restricted to the walled sites. The excavations also begin to *document the relationship of villages with brick structures to the walled centres. Finds included skeletons inside and outside the boundaries of two rectangular buildings. All the skeletons were associated with an iron artefact ranging from swords, to hammers and spears. Among the other objects were two flat bronze bands (c. 2cm dia), each with a dozen large-nosed human faces worked in relief (Nyein Lwin 2004). As noted earlier and later in this paper, in their simple depiction of a human face, these echo both the faces on the Halin stele and those sketched on the outside of a Samon (or Dian) bronze bell from Pyawbwe. The Letpanywa finds provide useful testimony of not only the variation in metal expertise, but the possibility of trade between different groups, be they ethnically or ritually distinct.*

LETPANYWA: FINGER-MARKED BRICKS AND SITE IDENTIFICATION

One of the most indexical finds of the brief excavation at Letpanywa cited above is the presence of finger-marked bricks. All the finger-marked bricks are large, with lateral or diagonal lines drawn with fingers across one of the broad faces. They are considered reliable indicators of pre-Bagan culture, given their lack of portability and value as a trading item either in the past or at present (Moore and Aung Myint 1991). Finger-marked bricks are also found in the south, in the laterite 'Suvannabhumi' sites of the Mon State and at walled sites around Dawei, Tanintharyi Division. In all these contexts, as with Letpanywa above, or Tagaung as discussed below, the bricks are used to identify the site with an ethnic group, either Pyu, Mon or Dawei, a question returned to in the conclusion to this paper.

Between March and August, 2004, the Department of Archaeology found a range of Pyu and Neolithic objects at Tagaung. The pieces included polished stone rings and weapons, bronze bracelets, beads of terracotta, bone, and semi-precious stones; shells, animal and human bones. The polished stone rings and tools are taken as reasonable indicators of the site's Neolithic occupation. In the lowest of four layers of one excavation trench, under a number of burial urns, finger-marked bricks were found. As much as the urns and beads, the finger-marked bricks are commonly seen to verify Tagaung's Pyu phases and to support the chronicle's designation of it as the first capital of the country.

TAGAUNG - PRE-PYU ROOTS, BEINNAKA AND 'FALL' AT THE HANDS OF THE CHINESE

The presence of both Neolithic and Pyu artefacts at Tagaung is echoed in another type of legend, one of the transformation of nats from tree-spirits into the anthropomorphic images known today. According to traditional accounts, neither Pyu nature spirits nor ancestral figures were represented in human form. It has been suggested that it was only with the absorption of Pyu Tagaung by the consolidation of the Bamar at Bagan, that venerated but not represented natural elements were transformed into fully recognised tutelary spirits (Brac de la Perriere 2002:100).

As noted above, chronicles accord a primary place to Tagaung, and it is referred to in relation to a number of locations. The account of the last king of Tagaung is linked to Beinnaka, in Pyawbwe, Mandalay Division. Several bronze musical instruments discussed in the context of the Samon artefacts later in this paper, were found near Beinnaka, at the village of Myauk Mee Kon (20.37n x 96.11e). The village mound is one of four located just east of the Samon River at the foot of the Shan hills northeast of Beinnaka. Myauk Mee Kon is south of Pin Thaung and Kye Taung or 'copper mountain' and north of Kon Tha and Padi Kon (Nyunt Han et.al.2002:2). Beinnaka is a large rich site that like both Halin and Tagaung has yielded not only Pyu but Chindwin and Samon artefacts. A number of streams branch out in the Beinnaka area, with canals as well indicating its favourable location (Saw Lwin 1976: 310).

Other indications of Beinnaka's ancient prosperity are seen in finds from Padi Kon ('bead mound'), excavated by U Sein Maung Oo, Department of Archaeology in 1985. The work was undertaken in part due to local records recording variants of 'Beinnaka' leading to suggestions that it may have been associated the last king of Tagaung (Myint Aung 1982). Like the Ninth century demise of Halin, the fall of Tagaung is attributed to a Chinese invasion, leading to tripartite migrations. One group founded the 19 *Kharuin* of Kyaukse elsewhere referred to as the Nineteen Shan States with its dynasty the Bhinnaka Royal Lineage (Win Maung (Tampawaddy) 2002, Aung Thwin 1982:16). The *Glass Palace Chronicle* preserves record of these events:

"In the time of the last of these kings, Bhinnakaraja, the kingdom of Tagaung, called Sangassaratha, perished ...Bhinnaka, mustering what followers he might, entered the Mali stream and abode there. When he died his followers split into three divisions. One division founded the nineteen Shan States of the East and were known thenceforth as the descendants of Bhinnakaraja. Another division moved down the Irrawaddy and entered the Western country, where dwelt Muducitta and other Sakiyan princes among the Pyus, Kanyans and Theks. The third division abode in Mali with the chief queen Nagahsein." (Pe Maung Tin and Luce 1960:3)

The later history of the lineage is also mentioned in the *Glass Palace Chronicle*, with the descendants of King Bhinnakaraja Raja still existing at the early 14th century AD site of Myinsaing, near Kyaukse (Win Maung (Tampawaddy) 2002).

TAGAUNG - SITE DESCRIPTION

The Tagaung sites stretch some 32km along the Ayeyarwaddy near its junction with the Shweli, in Thabaikkyinn Township 200km north of Mandalay. Three walls surround the old city, the outermost curved wall enclosing a northern and southern portion. The northern fish-tail shaped walled sector may have been the first, with record of finger-marked bricks in an octagonal foundation, and molded bricks in an encased stupa. The southern wall is a rectangle with rounded corners. It is within here, known as Anya Bagan or 'north Bagan' that the 2004 excavations were carried out, in the compound of the Tagaung Basic Education High School. While the walled area today is on the east bank of the river, it is possible that both banks were once enclosed; the Kalaywa stream also indicates that the course of the river may have shifted somewhat to the west (Win Maung (Tampawaddy) 2004b). A number of villages along the bank of the Ayeyarwaddy such as Kyan Hnyat Kon, and Padi-phyu, have yielded stone tools, finger-marked bricks, urns, beads, and bronze and iron tools. Iron furnaces have also been documented, many indicated by village names prefixed with 'than' (iron) (Win Maung (Tampawaddy) 1997).

The excavations yielded four levels of pots at 180cm, 127.5cm, 110cm and 75cm, along a 6.3m trench (Win Maung 2004b). Twenty-five finger-marked bricks were found under the lowest level, forming a clear 'floor' for the funerary urn deposits. The pots were varied (32 - 60cm high), a number containing fragments of bone and ash, with other animal bones reported. There were a range of pedestal and round bottom pots, as well as water pots with long slender necks. Some of the narrow necked water vessels and bowls were incised, with two horizontal bands bearing concentric circular designs between the lines, and vertical pairs of lines spaced around the lower part of the pot. Others were reportedly decorated with images of roosters and bowls along with lines, diamonds and waves, and one contained a 2.5cm thick circular rattan frame (New Light of Myanmar 2003, 2004). The tallest pieces (60cm) were of two types, some with a long neck and wide mouth, others flat bottomed with a domed lid. In form these resemble some of the jars from Yunnan sites such as Daxingzhen and Aofengshan (Kan Yong 1985: 61, Fig. 7). A number of other materials were recorded in addition to the pots: shells, copper and bronze bells, bracelets, rings, lids, swords and a spoon (11.5 inches); iron bracelets, brackets and rivets; a gold plate (2.5cm square) and two gold butterflies (1.1cm square) and silver bracelet-like artefacts. There were also beads made of terracotta, bone and various semi-precious stones, such as drum and cylinder shapes.

Despite the finds of polished stone rings and tools at Tagaung, excavations have not yet yielded these in a stratigraphy with urns and finger-marked bricks. A 'transitional' stratigraphy such as this has been reported just outside the southeast gate of Halin, although the result of villager digging rather than formal excavation (Halin villager report courtesy U Sein Lwin, 08:04). With this caveat,

the 4.2m finds are worth mentioning, for they included six layers in a clear sequence which sets out succinctly the probable sequence of finds. It is thus briefly cited here from bottom to top:

- large stone rings and north-facing skeletons
- north-facing skeletons, stone rings, bi-pointed bronze axes and arrowheads
- north-facing skeletons, carnelian beads, bronze spiked ring
- north-facing skeletons, urns, brown-red talc beads and multiple rounded point white stone ring
- east-facing skeletons, iron arrows and petal-shaped spears in bronze hilts
- flanged round rings, carnelian tiger beads, black and white line beads, infant burials in pots

While suggested only by villager reports, this recent report indicates the depth finds that might be expected at most putative 'Pyu' sites. In addition, the changing pattern of skeleton orientation has been recorded at a number of sites with Chindwin, Samon and Pyu material (Win Maung 2003, Moore 2004a, and Pautreau et al 2004). For example, at Nyaunggan, all but two skeletons were oriented to the north, at Hnaw Kan to the north or northeast (Pautreau 2002:61). At Ywa Htin Kon, however, the general orientation of more than a hundred skeletons was in an east-west direction (Pautreau et al 2004).

TAGAUNG, HALIN AND THE AYEYARWADDY

Changing orientation and stratigraphic transitions may eventually be able to link the most northern site discussed here, Tagaung, with the above finds from Halin. In addition to artefactual comparison, this can also perhaps shed light on the inclusion of Tagaung but not Halin, in the later royal chronicles. Halin is 90km from Mandalay, midway to Tagaung, all connected by the Ayeyarwaddy. It is useful at this juncture to briefly describe the resources around Halin, in order to emphasise the long attraction of this river for commerce and trade. Halin is known for its salt production from underground water, although early Chinese accounts also mention its beans, paddy, millet and sugarcane crops. Given the presence of iron concretions in the pale yellow savannah soils, the area is not surprisingly also known for its blacksmiths. Other local industries include goldsmiths and a local pottery glaze produced from the dross (*kyaw*) of silver ore obtained from the Shan State (Kyin Htay 1959: 170).

An early Ninth century AD Chinese minister, Chia Tan (785-805 AD), reached Halin via the Shweli valley and the northern Shan States. He then travelled on through the Black Hills, Chin State, into Manipur and India (Kyin Htay 1959: 35-6). It is via the same route through Manipur and Halin that Buddhist influence is thought to have reached Yunnan. It is also along this Ayeyarwaddy route that much earlier movement of peoples probably occurred. In this context, these may have included Austro-Asiatic groups sometimes credited with the bringing of wet rice farming from southern China in the second or third millennium BC (Higham 2002: 110, Higham 2004:51). Others suggest that Austro-Asiatic languages were dispersed on the mainland during the Neolithic, with wet rice being linked more to ecological opportunism by farmers, again from the north, of the Hmong-Mien family (Glover and Bellwood 2004: 11). One of the main conduits in these discussions is the Salween River, but not the Ayeyarwaddy. Sorenson discounted this river, based on the scant evidence avail-

able from Movius' 'intensive' work in the 1940's (Sorenson 1972: 497, de Terra and Movius 1943). In fact, the expedition of Movius surveyed only a section of the middle portion of the Ayeyarwaddy, not its upper reaches or the Chindwin, prime candidates for migration. This unresolved issue relates not only to the establishment of wet rice but the material discussed below, named after the Samon valley area south and north of Mandalay.

SAMON ARTEFACTS

During the proposed period of the Samon sites (*circa* 500 BC - 500 AD), iron emerged in both Samon and Pyu assemblages. The time span is approximate, one generally applied to much of mainland Southeast Asia (Glover 1999a: 87, Higham 2003: 158, 166). The few radiocarbon dates for the Pyu indicate an extent of *circa* 200 BC - 900 AD, thus displaying a considerable period of overlap between the Samon sites and the Pyu (Moore 2003).

Samon bronzes include both weapons and ritual goods, the most striking being a bronze 'mother-goddess' figure. These were first recorded in 1998, followed by a series of excavations in the Samon valley south of Mandalay. Related finds continue to be made north of Mandalay at Halin (22.28n x 95.45e) and both bronze and iron artefacts have been recovered from Tagaung (Win Maung 2004a). As of this writing, none have been securely dated, although given the presence of iron and glass in the assemblages, the late centuries BC or early centuries AD date is plausible. The composition of the Samon bronze appears to differ from that of the Chindwin. For instance, analysis for the author courtesy Nara Cultural Properties Research Institute (1998) of a bronze axe from Salingyi (21.58n x 95.05e), gave a result of 99.5 percent copper content, whereas the complexity and friability of the *kye doke* and 'mother goddess' figures of the Samon seems to be a more complex alloy (Pautreau 2004). However, given the small amount of data, this suggestion may be modified in future.

'MOTHER-GODDESS' AND KYE DOKE

The 'mother goddess' figures appear to have been made by beating and measure 60-90cm long, with breasts and womb emphasised. Some have several torsos joined at breast and hip, but even in these cases, they do not have a head, unless the neck is seen as a head or they originally had a face in a perishable material such as wood. The mother-goddess figures have not been found in all burials. Nor is there any reference to their distribution in relation to the mortuary groupings noted at Myo Hla (Pautreau et al 2004).

Perhaps the most ubiquitous Samon pieces are the *kye doke* or bronze packets. These are packets of thin bronze wire 'tied' into bundles with an outer wire. They are usually *circa* 7.5-cm long, although some from Halin are only 1.5cm. Each *kye doke* is made up of a variable number of bronze wires some half a centimetre wide, with the tips of the wires sharp, indicating that they were cut or twisted off from a longer wire. Each bundle is fastened around the middle with wire, and some of the wrapping wires bear traces of cloth. Traces of cloth have also been reported on bronze axes recovered from Samon sites. The packets are assembled into larger bundles with ten or more pack-

ets, generally found on either side of the shoulder, the chest, or in the upturned hands of the skeleton. Skeletons may have anywhere from one to seven packets in the hand with others laid in a vertical or horizontal row on the chest. Up to thirty, found on different parts of the body, have been reported from a single burial.

It is possible that they are linked to animal husbandry, with parallels for the form seen in the bundled grain ears of rice and barnyard millet found at Haimenkou in the Erhai Lake area of Yunnan, taken as indicator of settled agriculture and animal husbandry (Kan Yong 1985:5, 26). In the Shwebo area of Halin, paddy ears are cut short so the remaining stalks can be reaped separately for fodder, which is then tied into bundles to be more readily chopped for fodder (Khin Htay 1959: 98). It has also been suggested that the *kye doke* were indicators of age, or needles (Pautreau et al. 2001:100), or that given their frequency and placement with the dead, that they were ingots (Ian Glover, pers.comm. 09.04).

COFFINS, AXES AND IRON

Another common mortuary object is flat spiral or floral ornaments, thought to have been fixed to the sides of coffins, with the 'mother goddess' on the top. A coffin, but not with bronze ornaments, was reported from Myo Hla and at Hnaw Kan some skeletons were found on the remains of wooden coffins, possibly having been wrapped in mats (Pautreau et al 2003: 61, 2004). Given the radiocarbon date of 2350± 90 BP for the bronze coffin of Dabona in Yunnan and dates from wood on a coffin from Wanjiaba of 2405±80 BP (Kan Yong 1985:68), the Samon cultures appear to be later and less elaborate. Another analogy thus are the boat coffin burials from Ongbah (14.41n x 98.57e), Kanchanaburi, in west Thailand, which are placed in the late first millennium and associated with iron (Sorenson 1979: 78-81).

The Samon axes, like the Chindwin pieces, are socketed but longer (c. 7-9cm) and more rectangular. Many bear horizontal or vertical line patterns on the shaft portion, very similar to axes from Yunnan sites such as Daxingzhen and Jinguan (Kan Yong 1985: 72, fig. 14). The narrow and long bronze spears of both the Chindwin and Samon assemblages again have affinities in Yunnan pieces from Shizhaishan, although not as elaborate (Murowchick 2002: 161 fig.8). Swords were also made in a miniature form (c. 4cm) and bundled into packets for placement in the burial. Like the *kye doke* these have been reported in the hands of skeletons or underneath the wrist. The graves also typically include glass beads and discs and in some cases glass or stone rings. The glass rings are deep blue and can be bevelled on the inner and outer ring edges. Other materials have been found as well, such as ivory armbands found at Myo Hla (Pautreau et al 2004).

A few iron pieces have been reported from the Samon area, but these are few in comparison with the abundance of iron architectural fittings such as hinges and door sockets found at Pyu sites. They are also generally weapons although some hoes have been reported. At Hnaw Kan, Mahlaing Township (21.15n x 95.43e) for example, eighty-four burials were unearthed from twenty graves.

Bronze was only seen in *kye doke*, with iron tools including socketed axes and spearheads, sword and daggers (Pautreau et al. 2002). A repeated iron find has been a broad petal-shaped sword (c. 8-12cm), set in a bronze hilt (Win Maung (Tampawaddy) 2002). A number of such hilts, all finely made, have been recovered around Halin. The hilts are cast, about 7-10cm in length and with a slender oval-shaped cross-section (Win Maung (Tampawaddy) 2002-3, 2003:256). They are decorated with spirals and concentric circles around the midsection and rows of parallel incised lines on either end. In their workmanship and decoration, they are akin to those seen on daggers from a number of Dian sites in Yunnan (Kan Yong 1985: 63, Murowchick 2002:160).

TIGER BEADS AND 'DISTILLATION' POTS

Some of the tiger beads from Samon and Pyu sites are also akin to examples from the north, although the Chinese beads do not have a 'baby' in the tiger's mouth. They recall the feline figures seen in bronze engravings of the Dian (Murowchick 2002:162 Fig.10), or as discussed by Hudson, may have been associated with symbols of authority like the bronze inscribed 'Tally Tigers of the Qin dynasty (207-221 BC) (2002:1, Fig.8). As noted below in connection with the Chindwin materials, Dian associations, possibly ritual, may also be present small 'distillation' pots, along with miniature swords and *kye doke*, one of several Samon grave goods that may take their form from Chindwin pieces.

Based on plausible ethnographic analogy from the area, the 'distillation' vessels may have been used to produce an alcoholic liquid. They are pedestal pots with three perforated cylinders on the upper surface of the pot's shallow bowl (Win Maung, Nyunt Han et. al. 2002, Win Maung 2002-3, Moore 2003). When used, the cylinder pot would have supported a collection vessel, both placed under an upper pot with cool water that prompted vapour from the perforations to distil. The non-functional Samon variety (some only 4cm diameter) of a distinct Chindwin vessel has to date only been recovered from sites with iron artefacts (Win Maung 2003a).

While not raised elsewhere, it is possible that the fermented substance produced with the pots was used for ritual purposes, accounting for its subsequent use in miniature in the Samon. Motifs of tall jars being dipped with libation cups on bronze drums from Guang-nan, East Yunnan recall the Samon 'distillation' pots in function and somewhat in the postulated height of the apparatus. In both the Guang-nan drum examples, the vessels are pedestal pots being used for a liquid. These are described in the context of sacrificial scenes, with figures ladling liquid from a vessel to hand to another man and consummate the libation (Von Dewall 1981: 335, Fig. 48.1, 337-8, Fig. 48.6). While the use of the 'distillation' pots for the production of ceremonial liquid is a hypothesis, the use fits with the ritual and wealth display of the mortuary assemblages of the Chindwin, and could account for its transferral in miniature to the more hierarchical burials of the Samon. In addition to this Dian link in the 'distillation' pottery vessels, several other bronzes resembling those of the Dian have been found in Myauk Mee Kon, Pyawbwe.

MYAUK MEE KON, PYAWBWE: BRONZE MUSICAL INSTRUMENTS AND TAGAUNG

Several pieces from a village called Myauk Mee Kon suggest associations with the Dian region and also with Pyu records. These were amongst a number of other bronze artefacts and beads, including carnelian tigers found through villager digging. In addition to the fine artefacts, a number of large elephant tusks were seen (Sein Lwin, pers.comm. 08.04). Interestingly, these recall excavations in northern China near Chengdu in central Sichuan where some seventy elephant tusks were found along with life-size bronze human heads, 'spirit trees', jades, and ritual vessels are placed in the late second millennium BC (Murowchick 2002: 140).

Four items are described here - all heavy, well cast bronze musical instruments.

The first has a long handle (35cm) with two human figures on the end, affixed to a gourd-like bowl (10cm diameter). While at first site the objects seems a ladle, the heavy gourd-like end is designed to rest on a surface with the long handle vertical, and the bowl curves too far on the upper edge to be able to use for drinking without a second apparatus. Parallels are seen in bronzes called mouth organs from Lijiashan (Palazzo Venezia 1987: 52, fig. 10. 60cm, 1,4kg; 64, fig. 21. 39.5cm, 394gm).

The second is a 20cm high gourd-shaped vessel with a broken top. It is slender, somewhat like *hula sheng* mouth-organs, with examples from Lijiashan being about the same size. However, the Dian pieces are pierced for insertion of pipes and in some cases are surmounted by a bull (Murowchick 2002: 167 fig.13 28.2cm; Palazzo Venezia 1987:64 fig.22 35.5cm, 2.72kg).

The two Myauk Mee Kon bells are quite different, one (15cm) being heavy with a tall (2cm) hanging lug, and thick flat braids at the top and bottom of the smooth surface. The braiding detail is similar to the border of pieces of armour recovered from Lijiashan (Murowchick 2002: 162, Fig. 10). The hanging loop of the second, smaller and rounder bell (10cm height and diameter) is set within a concave top of the bell. The surface is unadorned, apart from a series of faces incised near the bottom. These are 'right side up' when the bell is held upside down, and are simple sketches of a face, almost like a daisy-face drawn by a child, in their simplicity reminiscent of the Letpanywa pieces mentioned earlier. It is possible that the figures have hands linked and were dancing, but the erosion of the surface has obliterated most of the details (Sein Lwin collection 09.04).

All these are complemented by a number of small gilded plaques from Shizhaishan (M13:65) that show a musical performance and dancers with headdresses (M13: 64). The figures are lively with some clapping hands and musicians playing a range of instruments such as a flute, various mouth organs and a drum in one belt buckle (Palazzo Venezia 1987: 50-1 fig.8, 9.5 x 13cm, 342gm). The Myauk Mee Kon pieces do not fit clearly within either the Chindwin or the Samon material with the closest parallels being Dian, dated to the mid- to late first millennium BC. It is possible that they came via Tagaung, which is about the same distance as Lake Erhai from Kunming, but to the southwest rather than the northwest.

MYAUK MEE KON: ETHNOGRAPHIC ANALOGY AND THE PYU MISSION OF 802 AD

One of the bronzes is similar to musical instruments made from gourds and bamboos, documented among the Shan peoples and much farther afield, among the Apo Kayan of Kalimantan. The Apo instrument (*Kediri*) is described as six-toned, with bamboos sealed to a gourd with a long curved protuberance. As the bamboos have small 'tongues' at the ends, the tone of the instrument is likened to a keyboard organ (Tillema 1989: 225). A much older analogy is seen in a very similar instrument, noted as a Shan mouth organ, one of the pieces reconstructed from accounts of the Pyu musicians sent to the Chinese court in the early Ninth century AD (Twitchett 1961, Than Tun 1965).

This mission, sent in 802 AD, gave a New Year's performance that was recorded by a court official. Parts of these accounts survive, with one particularly detailed record thought to have been the work of a musician. The orchestra, while often called Pyu, was perhaps more akin to Mon. Thus the ethnic description of the musicians may have been of Mons from places such as K'un-lun kuo noted in the *Man shu*. Links have also been made to the dress and instruments of Funan and the court of Lin-yi, whose population is also thought to have been Mon-Khmer rather than Tibeto-Burman. As noted earlier, the questions raised by this identification are of interest, but outside the scope of the present paper.

The Pyu-Mon musical pieces were made of various metals including iron, shell, bamboos, gourds, ivory, horn and strings. They included bells, cymbals, conches decorated with cords, harps, lutes, zithers, flutes, mouth-organs and drums. The large gourd mouthorgans were said to have 16 pipes making the shape of a phoenix wing, with smaller mouth-organs of a similar construction (Twitchett 1961: 180, 185, 191-2). Mouth-organs (and frog-drums) are also mentioned in Eleventh century AD Mon inscriptions of the consecration of Kyanzitha's palace:

'Then they sounded all the drum-chimes, flutes, trumpets and mouth organs, made the *lāthar* and the *mhāsār* rumble, beat the drum and blew the *kakā*; all the troops raised a shout.' (Twitchett 1961: 170 citing Blagden and Duroiselle 1921, *Epigraphica Birmanica* III, i: F: 34, 35 and a subsequent translation by H.Shorto).

BRONZE DRUMS IN UPPER MYANMAR

Given these connections of the Myauk Mee Kon bronzes to Yunnan, brief mention needs to be made here of fragments of 5 bronze drums recorded in Myanmar (Calo 2003, 2004 and ongoing). One whole drum has been found at Sin Bo between Myitkyina and Bhamo in Kachin State, but the other four are fragments, all from east of the Ayeyarwaddy north of Mandalay (Win Maung (Tampawaddy) pers.comm.02.09.04). A drum is also housed in the Bagan museum, having been found a number of years ago in the relic chamber of the Shwezigon pagoda. The Shwezigon drum bears only geometrical designs, although two fragments have bird designs, a hornbill in one case and in the other, a spotted bull with a plump bird perched on its hindquarters. This last motif is seen only rarely on the Heger I drums, sometimes in conjunction with boats (Calo' 2003).

CHINDWIN ARTEFACTS

Fewer links are seen to Yunnan in the Chindwin material, although there are associations in the halberd-shaped bronzes, the stone rings, and possibly the 'distillation' pots, as described above. Chindwin is used here to describe the limited range of high-copper (possibly Chalcolithic) weapons found in the 1998 excavation of Nyaunggan and a number of other sites in the Lower Chindwin (Moore and Pauk Pauk 2001, Nyunt Han 1999). The Nyaunggan site has not been dated although the bronzes have been comparatively placed about 1500 BC. This fits well with Chalcolithic Yunnan sites such as Haimenkou in the Lake Er Hai region, dated to *circa* 3500 - 3000 years before present (Kan Yong 1985a: 36), although this dating is still debated (Murowchick 2002:135).

A total of 44 burial features were identified at Nyaunggan, from which 23 complete and 21 incomplete forms were identified (Yee Yee Aung 2002, Tayles et. al. 2001). The most abundant mortuary good was pottery, including various globular pots and plates, with small ones possibly for oil. Distinctive pedestal shapes, some with lugs for hanging and other 'distillation pots' with three perforated cylinders on the upper surface, were also retrieved from 3 different graves (NW3, NW6 and SE 15) (Sein Myint 2003). As discussed above, more of these 'distillation' vessels have been found in the Samon, including many in miniature, so that the shallow bowl of the pedestal bearing the cylinders ranges from 48-4cm in diameter (Win Maung 2003a).

BRONZE WEAPONS AND CEREMONIAL STONE RINGS

Only 11 bronze weapons were recovered from the Nyaunggan excavations, mostly rounded axe/adzes, although some halberd shapes were found. In fact, halberds and a large paddle-shaped object were the first bronzes found by the owner of the Nyaunggan cemetery in the early 1990s (Moore and Pauk Pauk 2001). Although not as elaborate, the halberds are akin to *ge* from Dian sites such as Tianzimidao (Murowchick 2002:160 fig.7). Other grave goods included beads of stone, shell and terracotta. There was a certain amount of grave differentiation in the heaping of small pots over some of the skeletons but the absence of stratigraphic data has left ambiguity about heaps that might have been removed and about the possibility of skeletons under heaps left *in situ*. The bronzes from the Chindwin are all weapons, with ritual goods appearing to be restricted to a variety of polished stone rings.

These are often likened to circular rings found in Thailand, but the ones from Thailand are circular and often flanged. One example is stone rings from Kok Pleb, Bang Phae, Ratchaburi Province in central west Thailand. Rings excavated at this site included not only ones made of stone but shell, bone, and bronze 'bracelets' as well as stone ear pendants (Daieng-iet 1978). Parallels to similar rings, including jade, from China, have also been made (Gutman and Hudson 2004: 155). For example, polished stone circles with flanges are amongst the grave good recovered from the necropolis at Shizhaishan (Palazzo Venezia 1987: 93).

This is not the case for the Chindwin rings, which can be in a variety of shapes such as triangular, oval or square with rounded corners. Although often called 'bracelets', careful tabulation of the

placement of the rings on skeletons showed that a majority were not on the wrist (Tha Tun Maung 2002). This observation is corroborated by the author's observation of one burial (NW7/NKII) at Nyaunggan which originally had three rings, one under the upper left shoulder, one on the pelvic area, and a third underneath the left arm.

The closest affinities for the Chindwin rings, as with many other traits of the Samon and Pyu artefact, are in China. For example, square rings have been found at late Neolithic sites in the north-west of China and at Dian sites in Yunnan such as Lijiashan (Kansu Archaeological Team 1975, Yunnan Province 1975). More recently, six polished stone rings with points, and other ring fragments, were among the finds of Sha Fu (T'uong) Buddha's cave, excavated in southwest Yunnan some 40km from the Myanmar border. Located in the face of a cliff, the artefacts included burnished pottery with curvilinear designs. Skeletons and circular and square holes suggesting wooden structures have led to suggestions that the cave was associated with an incipient agricultural phase of the Late Neolithic (*circa* 1000 BC) (Wang Renxiang 2004).

While surface finds of stone tools and bronze axes have long been known in Upper Myanmar, evidence for the complex bronze and bronze-iron mortuary goods of the Chindwin and Samon has only come to light in the last fifteen years. The Nyaunggan cemetery in the Chindwin has been dated comparatively to *circa* 1500-1000 BC, the time period given for the establishment of a bronze-working tradition in Southeast Asia. The lack of a clear distinction in mortuary goods between metal and non-metal sites in the Chindwin suggests that at least the initial introduction of bronze technology did not signal a radical period of change, a conclusion reached for much of the rest of mainland Southeast Asia (Higham 2003). Rings of various forms continue to be found at sites in Upper Myanmar until the appearance of the Pyu brick walls and Hindu-Buddhist artefacts, a change supporting the ritual meaning attributed to them here. It also points to a consistency of belief maintained through different cultural phases spanning a considerable period, from roughly the second millennium BC to the mid first millennium AD.

CONCLUSION - ETHNICITY AND RITUAL CHANGE

It is not clear to what extent the distinct Chindwin and Samon assemblages represent different Tibeto-Burman groups or possibly a mixture of these and Austro-Asiatic Mon-Khmers. Likewise, the makers of finger-marked bricks at Tagaung have not been identified. If the Kadu indeed occupied the Tagaung region as suggested by Luce (1969:29), criteria are needed to distinguish between different Tibeto-Burman assemblages. The makers of finger-marked bricks at sites in the Mon State may have been unaware of their northern neighbours but conscious of sharing this custom with Dvaravati sites such as U-Thong - or the opposite may have been the case.

Similar questions arise about the Myauk Mee Kon bronze musical instruments, for whether were imported from the Dian kingdom in Yunnan or made locally, is not resolved. It is possible, given the Pyu musician's analogy in the piped mouth organ cited earlier, that they should be called Pyu.

Or, if the Mon identification of the musical delegation to Nanchao is accepted, one or both of the Chindwin and Samon assemblages can be seen in an Austro-Asiatic context. However - given the animist-ancestral character of the Chindwin-Samon ritual goods and the honouring of the Mon as the bearers of Buddhism to the Pyu-Bamar kingdom of Bagan - what is understandable is the absence of reference to earlier cultures such as those seen in the Chindwin and Samon in later royal chronicles tasked with validating the transmission of Theravada teachings.

All these doubts come back to the issue raised at the start of this paper about ethnicity and the Pyu 'tribes'. These issues are part of a wider enquiry as to how words are used in relation to artefacts found in the pre-Bagan landscape. Five words - Dian, Chindwin, Samon, Pyu and Mon - epitomise the problems of the existing terminology in using cultural (Dian), geographical (Chindwin, Samon) and ethnic (Pyu, Mon) words to refer to different areas of craft specialisation. All of these components were part of the pre-Bagan landscape. However, the permeability of their spatial and temporal framework is at odds with the clarity of fixed borders implied by the terms used to describe them.

Of these, ethnicity spreads through the early historical discussion of both Upper and Lower Myanmar. It also affects the definition of different groups in southwest China, where for example the records of Sima Qian (c.145-90 BC) for the Han court were intended to identify the economic and political use of these peoples for the Han empire (Peters 2002:76). In the case of the Pyu (P'iao), the identification of archaeological remains and some inscriptions in areas thought to be those described by the Chinese has fostered the identification of much of Upper Myanmar as 'Pyu' from roughly the First through the early Ninth century AD. In the case of Beikthano, the few radiocarbon dates are used to extend this to 200 BC (Aung Thaw 1968, San Shwe 2002, Stargardt 1990).

Pyu sites such as Tagaung, Halin, Maingmaw, Beikthano and Sriksetra are walled with bricks, some of which are finger-marked, and characterised by their Brahmanic-Buddhist remains. Tagaung is considered to be the first of the Pyu centres. As such, chronicles record its history back to the time of the first Buddha of this era, Kakusandha, although accounts are mostly in the time of the Buddha Gotama (Pe Maung Tin and Luce 1960:1-6, MODiNs.net). As discussed earlier, the legends of Tagaung link it to both Beinnaka and nearby villages such as Myauk Mee Kon, and also to Beikthano. It is thus, unlike, Halin, directly tied into the lines of kings leading to Bagan in the royal chronicles. Given this primacy within the chronicles, the Hindu-Buddhist material culture of these early first millennium AD walled sites of Upper Myanmar has until recently dominated the reconstructed profile of the pre-Bagan landscape. Although scholarly work documented the existence of a widespread distribution of polished stone tools, ceremonial stone rings and the occasional bronze weapon, the documentation of these generally remained within the 'prehistoric' domain.

As noted above, it is reasonable in this context to suppose that the Samon, like the supposedly 'later' Pyu, were a Tibeto-Burman group. When such groups 'descended' from the north is being pushed back much further in time with the continued documentation of the Pyu and the exploration of the Chindwin and Samon artefacts of Upper Myanmar. How the various Tibeto-Burman peoples

arrived is rapidly being fractured into ever changing 'spheres of influence' with multiple adaptations, perhaps contemporary or partially overlapping. This image has been developed in the context of the motif development on bronze drums found within Dian realms (Calo'2004). However, its picture of the transformation of cultures in a mixture of staccato and continuous development has both direct and indirect resonance for the present discussion of the relationship between the Chindwin, Samon and the Pyu. The artefact base is likewise varied, but as stated earlier, the catalyst in this case lies not to the west or in the mountainous terrain of the north but along the pathways and within the localisations later ringed with the brick walls of the Pyu.

In May 2004, the construction of the Myitkyina-Bhamo- Tagaung-Mandalay road was inspected (New Light of Myanmar 01 May 2004). The longevity and significance of this route has been discussed here in relation to the first millennium AD walled cities of the Pyu and the earlier bronze cultures of the Chindwin and Samon valleys. It is argued that the emergence of walled centres within the widespread distribution of artefacts called Pyu was fostered in part by an accelerated specialisation of the Samon bronze production, with the roots of this increased diversity seen in the contrast between the Chindwin and Samon ritual objects. In this context, out of a progressively more competitive climate of resource control, patronage and hierarchy, a variety of Hindu-Buddhist sects came to be housed within the walls of centres such as Tagaung and Halin.

Several well-used early routes for trade and military expeditions between India and China are thought to have passed through Myanmar. These included a road to the west up the Chindwin through Manipur and one to the northeast through Bhamo (Taw Sein Ko 1914: 329-30). Although the records cited by Taw Sein Ko are historical ones, similar links through Manipur and Bhamo would have been equally important in prehistoric times. When applied to the material described here, this bifurcation may help to clarify the relationship between the diverging Chindwin and Samon assemblages and the building of Pyu walled centres along the Ayeyarwaddy plains.

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Figures



Figure: Location of Tagaung, Halin and Pyawbwe in relation to Yunnan

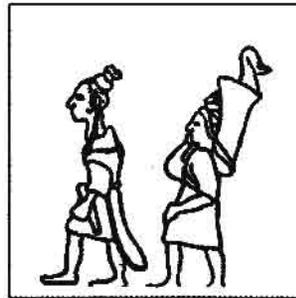


Figure: Images from bronze drum-shaped cowrie containers showing people with hair in buns
(Peters 2002: 89, fig 3; 88, fig 1; 93, fig 8)

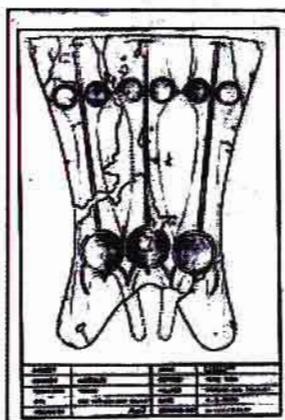


Figure: 'Mother-goddess' figure and Kye Doke (Courtesy U Win Maung (Tampawaddy))

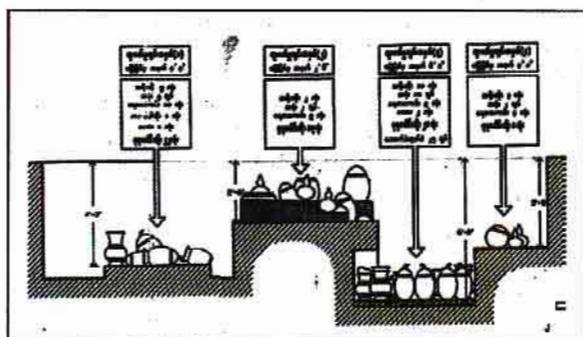


Figure: Tagaung excavation pit, 08.04 (Courtesy U Win Maung (Tampawaddy))

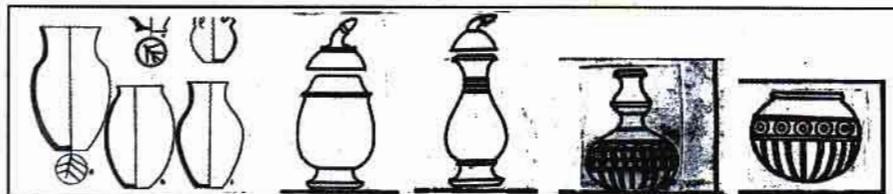


Figure: Three pots on left from Daxingzhen and Aofengshan (Kan Yong 1985: 61, Fig. 7);
Five pots on right Tagaung excavation, 08.04 (Courtesy U Win Maung (Tampawaddy))



Musicians and dancers, Dian region (Murowchik 2002)



Figure: Myauk Mee Kon bronze musical instruments (T&Q collection, 09.04)

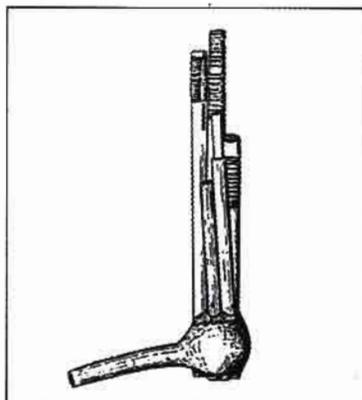


Figure: Shan mouth organ likened to 802 AD Pyu musical troop instruments (Twitchett 1961)

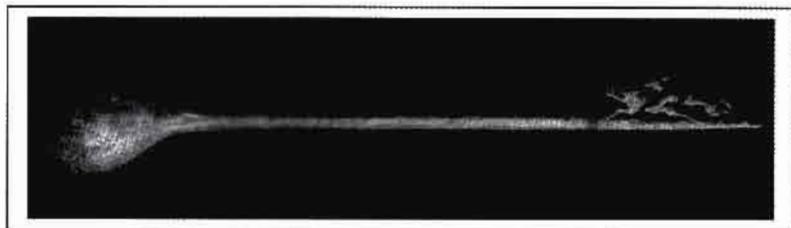


Figure: Dian bronze mouth organ (Palazzo Venezia 1987, fig. 10, 11)

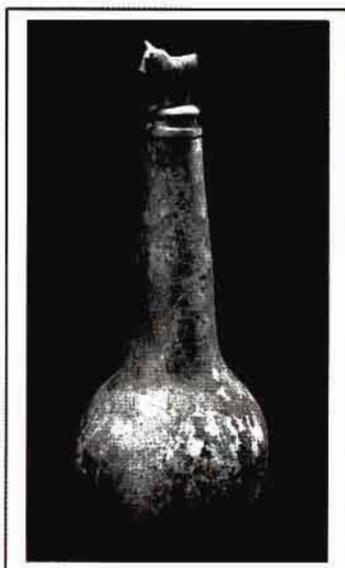
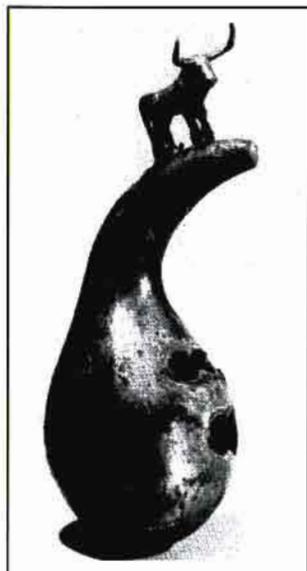


Figure: Dian bronze mouth organs (Palazzo Venezia 1987, fig. 13, 22)

4. Myanmar archaeology: Tagaung and the Pyu

Myanmar archaeology: Tagaung and the Pyu

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Abstract: Excavations in 1998-2003 at the walled site of Tagaung in northern Myanmar highlight sustained inter-regional exchange linking the late prehistoric to the formation of pre-state Buddhist polities by the late first millennium AD. The evidence supports the site's long chronology recorded in chronicles but also underlines a need to update ethno-linguistic typologies of Myanmar's early Buddhist cultures with the growing body of archaeological data. The article thus draws in archaeology; chronicles and historiography in assessing the significance of Tagaung.

Keywords: Myanmar, Tagaung, Yunnan, Buddhist, Pyu, finger-marked bricks.

INTRODUCTION

The importance of overland exchange between China, mainland Southeast Asia and India is widely recognized in the literature but the key contribution of northern Myanmar remains little documented². This paper seeks to address this gap with data from recent survey and excavations at the walled site of Tagaung (E96.01, N23.5) located 200 km north of Mandalay. Tagaung sits at the apex of a distribution of first millennium AD walled settlements spread throughout central Myanmar, Rakhine and the peninsula, 1000 km south. Like many of the walled sites, Tagaung overlies Neolithic and Bronze Age habitation layers of circa 1500 to 1000 BC. There are, for instance, socketed bronze implements (5-18 cm) as well as rough oblong (20 cm) and polished shouldered stone tools at Kyan Hnyat 30 km south of Tagaung³. From Ton Ngeh, 10 km north, a broken ceremonial stone ring has been recorded, similar to ones from the Chindwin valley and recent finds from the walled site of Halin⁴. Comparable pointed rings and burnished pottery with curvilinear designs have been excavated at the Late Neolithic (circa 1000 BC) site of Sha Fu (T'uong) or 'Buddha's cave' in

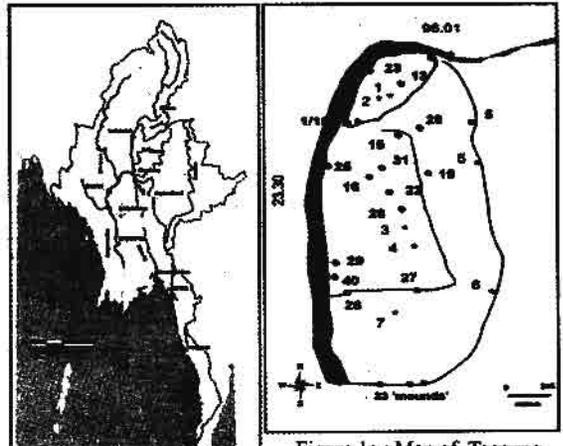


Figure 1: Map of Myanmar showing location of Tagaung and other sites mentioned in the text.

Figure 1a: Map of Tagaung region and sites

southwest Yunnan, 40km from the Myanmar border⁵. While at least part of Tagaung's dataset points to Yunnan, as Myanmar chronicles have long called it the legendary 'first city' founded in the time of the Buddha, its present archaeological context lies within Myanmar.

Early Buddhist Myanmar (circa 200 BC to 800 AD) is best known from the Iron Age walled sites of Halin, Maingtnaw, Beikthano, Sriksetra, and Thagara. Objects from the walled sites, however, are only a fraction of the iron implements, polished stone beads, glass, gold and silver images, silver coins, pottery and votive tablets of this period⁶. The walled sites of Upper Myanmar are associated with Tibeto-Burman language speakers including Pyu (P'iao, Tircul) and Sak-Kantu (Thet-Kadu). Luce praised the Sak as the most cultured among the peoples of Upper Myanmar while he called Tagaung the Kadu capital. The ethnographic documentation which Luce uses, however, is not decisive, and notes for instance that Kadu speakers call themselves A-Sak⁷. In later Chinese records Tagaung (Chien-tu) reportedly controlled walled towns including those of the Gold Teeth peoples (Chin-ch'ih, Lawa)⁸. As these references suggest, among the eighteen dependent kingdoms and nine garrison cities or the 298 to 32 tribes attributed to the Pyu in Chinese texts, a range



Figure 2: Bronze tool from Kyan Hnyat, 18 cm length.

of language speakers may have been present. Despite this varied profile, Upper Myanmar cultures of the first millennium AD have over time become known simply as 'Pyu' (often in tandem with the Mon) as the primary contributors to culture of the 9th to 13th century AD Bagan state. The recent excavations at Tagaung illustrate this process of generalization well as the diverse finds were seen to confirm only that it is Pyu⁹. As shown below, however, the evidence suggests anything but a homogeneous culture of a single ethnic group.

GEOGRAPHY

Likewise, the local ecology is varied, offering a range of habitats to different settlers. Two rivers to the east of Tagaung link the site to Yunnan: the Shweli leading to Muse and the Tabein (Taping) connecting to Bhamo. Gold-washing along the Ayeyarwaddy was common in the early 20th century, with silver mines to the east at Bawdwin and Yadanatheingyi at Namtu around Mogok. Copper and more gold are found along the edge of the Shan Plateau¹⁰. To the north and northwest are copper, gold-rich river sands and iron along the Meza stream, with jade mines along the Uru¹¹. Pheasants, partridge, toucans, pelicans, Saurus cranes and fish live around and



Figure 3 : Landscape east of Tagaung and Thaug Hwet Taung

in seasonal lakes or in-gyi and tall swamp grass areas. Tigers, elephants, banteng (Saing), gaur and deer were once common, with wild elephants held at Hsin Hnyat.¹²

Varied eco-zones east of Tagaung produce crops ranging from edible oils to rice and coriander. Winter rice or mayin is grown on the edges of shallow pools on the shelf between the Ayeyarwaddy and Indaing forest on Thaug Hwet Taung, a range southeast of Tagaung where a number of Late Paleolithic and Neolithic stone implements have been collected¹³. The seasonal pools and lakes are vital as the water flowing down from Thaug Hwet Taung is high in sulphur and not potable. A shrine on the northwest of Thaug Hwet Taung that honours Maung Tin Deh, a blacksmith who posed a threat to an ancient king, may be linked to the range's iron resources. Other ores such as manganese are found to the northeast on Tagaung Taung or In-net ('black in-gyi').

EXCAVATIONS AND SURVEY 1967-2006

None of these outlying areas have yet been fully surveyed or excavated. The first Department of Archaeology excavations at Tagaung were in 1967-1968, with twelve mounds (TG1-12) unearthed within the walled areas¹⁴. All finds were attributed to the Bagan era, with comparable objects such as images of the Buddha and votive tablets used to attribute other surface finds to the Bagan period. Than Tun notes for instance that as excavations at Tagaung yielded mostly 12th century AD evidence that all pottery found at Tagaung dates to this period¹⁵. Excavations continued at Tagaung in 1992-1993 at sites TG 13 to TG 16. These provided more documentation of the city walls and buildings. In 1997- 1999, sites TG 17 to TG 21 were unearthed, documenting more parts of the city walls, gates and structures. Once more, finds were Bagan period, seemingly invalidating chronicle histories. In 1997-2006, however, further work yielded pre-Bagan votive tablets, urns, stamped pottery, roof the end-finials and finger-marked bricks¹⁶. Bricks of this type bear one to four rows of finger-drawn linear marks made with fingers diagonally or horizontally across the face of relative large (circa 50 cm in length, 20 cm wide and 10 cm thick) bricks. They are used in Myanmar as an index of pre-Bagan occupation of a site, for brick sizes grow smaller and finger-marking dies away at Bagan. In addition, as they are not attractive to collectors, the bricks tend to remain in situ, unlike silver coins and polished stone beads. Finger-marked bricks are found at Pyu, Shan, Mon, Tanintharyi and Rakhine pre-Bagan sites, making them a useful temporal but not ethnic index¹⁷.

Finger-marked bricks were among the finds during 2003-2004 excavations at TG 31 in the compound of the Tagaung State High School. TG 31 was a rescue operation but as the bulk of exploration at the site has been survey and unearthing of structures covered in mounds, TG 31 at present is the first below ground stratigraphic excavation of Tagaung. The work did not reach a basal level, however, but stopped at a layer of finger-marked bricks roughly dated to the early centuries AD. Thus earlier levels have not yet been uncovered. While no radiocarbon dates were obtained from the TG 31 excavations, charcoal recovered circa one meter below ground level at a new Tagaung site museum yielded dates of 770-900 AD¹⁸. Additional excavations were undertaken in 1997-1998 at Hsin Hnyat, 3.5 km south of Tagaung¹⁹. These focused on uncovering a brick platform (SNKI), a building (SNK3) and a linear feature (SNK2). Also at this time local scholars in Kyan Hnyat began surface collection around the village and at Pa Phyu of stone tools, bronze axes, iron furnaces, beads and pot fragments²⁰.

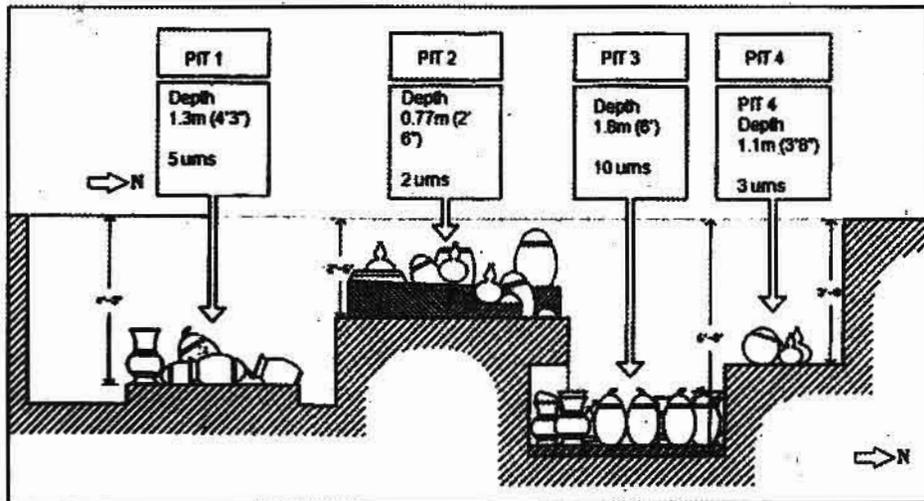


Figure 4 : Profile of TG31 pit showing floor of finger-marked bricks at base of pit. Drawing after Win Maung (Tampawaddy).

TAGAUNG WALLED SITE

Tagaung is made up of three walled sectors, numbered one to three from north to south. Wall 1 (19 hectares), encloses the southern part of a hill that was probably the original habitation area²¹. The Wall 1 hill is bordered by the Ayeyarwaddy on the west and the Telawa Chasing or stream on the north. Fish are abundant in the stream, with its name locally taken to mean that with the catch of one day, enough fish for a month can be caught²². Wall 1 includes two shrines commemorating the story of a local hero, Maung Pauk Kyaing (Thado Naganaing) who becomes king after killing a serpent (nags). The serpent had reputedly come to the place hidden within a house post for the palace that had been sent down from Mogok²³. The tale fits within a pattern often found in chronicles whereby change is legitimated, in this instance possibly a usurper defeating a threat from the uplands²⁴. While the shrines, one to the Naga and the other to Pauk Kyaing, can be seen in the context of ongoing tutelary veneration, surface finds indicate at least pre-Bagan habitation. For example, in 1997, an urn with bones and ash was found in front of the Naga shrine. The round-bottom pot (22 cm high, 17.5 cm wide) contained a bronze ring (2.4 cm diameter), 5 bronze bells (1 cm diameter) and 8 terracotta spindle whorls (2.5 cm diameter). There were also numerous beads, 4 tooth-shaped iron pieces and an iron ring (1.7 cm diameter)²⁵.

Wall 2 (62 hectares) is known as Anya ('upper') Bagan. Like Wall 1, Wall 2 is flanked on the west by the Ayeyarwaddy. Some scholars contend that this sector once was the palace at the centre of an oval city now half washed away by the river²⁶. The TG31 excavations were prompted by pots found during digging of a latrine in a flat, open schoolyard. However, villagers interviewed by the author during survey in July 2006 noted that potsherds continued to be found throughout the schoolyard and that the site was a large mound prior to construction of the school. The excavations, to 1.8 meters, would thus have been circa 2.5 to 3 meters below virgin ground level²⁷. The work defined four levels, the lowest underlain by a brick 'floor' with finger-marked bricks. It is these finds in particular which bolstered recent identification of Tagaung as Pyu²⁸. The TG 31 pottery, described below, is also relevant to the use of Pyu as a cultural category, for the vessel form and the decoration differ from that found at (Pyu) Beikthano, and Sriksetra.

The outermost Wall 3 is an oval shaped enclosure (204 hectares) verified only in the 1990's²⁹. It is flanked by the Ayeyarwaddy on the west and several venerated stupas along the east wall. Two of these relate to streams coming to the site from the northeast the Shwedaung Oo stupa overseeing the Moe-nat-in-gyi, a seasonal water body named for a rain spirit and the Khaung Taik ('head') stupa on an isolated hill from where all parts of the site can be seen. Immediately east of Khaung Taik are parallel dikes stretching northeast to the Magari in-gyi, another seasonal pond³⁰. Survey along the southern sector of wall 3 in early 2006 recorded a series of new foundations tentatively labeled the "33 mounds"³¹.

As these brief descriptions suggest, each of the walled sectors presents a particular profile: the port, fishing and tutelary associations of Wall 1, Wall 2 "Anya Bagan" as the central royal area, and the Outer Wall 3 linked to water management, rice cultivation and defense. Stone tools and finger-marked bricks have been documented from TG8 on the north tip of the site to the newly documented foundations along the southern part of Wall 3. Thus it appears that all three sectors were walled in tandem rather than expanding north to south. A wide habitation area is also supported by the excavations and survey finds from Hsin Hnyat, Padi Phyu, Kyan Hnyat and Thaug Hwet Taung where a gradual south to north chronology may be indicated³².

TAGAUNG POTTERY

The Tagaung pottery includes round bottom bowls, urns and water vessels. Many of the urns are egg-shaped vessels without stamps although an important exception is found in Vessel 11, a baluster-shaped pot with rows of stamped motifs on the shoulder. Ranging from 10 to 40 cm in height, the Tagaung pots are similar in size to Pyu vessels, and likewise appear grouped, possibly by lineage³³. Stargardt noted clustering of urns at Beikthano sites KKG9 and KK11. She compared the urn shape and decoration to Heger I and Karen bronze drums and drum burial clusters in Thailand, Malaysia and Indonesia. While the shape and decorative parallels seem broad, the mortuary links are worth noting given Tagaung's probable interchange with Yunnan³⁴.



Figure 5 : Finger-marked brick (40 cm length) from Tagaung.

Apart from size and clustering, Tagaung pottery is distinct from 'Pyu' Sriksetra, Beikthano and Halin. Nor do Tagaung pots fit within a Pyu urn typology of bowls, globular vessels, betel boxes and pots with high narrow necks³⁵. A few Beikthano and Sriksetra urns are footed but most have rounded or flat bottoms. In contrast, a short flared foot is seen on a minor but consistent percentage of Tagaung pottery. And while most urns from Srisektra and Beikthano are fluted with flat lids and a central stem, the Tagaung lids are rounded with knob-like stems. Tagaung vessels are also different from flat bottom likely urns documented by Wm Maung (Tampawaddy) at Shagwe, a fortress of Halin³⁶.

Sriksetra, Halin, Beikthano and Maingmaw urns may have horizontal lines of geometric or floral patterns or bosses, but only a few are stamped, and those with a single row of motifs where each stamp surrounded by linear borders³⁷. The motifs include the *Kalasa*, *Srivatsa* and *Bhad-*

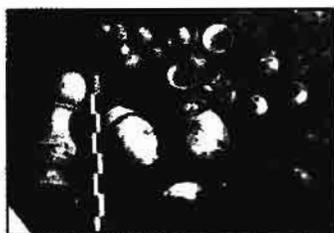


Figure 6 : Profile of TG31 Burial cluster with vessel no 11. After Chit San Win

dapitha and four sherds with human figures³⁸. In contrast, of the 80+ pots unearthed from TG31, twenty-five were stamped with one to three rows of geometric, floral and occasionally zoomorphic motifs. Some are encircled by radiating lines creating a sun-like burst akin to vessels from Hastinapura's early centuries AD chronology but also pottery from Bagan³⁹. There has, however, been little work on Bagan pottery, primarily surface finds assumed to be contemporary with the monuments rather than earlier phases of structures. Tagaung pottery stamps are 0.6 to 0.75 cm across, on the widest part of the vessel shoulder.

On Vessel 1 from Hsin Hnyat, a bull is stamped 20 times and on Vessel 11 from TG31, a 2.5 cm diameter human figure is stamped 66 times in three rows.



Figure 7 : Vessel no 11. TG31 After Chit San Win

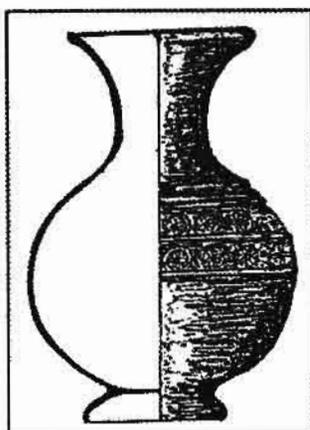


Figure 7a : Vessel no 16. TG31



Figure 8 : Anthropomorphic stamp, Vessel 11, TG31. After drawing by Win Maung (Tampawaddy)

No inhumation burials have yet been recorded at Tagaung, although inhumations with urns are found at Halin and Beikthano. In addition, Sriksetra, Beikthano and Halin urns contain ash, bones, silver coins, semi-precious stone beads and sometimes gold pieces, while Tagaung urns have a different set of objects: iron, silver, gold, bronze, copper, shell, bone, terracotta, semi-precious stone and glass plus bone and ash. Grave goods include bells, bracelets, rings, lids, swords, brackets and rivets, again not seen elsewhere⁴⁰. Vessel 11 (38 cm high) from TG31 is stamped with a four-armed crowned figure with a flanking bull and elephant. The figure has a large face, prominent eyes, knees flexed and feet touching in a near triangle shape. Vessel 11 contained one 1.5 cm bronze shell-like bell, 12 terracotta 'beads' (2 — 2.4 cm diameter), beads of quartz, carnelian and black stones, bronz-

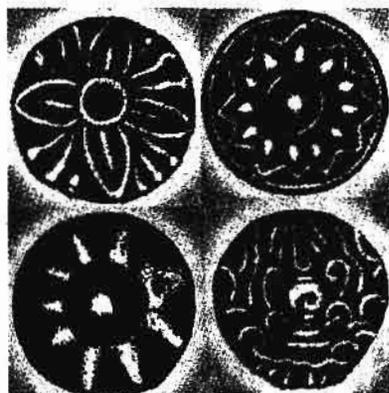


Figure 8a : Stamp motifs from Tagaung vessels, TG31. After drawing by Win Maung (Tampawaddy).



Figure 9: TG31 rescur excavation in progress. Courtesy Chit San Win.

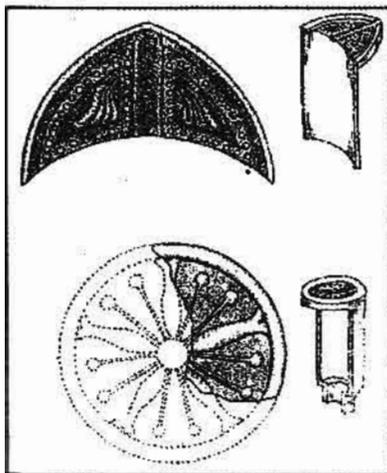


Figure 10: Drawing of crescent and round roof-tile end-pieces. After Win Maung and Chit San Win.

the farm. An outer (14 metre square) and inner (6 metre square) brick structure (SNK1) aligned 7 degrees east of a north-south orientation was unearthed. The excavations were preliminary, but it was thought that outer and inner walls both were 91 cm in width. An additional platform (2.9 by 2.3 m) was unearthed on the southeast side. A large number of tiles and tile pipes were found during the excavation, although not all pieces were retained for further study⁴². Some end-pieces were attached to roof tiles, concave for the crescent-shaped pieces and convex tiles with the round end-pieces. The crescent-shaped end-pieces are 15 to 20 cm high, 21 to 26 cm wide and 1 to 1.5 cm thick. A central vertical band divides the crescent, each section with a u-lobed festoon and dotted border⁴³. Round end-pieces are 1 to 4.5 cm thick, 13 to 20 cm diameter with the rim being 1 to 3 cm wide, framing them in a manner akin to votive tablets⁴⁴. They are decorated with 10-15 sun-like rays or radial lines, in some cases tipped with circular raised dots arrayed around a central spot.

es such as a plain ring (2.4 cm) and another of coiled wires (5.6 cm diameter), an iron object (8.7 cm wide), ash and bones making up an entire human skeleton⁴¹.

ROOF TILE END-PIECES AND VOTIVE TABLETS

In addition to the distinctive Tagaung pottery, numerous roof tile end-pieces or finials from Hsin Hnyat (SNK1) separate the Tagaung assemblage from sites such as Halin and Beikthano. While the roof tile end-pieces have not yet been found inside the walls of Tagaung, the parallel urns and stamped pottery from Hsin Hnyat and Tagaung suggest this may also prove to be the case with the roof tiles. At present, however, roof tile end-pieces are concentrated in the elevated fields of U Tin in northeast of Hsin Hnyat. The land is well sited just north of Tilkua in-gyi, a seasonal lake. A number of end-pieces were found during 1997-1998 survey and in 2000, the Department of Archaeology carried out excavation of one of a number of mounds clustered around



Figure 10a: Crescent tile end-piece, Hsin Hnyat (SNK1), Courtesy Chit San Win



Figure 10b: Round tile end-piece, Hsin Hnyat (SNK1),

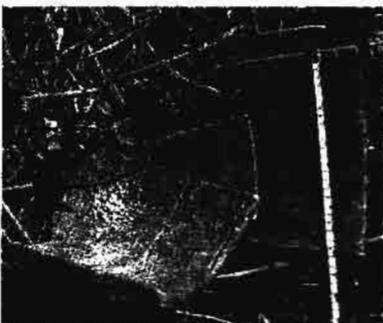


Figure 10c: Roof tile at Hsin Hnyat (SNK1), Courtesy Phyiect Phyo.

A few roof-tile end pieces have been recorded at Sriksetra but rather than having a tri-lobed floral *pan-sweb*, the Sriksetra find is filled with a curvilinear *kanok* or floral pattern. Roof tiles, as well as finger-marked bricks, silver coins and quartz beads have been noted at Tayoke Myo (Bawrithat or Bodhithat) on the northwest side of Inle Lake⁴⁵. Given Inle's access to the Myit Ngeh (Dhotawaddy) River and the Yunnan border, related examples to the north and east are consistent with probable trade links. There are, for instance, round end-pieces from Linzhang, Hebei province, dated to the Northern Dynasty (386-589 AD)⁴⁶. Similar roof tiles and end pieces dated to the 1st to the 3rd century A.D. have been recorded at Trakieu and Go Cam in central Vietnam, with these finds likened to early first millennium AD Chinese styles of the Tsin and Han⁴⁷. Some Go Cam round end-pieces bear faces, dated to the 3rd century AD and linked to raids against 'southern barbarians' in an outgrowth of persistent flux between Chinese and local rule after the fall of the Tsin in 206 BC⁴⁸. While further research needs to be undertaken, a similar profile may have been the case in western Yunnan. This region was annexed during the reign of the sixth Han Emperor, Wu Ti (140-86 BC) prompting earlier Yunnan groups to disperse to the west and south. Tribute missions from Myanmar at this time brought pearls, vitreous objects and rare stones⁴⁹. Later, in 225 AD, the Wei general Chu-ko-liang is said to have used bronze drums to frighten 'savages' by placing them in torrents to strike like military watch-drums at regular intervals⁵⁰. The relevant remarks are scattered but when pooled with the associated roof-tile end finials, a cultural orientation to Yunnan provides a working model for Tagaung artefacts of circa 100 BC to 600 AD.

In contrast to the Yunnan connections for the roof tile end-pieces, it is to South Asian norms that a horde of fifty Tagaung votive tablets is best interpreted. Although a number of Bagan period tablets have been documented at Tagaung in the Anya Bagan Wall 2 sector, these tablets are distinct, being round and small (4-6 cm in diameter). The horde was found in 2005, 1.5 meters below ground level at Ley-myet-hna temple near the foundations of the sizeable Shwezigon stupa under a deposit of Bagan period tablets attributed to the late 11th to early 12th century AD. The new finds all bear a single figure of the Buddha in Bhumisparsa mudra, and have been classified according to the surrounding motifs into three types. The first depict the head of the image of the Buddha surrounded by an oval halo, backed by a takeh or throne back and up to eight stupas. The background of the second type is filled with a feathery depiction of an aromatic tuber of the ginger (*Kaempferia*) family, the *gamon*. The third shows the image of the Buddha flanked by two small stupas and enclosing lines, the outermost marked by *beindu* dots⁵¹.

One tablet of Type 2 was recorded in earlier excavations, dated to the late Bagan period⁵². With the larger sample, scholars continue to debate their dating. Based on the crossed Vajrasana leg position with both feet facing upwards, some prefer an 'early Bagan' or 'late Pyu' label. Others note the difficulty of identifying asana given the small size and erosion to the tablets, so focus on the closeness of

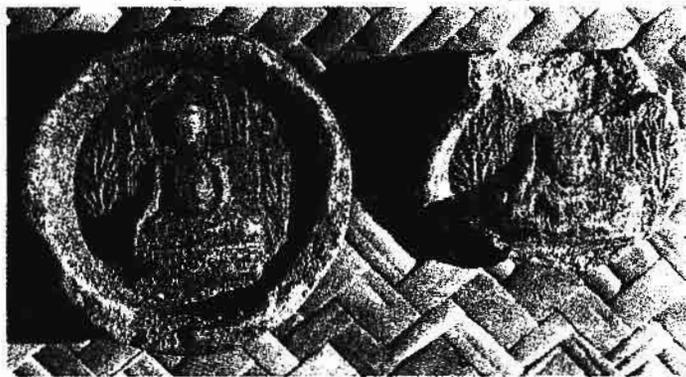


Figure 11: Type 2 Votive tablet, Tagaung.

the feet to the torso, the rounded abdomen and absence of a triangular face indicating 4th to 5th century AD Gupta influences rather than 11th to 12th century AD Pala-derived styles seen at Bagan⁵³. The author has yet to find comparable tablets to the Tagaung horde, with a date of 7th to 9th century AD seeming plausible. And while unique in their form and some iconography, the tablets easily fall within a South Asian late first millennium AD cultural sphere. In subsequent centuries, relations with Yunnan and China continued, but there is little evidence in the material culture for the degree of interchange seen in the early part of the first millennium AD. These political shifts, however, are absent in the traditional lineage of the site summarized below.

CONCLUSION

Chronicles name the site Tagaung (Sangassanagara) during the time of the Buddha Gotama, separating it from Thantharapura, Ratthapura and Twinte during the times of previous Buddhas of this Era. The clear aim to legitimate the site's Buddhist heritage is seen again in the lineage of the legendary founding king of Tagaung, Abhiraja, a Sakiyan from Kapilavastu in India seven hundred years before the birth of the Buddha⁵⁴. Abhiraja's dynasty includes a line of thirty-three rulers, ending with Bhinnakaraja and a tripartite split with migration of groups south and west⁵⁵.

Thado Sambudipa Dhazaraja, first ruler in the Second Tagaung Dynasty, married a queen of the First Dynasty. The Glass Palace Chronicle cites seventeen rulers, ending with Thado Maharaja, although the Tagaung Chronicle ends with a subsequent ruler, Thuttahingaha (Sukahingaha-min)⁵⁶. In a pattern of chronicle legitimation, the sins of this king precipitated a disastrous inundation; various spirits assumed the shape of turtles to escape as water rushed in and destroyed the city. Following this, a new capital (possibly 'Shan') was founded, first at Kanthita-beinnaka along the Shweli and then Maingmaw along the Tabein. The new city's control eventually extended to Tagaung but the rulers do not form part of the Tagaung to Sriksetra and Bagan national lineage. While not to be taken as empirical data, the chronicles need not be dismissed as legend, for they are a vital part of Tagaung's cultural narrative. As can be seen by the resume above, however, the chronicles make little note of ethnicity.

There is no simple solution to the problems arising from the use of 'Pyu' to describe the cultures of Upper Myanmar (or the corollary use of 'Mon' for those of Lower Myanmar). At present, Pyu is used to designate groups of Tibeto-Burman peoples, migrating from northern plains to the valleys of Upper Myanmar during the first millennium AD. The Pyu language has not been deciphered, and despite the recent discovery of a multiple line Pyu inscription at Sriksetra, the main scholarly work is brief comparative study written half a century ago⁵⁷. There are no Sale or Kadu inscriptions but there is a small corpus of what has come to be called Pyu, the earliest dated to circa the 4th century AD. No early inscriptions have yet been found at Tagaung. Chinese accounts mention a Tibeto-Burman speaking people called the P'iao living beyond the frontier. The meaning given to the word 'P'iao' varied over time, from 'rebel' in early Tsin Dynasty texts to 'cavalry' in later Tang ones. These people are thought, however, to have referred to themselves as Tircul with P'iao transcribed as Pyu⁵⁸. Blagden consistently called the non-deciphered language 'Pyu', and cautioned against its adoption, he nonetheless set it within broad inferences:

“The evidence at present available seems to indicate that the nation which spoke the language of our text was a forerunner of the Tibeto-Burman movement into the southern parts of the Irrawaddy valley...The name ‘Pyu’ has merely been attached to it as a convenient label, not improbable in view of Burmese traditional history, but by no means to be accepted as final.”⁵⁹

An acceptance has taken place, however, in the process losing the wider context whereby the development of Brahmi-based scripts was one of many elements of social change. The earliest fragments record complex ritual texts but their presence has been homogenized into a single cultural type. Pyu scripts are noted for archaism over a 700 year time span, but yet dating relies on a paleographic methodology whose conclusions are derived from marking out change over time⁶⁰. The negligible body of Pyu inscriptions uses various scripts, lack dates and are often illegible.⁶¹ In addition, the absolute dating of Pyu culture rests on less than ten problematic radiocarbon results from only two sites, Beikthano and Halin.



Figure 12: Naga shrine at Tagaung.

Although future evidence may alter this model, at present the closest stylistic cousins to the Tagaung roof tile end-pieces are in China and central Vietnam while those for the small round votive tablet come from South Asia. Given the fluctuation implied by this difference, framing Tagaung within only Pyu is at odds with the evidence. The contrasts and commonalities are too many for a plain separation. There is clear recognition of otherness, although not necessarily ethnic as has been suggested for various spirit legends of Upper Myanmar⁶². To conclude that ‘Myanmar starts from Tagaung’ means only that Tagaung is Pyu limits our understanding of a world where ‘being a border’ was at the heart of things, and where the dynamic reached in the vacillations of margins moved far beyond the conventionally defined Pyu sphere of Upper Myanmar.

NOTES

- 1 Senior Lecturer and Head of Department of Art & Archaeology, SOAS, Thornhaugh Street, University of London, London WC1E 7HX, ern4@soas.ac.uk.
- 2 Coedès 1964, Ingham 2002.
- 3 Collection Tin Win 00, Kyan Hynat.
- 4 San Win, May 1997, Drawing 9 and Plate 22, pers.comm.. December 2006: Win Maung (Tampawaddy), pers. comm. August 2006
- 5 Moore 2007, Schepartz *et al.* 2000:7, Wang Renxiang 2004.
- 6 Aung-Thwin 2005.
- 7 Grierson 1927: 1/1, 77.
- 8 Luce 1985: 15-16, 36,40-41, 70-71.
- 9 Chit San Win 2004, 2005, Chit Htwe 1998, Pe Maung Tin, Luce 1921, Pe Maung Tin, Luce 1960
- 10 San Win 1997, Win Maung (Tampawaddy), pers.comm. August 2006.
- 11 Hudson 2004: 57, fig. 5.

- 12 San Win, pers.comm. August 2006, George 1981: 13-14.
- 13 George 1981 (Reprint): 51.
- 14 Moore, Nyunt Ilan 2007.
- 15 Than Tun 2003: 10.
- 16 Chit San Win 2004, Pandita Nanda (Tagaung) *et al* 2006.
- 17 Moore 2007: 132-134.
- 18 Courtesy Bob Hudson, Pers.comm. 2006.
- 19 Chit San Win 2004.
- 20 Collection Tin Win Oo, Kyan Hnyat.
- 21 Win Maung (Tampawaddy) map in Chit San Win 2005.
- 22 Pers.comm., Hla Tun, Tagaung, July 2006.
- 23 Brown 1926: 111-112, Pe Maung Tin, Luce 1921: 32: Htin Aung 1959: 87-92, Pe Maung Tin, Luce 1960: 6.
- 24 Aung Thwin 1990: 177.
- 25 Chit San Win 2005: 47, Pot IV 3.
- 26 Chit San Win 2004, 2005
- 27 Chit San Win 2005: 71; Discussion with villagers 08.06.
- 28 Chit San Win 2005: 98-102, Moore 2007.
- 29 San Win, pers.comm. 16.08.06.
- 30 Chit Htwe 1998: 178.
- 31 Department of Archaeology, Tagaung Branch Office, Pers.comm. 2006.
- 32 Win Maung (Tampawaddy) map in Moore 2007:39.
- 33 Chit San Win and Win Maung (Tampawaddy) Pers.comm. 12.06.
- 34 Stargardt 1994: 133, 1990.
- 35 Hla Tun Pru 2003.
- 36 Hudson 2004: 138,170, fig. 97, Moore 2007.
- 37 Aung Thaw 1968: fig. 41, 45, 71; Myint Aung 2003.
- 38 Aung Thaw *et al.* 1993: 57, 90; Hla Tun Pru 2003: 85.
- 39 Lal 1954: Plate XXXI nos 3,7, Plate XXXII no 16; Than Tun 2003: 10-11, fig. 12, 11
- 40 Hla Tun Pru 2003: 79, Hudson 2004: 145; .Moore, Nyunt Ilan 2007.
- 41 Chit San Win 2005: 75.
- 42 Win Maung (Tampawaddy), pers.comm.15.04.06.
- 43 Chit San Win 2004: 165-166.
- 44 Guy 2002: 24.
- 45 Chit San Win 2004.
- 46 Yang 2004: 96d.
- 47 Southworth 2004: 214.
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- 49 Taw Sein Ko 1913: 16-17.
- 50 Hudson 2004:31, Kyaw Zin N.D.
- 51 Aung Thaw *et al.* 1993: 187, fig. 2a; Pandita Nanda (Tagaung) 2006; Mya 1961 (1): 50, Pl. 67.
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- 57 Aung Thwin 2005, San Win 2001, Tha Myat 1963, Tun Aung Chain 2003.
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S. Bronze and Iron Age Sites in

Upper Myanmar

Chindwin, Samon, and Pyu

Bronze and Iron Age sites in Upper Myanmar: Chindwin, Samon and Pyu

'The people moved about in quest of a place, 'where water is clear and grass tender'

(မြေကြည်ရာ၊ မြက်နုရာ) ¹

ELIZABETH MOORE

INTRODUCTION

Since 1998, the Department of Archaeology has excavated seven Bronze and Iron Age cemetery sites in Upper Myanmar by.² (Table 1) At the first three sites listed below, referred to here as the Chindwin group, the principal grave goods were pottery, stone tools, bronze axes and swords, and ceremonial stone rings. Similar artefacts have been recovered during survey at a number of sites in the Lower Chindwin (c. 21.20-22.30n x 94.45-95.30e)(Moore and Pauk Pauk. 2001).

Table 1. Cemetery sites in Upper Myanmar excavated since 1998

<i>Village</i>	<i>Township</i>	<i>Division</i>	<i>Latitude x longitude</i>
(1) Nyaunggan	Budalin	Sagaing	22.24n x 95.04e
(2) Monhtoo	Budalin	Sagaing	22.19n x 95.14e
(3) In-de	Taungtha	Mandalay	21.15n x 95.22e
(4) Kok Ko Kha Hla	Wundwin	Mandalay	21.12n x 95.51e
(5) Myin Oo Hle	Mahlaing	Mandalay	21.07n x 95.32e
(6) Hnaw Kan	Mahlaing	Mandalay	21.15n x 95.43e
(7) Ywa Htin Kon	Pyawbwe	Mandalay	20.34n x 95.56e

At the other four excavated sites, the Samon group, the grave goods again included pottery, stone and bronze artefacts. Some pieces, such as stone rings, are comparable to those of the Chindwin, but for the most part are different in form and composition. Bronzes include 'mother goddess' figures, *kye doke* (bronze packets), and floral coffin ornaments. Iron and glass artefacts were also recovered. These included weapons such as swords, spearheads and arrowheads and agricultural implements such as socketed hoes. The sites are part of a larger distribution extending south to at least to Pyinmana in the Samon valley on the east of the central Ayeyarwaddy basin (c.19.40-

¹ Hla Thamein 2000:124, Than Tun 1965:8

² In addition to citations, information and help courtesy Department of Archaeology, Ministry of Culture; Department of Archaeology, University of Yangon, and Universities' Historical Research Centre, Ministry of Education.

22.00n x 95.30-96.15e) (Nyunt Han, Win Maung and Moore 2002). There is as yet no distinct site form associated with either group of sites. With the exception of Nyaunggan, located on a crater rim, the Chindwin and Samon sites are located in or near small village mounds.

A number Pyu walled sites are found in and peripheral to the Samon valley. (Table 2) The Iron Age site of Taungthaman, and Kyaukse, whose ricefields supplied the 9-13C city of Bagan, are located here as well. Halin and Beikthano are on the north and south margins of the Samon bronze-iron distribution. Further south is Sriksetra, by far the largest of the enclosed Pyu sites. Its dating (5-9th C AD) is based on stylistic analysis although its location near the probable ancient shoreline suggests far earlier occupation. Traditional histories indicate habitation of the area long before the founding of the Pyu city (Moore. 2000: 172). Despite clear links to other Pyu sites such as brick walls, fingermarked bricks, and urns, Sriksetra presents a rather different profile in terms of the range of Pyu objects and the paucity of stone or bronze tools. This may well be dispelled with further research and excavation.

Brick walls enclose most Pyu sites giving them a characteristic form. Aung Myint has classified Beikthano, Halin and Taungdwingyi [20.00n x 95.32] as quadrangular and Sriksetra, Maingmaw,

Table 2. Pyu or Iron Age sites in the central basin

Pyu or Iron Age site	Township	Division	Latitude x longitude	Area enclosed by wall (AungMyint 1988:18)
Halin	Wetlet	Sagaing	22.27n x 95.49e	208 ha [512 acres]
Taungthaman	Amarapura	Mandalay	21.53n x 96.05e	
Waddi	Natogyi	Mandalay	21.25n x 95.47e	130 ha [320 acres]
Maingmaw (Pinle)	Myittha	Mandalay	21.17n x 96.12e	222 ha [548 acres]
Beinnaka	Pyawbwe	Mandalay	20.36n x 96.12e	
Beikthano	Taungdwingyi	Magwe	20.00n x 92.23e	291.7 ha [717 acres]
Sriksetra	Pyay	Bago	18.48n x 95.17e	1477ha [c.30 sq.km]

Waddi, Thegon [18.32n x 95.20] and Pinle [21.17n x 96.10e] as rounded (1998). At Beikthano and Halin, and the interior quadrangle at Maingmaw, the walls are inclined 13-18 degrees west of magnetic north, a deviation which has been cited to date their construction to the 2nd to the 1st century BC (Than Tun 1996a: 5, 1979:55).

At Beinnaka and at Halin, both Samon bronze-iron as well as Pyu artefacts have been recovered. Quadrangular walls are visible at Beinnaka and although perhaps Pyu, villagers attribute these to the Shan, suggesting that they date to the 9-13C AD Bagan period. The site is one of a row of mounds forming a north to south alignment. One of these, Padi Kon ('bead mound') was excavated by U Sein Maung Oo, Department of Archaeology in 1985. Skeletons unearthed under the north-west corner of the Beinnaka wall in 1982 were accompanied by lead rolls with writing, which are generally assigned to the Pyu period. In 1998, two further skeletons were found on the east of the wall, along with bronze spears, *kye doke* and stone ceremonial rings.³

3 Field survey 1998-9 carried out with U Win Maung (Tampawaddy), courtesy help from Pyawbwe SPDC Township Head and Ministry of Defence.

A similar pattern of finds is seen at Halin. The lowest portion of the site, marked by thermal springs and streams, is on the southeast. (Figure 1) It is in this area that most Chindwin and Samon-type artefacts have been recovered, especially from villages just southeast of the city wall. These include a number of bronze axes and highly polished stone rings typical of Chindwin sites. Also found are blue glass rings, bronze *kye doke* and floral 'coffin' ornaments characteristic of the Samon region. From the same area at Halin, Pyu beads, including carnelian 'tiger' beads, painted pottery, and broad petalshaped iron swords set in finely decorated bronze hilts have also been found (Win Maung 2002, 2003).

Figure 1. Pyu walled enclosure: Halin, Wetlet Township



Halin northern elevated landscape and wall (top),
Stream and thermal springs southeast of village (bottom);
Photos by author 1998

CHRONOLOGY AND TERMS

The Bronze Age cemetery of Nyaunggan in the Chindwin has been dated through comparison to bronze artefacts from other areas in the region to c. 1500-1000 BC, the time period given for the establishment of a bronze-working tradition in Southeast Asia.⁴ However, the start of bronze production in this area and the duration of cemetery use are not yet known. Absolute dating is underway but not yet available for the excavated cemetery sites in the Samon, and again an initial date for

⁴ Attempts to date bone from both Hnaw Kan and Nyaunggan failed to give results due to lack of collagen in the samples. Charcoal was recovered Hnaw Kan, but the results are not available at the time of this writing (Patreau et al 2001: 100; Patreau 2002).

bronze and iron working there has not been formulated. From c. 700-400BC, fairly rapid change probably took place in Southeast Asia, a shift from unstratified agriculturalist economies using stone tools, to ranked metal-using communities (Glover 1999b: 104). The inception of localised iron production in the region is generally placed around 500 BC (Glover 1999a: 87, Higham 2002: 158, 166). Thermo-luminescence dates were obtained from both pottery and iron excavated at Taungthaman, the latter yielding a date of 460 ±200 BC. The iron date was from a fishhook found on the chest of a skeleton, one of forty-four inhumation burial excavated by U Sein Maung Oo in 1982 (Stargardt 1990: 15-6,29).

The Pyu sites have been dated to about 200 BC – 900 AD, with charcoal samples from Beikthano yielding the earliest dates (Aung Thaw 1968, Aung Thwin 1982-3). The sequence of 1000+ years bracketed as 'Pyu' rests on more information than thus far is available for the Chindwin and Samon sites. Radiocarbon dates are available from Beikthano and Halin, there is palaeographic analysis of a limited number of inscriptions on stone and on gold plates, and stylistic analysis of bricks, beads, pottery, sculpture, monuments and walls. However, many aspects of related to the Pyu remain uncertain. These include deciphering the language and, as discussed below, determining whether the Pyu were a distinct ethnic group that entered the central basin or were one of a number of groups already present. Dating the different elements of Pyu sites, from walls to structures merits further research as well. Also important is a clearer picture of developments during the early centuries AD. This was a period of expanding trade with both northern and southern parts South Asia and China, and there are indications that the changes indicated at sites such as Chansen in Central Thailand during the third century AD (Bronson 1976), were mirrored at Pyu settlements.

Covering c.1500 BC – 1000 AD, this chronology spans the pre- to proto-historic, and thus embraces the period recorded in Myanmar's chronicle tradition. The hypotheses presented here attempt to integrate 'Pyu' within a fresh framework, juxtaposing this long-used ethnic label to 'Chindwin' and 'Samon' also in order to recall the way that conceptions of the past are involved in the current production of knowledge. "In this sense, the past is real and not dead and gone: through archaeological and historical production it is an active part of the present." (Shanks and Tilley 1987:114-5).

The past is also part of the chronological present as most prehistoric sites in Upper Myanmar continue to be occupied today. Nonetheless, many tend to yield artefacts associated with one 'culture' and consequently come to be identified with a single chronological period.⁵ There are numerous exceptions, prompting caution when assigning or assessing 'terminal' dates. For instance, among the surface finds at Nyaunggan were lead rolls similar to ones from the Pyu site of Maingmaw. Also at Nyaunggan, 18-19th C Konbaung pottery was found at a walled structure near the earlier cemetery (Moore and Pauk Pauk 2001:38). As mentioned above, at Halin and Beinnaka, a range of bronze, bronze-iron, Pyu, Bagan and later artefacts have been recovered (Win Maung 2001, 2002, 2003). As implied by these notes, in describing Chindwin, Samon and Pyu assemblages the intent is not to delimit periods or spheres of social activity but rather to investigate continuities and interaction. Occupation levels at sites and within regions certainly fluctuated over time, but both areas were continuously inhabited.

⁵ U Hla Tun Pyu, Department of Archaeology, University of Yangon, discussion 2003.

CHINDWIN GRAVE GOODS

Finds in this area are generally typed in comparison to artefacts from the 1998-9 Nyaunggan cemetery excavations (Yee Yee Aung 2001, 2002; Nyunt Han 1999). During the two field seasons, five pits were excavated. Forty-four burial features were identified, most extended and supine primary burials, located between 10cm to 1.5m below the surface. One secondary burial was found, a skull in a large pot. It is also possible, based on burials in Thailand, that infants were contained in a number of the large jars that were excavated (Figure 2) (Tayles, Domett and Pauk Pauk 2001). The Nyaunggan grave goods are principally pottery, bronze axes and spears, and stone tools and rings. The burials show a degree of social hierarchy, with bronze tools and weapons as well as stone rings being excavated in a limited number of inhumations. A ceremonial use for the stone rings is suggested by the different shapes (square, egg-shaped, triangular, round or pinion), the smallness of the central hole (averaging 5cm) and their placement on various parts of the body.

Figure 2. Nyaunggan cemetery, Budalin Township



Secondary burial with skull (above) and burial with large pots (right) Nyaunggan.

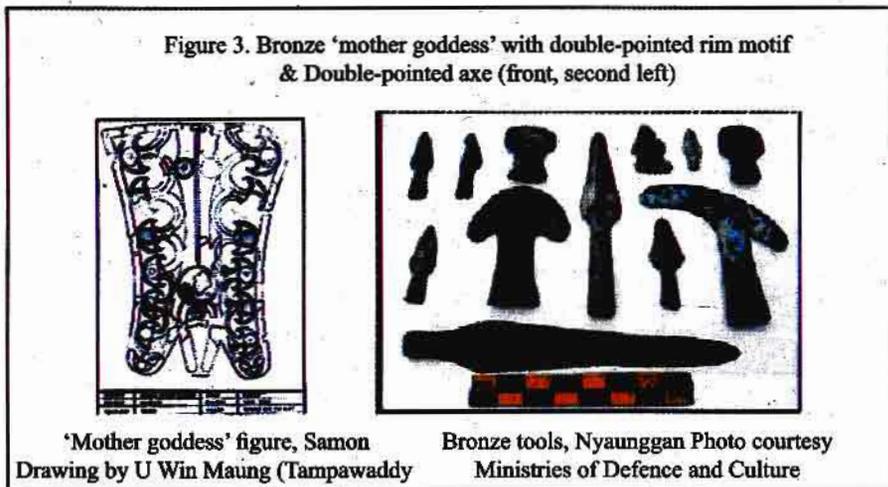
Photographs courtesy of Ministries of Defence and Culture.



SAMON GRAVE GOODS

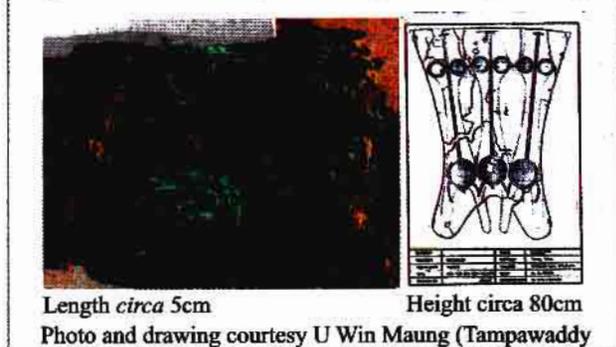
Ceremonial rings found in the Samon are made of either stone or glass, the latter ranging in colour from blue to green. The shape is often round, but rings that are ovoid or round with points have also been recovered. Stone rings have been found at a number of sites in Thailand, many being more similar to those from the Samon rather than the Chindwin. One example is stone rings from Kok Pleb, Bang Phae, Ratchaburi Province in central west Thailand. Rings excavated at this site included not only ones made of stone but shell, bone, and bronze 'bracelets' as well as stone ear pendants (Daeng-iet 1978).

Samon bronze axes are different from those of the Chindwin, and other bronze forms are new: female 'mother goddess' figures, *kye doke* (bronze packets), and floral coffin ornaments. The female figures are thin beaten sheets, some 60-90cm long. Breasts and womb are prominent cones bounded by a thin raised circular rim or ring. Some examples have several torsos joined at breast and hip. All are headless, in contrast to the preservation of only a skull seen on one secondary burial at Nyaunggan. While Win Maung (2002) interprets the neck of the figures as a triangular head, it is also possible that a mask-like head portion was present but made of a perishable material such as wood. Further excavation will hopefully clarify the form and placement of the figures. The rim around the female figure sometimes has double-pointed curvilinear designs, similar in shape to double-pointed Chindwin axes. (Figure 3) The same form has been found on a small gold cubical bead from Sriksetra and on silver 'coins' in association with motifs such as Srivatsa and Bhaddapitha (Win Maung 2002). In this context, the figures could be read a pairing of female and male elements, a wider ritual significance not yet fully understood.



To date, the bronze female figures have been found at only some Samon sites such as Myin Oo Hle, Kok Ko Kha Hla and Nyaunggan (20.46n x 96.06e), and not at Halin. In contrast, the *kye doke* and floral ornaments are found at virtually all sites in this area, and at Halin. The *kye doke* are packets of thin bronze wire 'tied' into bundles with an outer wire. (Figure 4) It has been suggested that they were indicators of age, or needles (Patreau et al. 2001:100), but they also resemble bundles of padi and may have been markers of wealth. The floral ornaments are flat curvilinear v-shaped strips, often framed and with holes on the ends or corners to fix to coffins.

Figure 4. Samon bronzes: *Kye Doke* & triple 'Mother goddess' figure



Although some of the bronze ritual goods such as 'mother goddesses' may have been gilded, the principal metals recovered from Samon sites are bronze and iron. Iron is found not only in the form of bi-metallic swords but used to produce socketed hoes, spearheads and arrowheads (Win Maung 2002).

However, iron architectural fittings such as hinges and door sockets found at Pyu sites were not reported at either Hnaw Kan or Taungthaman. At Hnaw Kan, eighty-four burials were unearthed from twenty graves. Bronze was only seen in *kye doke*, with iron tools including socketed axes and spearheads, sword and daggers (Patreau et al. 2002).

In general, bronze working became more elaborated at sites in the Samon. Although the Chindwin area was rich in copper, the Samon offered access to the tin and silver resources of the Shan Plateau. No stone moulds have yet been recovered from the Chindwin, but in the Samon, a number have been found, for example at Kok Ko Kha Hla. Bronze sword hilts and hollow bracelets from Samon sites also indicate casting while thin ceremonial swords, 'mother goddess' figures, and floral ornaments appear to have been hammered. While both Chindwin and Samon sites have bronze tools, the rounded axes of the Chindwin differ from the longer, more rectangular axes of the Samon. The composition of bronze implements also appears to vary. For instance, analysis of a bronze axe from Salingyi (21.58n x 95.05e), south of Monywa, gave a result of 99.5 percent copper content¹, whereas the friability of the *kye doke* and 'mother goddess' figures of the Samon may indicate a higher tin content.

While artefacts from sites such as Halin and Beinnaka span several cultural periods, the relationship of these to the spatial extent of the 'site' is not yet clear. In-de, for example, is some 20 kilometres west of Myin Oo Hle. Both associated villages are located on streams draining into the Ayeyarwaddy, just below its confluence with the Chindwin. Excavations at both cemetery sites yielded ceremonial stone rings. However, the In-de bronzes resembled those from Nyaunggan while the Myin Oo Hle burials contain *kye doke*, 'mother goddess' figures and floral coffin ornaments. These artefacts give some idea of burial practices, but habitation evidence would begin to set these in a wider perspective.

¹ Test carried out for author courtesy Nara Cultural Properties Research Institute, 1998.

PYU ARTEFACTS

The Pyu 'period' brought major transitions to ritual as Hindu and Buddhist practice was integrated into an increasingly hierarchical society. Although bronze and iron metallurgy and the firing of clay for pots and beads was already well established, this technology was used in new ways to manufacture goods, define territory, erect ritual structures, and to honour the dead. There remain varied opinions on the manner in which South Asian technical influence and ritual change were incorporated, however. Where most authors suggest that both were corollaries to increased urbanism (e.g. Wheatley 1971: 249), others, posit that techniques preceded concept, with for example pre-Buddhist funeral buildings constructed at Pyu sites using locally manufactured bricks (Stargardt: 1990, 1994).

STONE AND METAL

Skilled stone carving is seen in semi-precious stone beads common to both the Samon and Pyu, but the finely carved ceremonial rings of the Samon are not part of the Pyu assemblage. Three-dimensional stone sculptural pieces are relatively rare, and tend to be large relief carvings on stone slabs rather than freestanding. These have prompted suggestions of megalithic practice, a possibility furthered by the presence of megaliths at Moegyobyin, Salingyi in the Chindwin, and Kok Ko Kha Hla in the Samon.²

Although the Samon metallurgical tradition was well developed, increasing technical skill was likely to have been one catalyst in the Pyu use of bronze to make figural images. Pyu metal goods ranged from bronze bells, to cubical gold beads, and silver 'coins'. The ninth century Man Shu notes that in the P'iao [Pyu] kingdom a silver coinage is used (Luce 1961:90). Whether coinage or bullion, these distinctive silver discs are recovered from all Pyu sites. A Pyu or Mon origin is attributed to certain types of coins, in some cases based on distribution of finds such as the rising sun motif, and in others such as the Srivatsa design, its presence on stamped pottery as well as silver coins from Beikthano (Wicks 1992: 118, Bronson 1969:142). It is possible that the metal working skill of Samon cultures was expanded by the Pyu to include work in silver. Indeed, the technology to smelt silver from a lead-zinc ore seems to have been particularly well developed by the Pyu, perhaps given their proximity to major deposits (Bronson 1992:82-3).

BRICK WALLS AND GATES

The massive brick walls of Pyu cities enclose apparently royal, sacred and agricultural areas. Walls were built of large bricks (up to 50cm long), and were often 2-5m wide and with sections of wall at Sriksetra being some 30m broad at the base. Remains today are some 6-15 ft (1.8- 4.5m) in height, although erosion and use of bricks for roads and railways has reduced this in many cases. (Figures 1, 5) Knowledge of local topography was incorporated into the plan of the enclosure, often related to natural hydrological features. For instance, given the presence of natural water sources, man-made moats apparently were not constructed on the lowest land on the south of Halin. (Figure 1) Likewise, no wall is visible on the west of Beikthano where lakes are found on the lower terrain.

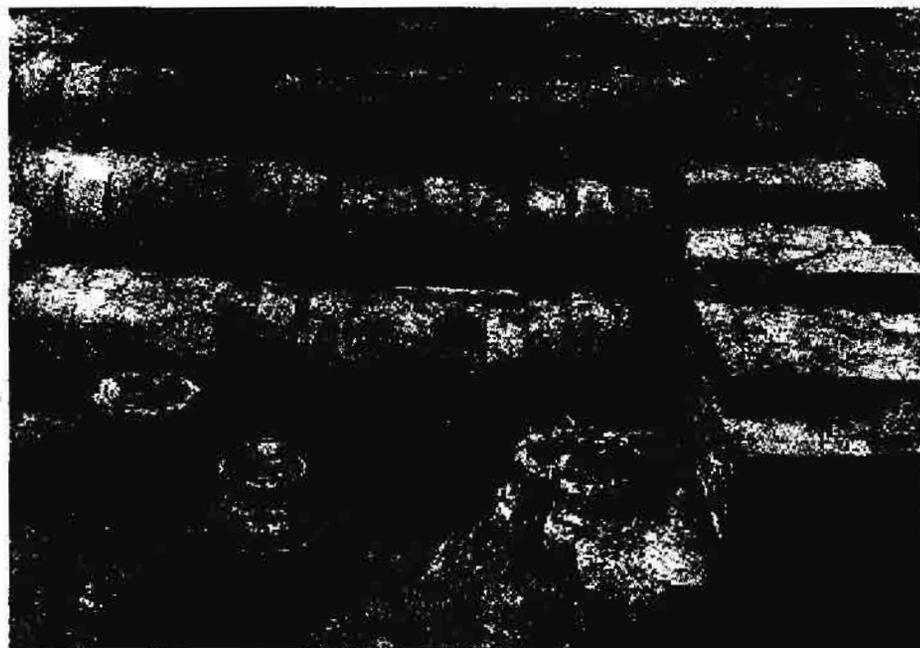
² Excavations at Kok Ko Kha Hla carried out by U Hla Gyi Maung Maung, Department of Archaeology, Ministry of Culture; Daw Yee Yee Aung, Department of Archaeology, University of Yangon, discussion 2003

Curved gates break the walls at all Pyu sites, often with sizeable openings once fortified with wooden gates and iron fittings. At Beikthano, the arms of one gateway extend some 86 ft (25.8m) into the enclosure (Aung Thaw 1972:3). The cities are thought to have had twelve gates, giving them a cosmological significance repeated at later capitals such as Mandalay. (Moore 1993: 338). The number of gates is mentioned in Chinese records, although only two have yet been excavated at Beikthano, three at Halin (Luce 1961: 90, Aung Thaw 1972:12). Bricks were used extensively not only to demarcate the domain but sacred areas within and along its walls. Thus brick funerary halls, stupas, and temples, are found, although particularly at Sriksetra, some of these structures may have been built during the Bagan period (Stadtner 1986, 1998).

URNS

A range of ritual purposes, from royal inhumation, to memorial groupings and apotropaic protection of domain is suggested not only by the various materials from which Pyu urns were made, but the range of places where they were interred. Pyu urns were made of terracotta, copper, bronze or stone, with the majority being terracotta. (Figures 5a & 5b) Some may have been purpose made, but many different shaped vessels were used. At Halin, the lid of a terracotta urn been likened to the structure of pagodas thought to have evolved only in the late 11th C AD (Than Tun 1972:209, Myint Aung 1970; fig.5). The urns suggest various functions, and also provide a useful general index of burial custom, burials providing the provenance of most of the material from bronze and bronze-iron sites in the Chindwin and Samon.

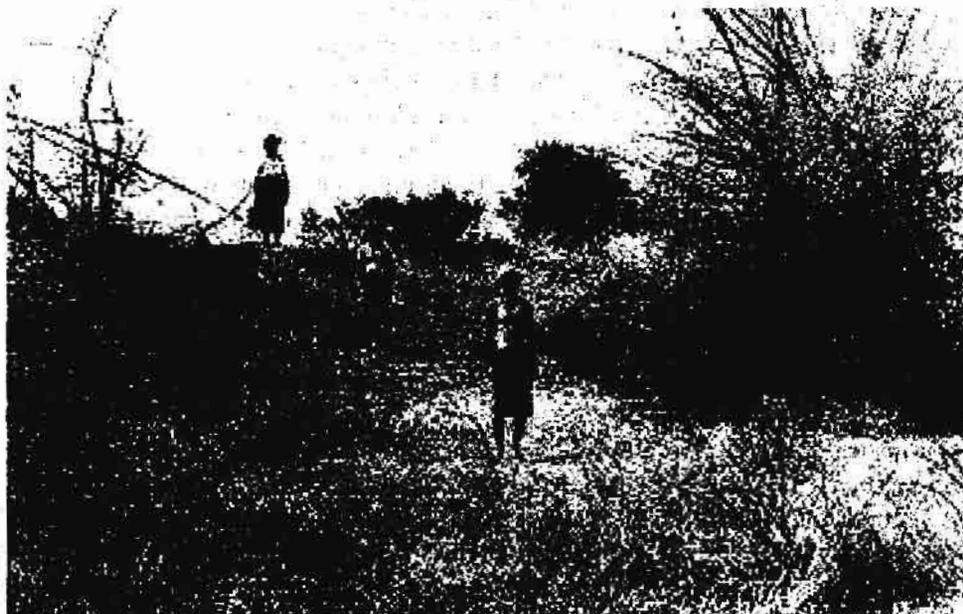
Figure 5a: Pyu urn



Urns at KKG-12, Beikthano

Photograph from Aung Thaw Excavation Report, 1968

Figure 5b: Pyu wall



Maingmaw outer walls (c. 3.5m in places).
Photograph Courtesy of U Aung Myint, 1988

Within Pyu city walls, urns have been recovered on the interior and exterior of halls and stupa-like structures. Most of these buildings have semi-circular and mango sprout bricks on the stairways and exterior walls. Sometimes one or two skeletons or a pile of bones marked the cluster of urns. Some forty terracotta urns were excavated from a large hall (KKG9) south of the citadel-palace at Beikthano. This building and a similar one (KKG11) just inside the north wall gate (KKG13) have been described as a memorial structures (San Shwe 2002:16). The cremated remains of venerated persons are thought to have been gathered until burial could be carried out. Similar customs of burial deferral have been recorded in the last century among various groups in Southeast Asia. For instance, amongst the Chin, a corpse was first kept for one or two years until a feast could be held, and then laid in an open coffin raised above the ground until only bones remained. These were then gathered and placed in an earthen pot (Carey and Tuck 1896:193).

Veneration of the deceased may have also included burial of funeral ashes and bones in the foundation wall of structures where the owners died. At Beikthano, instances cited include a monastic building (KKG2) and a cluster of three rectangular buildings to the north of this (BTO 8,9,10). In addition to urns, iron nails, shallow clay oil lamps and children's toys were found (San Shwe 2002:11,12). This cluster (BTO 8,9,10) was excavated between 1996-9, categorized with an earlier group (KKG 11,12,14), excavated in the 1960's. The earlier excavated group includes a memorial hall (KKG11), a square temple with a rectangular projection (KKG12), and a stupa-style monument on a square base (KKG14). This last type of building has often been likened to domed structures at Nagarjunakonda. In connection with the practice of urn burial in monasteries, Aung Thaw cites instances at Nagarjunakonda where remains of monks or priests were enshrined in terracotta water pots within monastic stupas (1968:65)

Urns were also placed in the city gate areas. At Halin, urns and skeletons were found in the lowest stratum under the road of the south gate (HL10), while six skeletons were found in the fourth layer under the southeast gate (HL17). Five of the six skeletons faced west, with the remaining one laid with the head to the east. Bronze blades were recovered from the bend in the arm, one piece having fragments of cloth attached to it (Than Tun 1996b: 5). Mounds with urns are found outside city walls at most of the Pyu sites. At Beikthano, Aung Thaw cites "countless low mounds which are urn graves" (1968:2). In this context he notes the long tradition of the highly venerated Shweyaungdaw pagoda, some 400 yards east to the northeast corner of the city wall. The zedi is located on the highest part of the terrain, with water flowing from this part through the site to the southwest. Stargardt links this to ancestral practice, suggesting that at both Beikthano and Sriksetra that water was channelled through the burials on elevated areas before circulating via canals within the city walls (1994:67). The Sriksetra urns, like those at Beikthano, are located on elevated areas, and have been found together with iron artefacts. Located southwest of the wall, these were unearthed in rows layered on brick terraces. Remains of a possible wooden structure were reported on the mound. Some 1000 terracotta urns were removed, with a further 1000 left undisturbed. The associated iron objects included iron nails, pins and a spiked plate with forty-three nails ranging from 7-11 1/2" (17.5-29cm) (Duroiselle 1926:83). The iron finds at Halin do not include similar plates, although a large number of spiked caltrops were recovered outside the city gates (Aung Thaw 1972:14).

TRANSITIONS IN MATERIAL CULTURE AND DOMAIN

As described in the paragraphs above, an abundance of burial urns links all Pyu sites, their ubiquity highlighting questions about the interface between this and other burial customs. For instance, large pots excavated at Nyaunggan indicate that secondary burial may have been practiced, although full analysis of the excavated pottery has yet to be undertaken. Thus far, there is no evidence at Chindwin or Samon sites for cremation and use of urns for ashes analogous to the Pyu. Nor is the manner in which domain was demarcated at these sites yet known. It is unclear, for example, if the skeletons with kye doke and bronze tools recovered under the wall at Beinnaka mentioned earlier in this paper are chance finds or whether their placement was known and is associated with later building of the wall.

Urns are not typical of the Bagan period, despite the city's traditional Pyu origins and the possible continuance there of apotropaic inhumation. The range of burial customs described above indicates that a combination of Hindu and Buddhist practice, ancestral veneration, and animist ritual was observed during the Pyu period. However, although Pyu urns and inhumations are associated with Hindu-Buddhist structures, there is a scarcity of figural sculpture found in and around these. The absence is striking, given the numerous buildings with obvious South Asian links. Most scholars explain this rarity of figural images in one of three ways: aniconic practice such as the *Apraseliya* or *Mahasaka* sects of South India, an abrupt end to occupation of sites with sculpture destroyed or taken to another city such as from Beikthano to Sriksetra, or pillaging by treasure hunters over the centuries.

The sculpture that has been recorded is varied in material and iconography, much of it stemming from Hindu-Buddhist practice. For instance, the feet of two massive standing *dvarapala* figures carved in stone were found at the eastern gate of the Beikthano palace wall, but Buddhist

and Hindu sculpture was not found during excavation (Aung Thaw 1972:5). An image thought to be a *kinnari* was excavated from Beikthano and mythical creatures such as naga and makara are represented in Pyu art (Aung Thaw 1968:51 & Pl. LV). However, with the exception of the *kinnari*, none of these are anthropomorphised and none appear to have been venerated as deities as was sometimes the case in South Asia (Shaw and Sutcliffe 2002). At present, the greatest number of figural pieces are have been recovered from Sriksetra. The dating of these goes back to about the late 5th century AD in contrast to radiocarbon dates for Beikthano of the second century BC. Bronzes from Sriksetra suggest both Theravada and Mahayana practice, possibly following or contemporaneous with Hindu sects. At Halin, sculpture is also scarce although the few finds present a well-developed carving tradition. One piece is the lower section of sandstone stele, over a metre in height, found southeast of the city wall at Halin. This depicts the feet of a seated figure variously identified as Mettaya, the future Buddha, or a Bodhisattva, below which are figures of fifty-three devotees with hands held in veneration. Like the royal stone urns from Sriksetra, this stele has been cited as indication of an earlier megalithic tradition (Guy 1999:19).

The contrast between the technical and ritual sophistication suggested by these varied depictions, and the scarcity of provenanced Pyu pieces suggest that there is much more research to be carried out. Turning to the Samon finds, the same is indicated by the recent finds of the anthropomorphic 'mother goddess' figures, *kye doke* and other finds. All testify to specialised manufacturing skills and a complex ritual context. These figures are thought to have been fixed to the top of wooden coffins along with floral ornaments and small conical pieces. Perhaps reminiscent of the paucity of Pyu sculpture, there is no hint in earlier literature of their existence or associated objects such as the *kye doke*, with the first example from Myin Oo Hle, being unearthed in 1998 (Win Maung 1998). A number of the 'mother goddesses' have now been found, and like the uniquely elaborated Pyu burial customs, parallels elsewhere are not yet apparent. There are certainly depictions of human figures in assemblages of the Pyu or earlier periods, some of which were noted above and further below. However, apart from possibly the cave paintings, none have been identified as fertility figures, ancestral memorials or as spirit (*nat*) images. Even when, *nat* images are mentioned in traditional accounts, these are in the context of nature spirits, untimely deaths, or tutelary figures. In such cases, female fertility may be a clear theme in the story or depiction, but at least in its form, the 'mother goddess' rendition bears little resemblance these.

Aung Thaw identified figures of human hands and skulls amongst the cave paintings at Badahlin, where radiocarbon dates from charcoal and bone collagen yielded dates of around 7-13,000 years before present (1969:15 Aung Thwin 2001:26). Virtually all other figures fit within a Hindu-Buddhist or court context. Stamped sherds from Beikthano included the figure of a man, seated in one case and standing or dancing in another. Although the depiction is stylised and dress is not apparent, the seated figure is under an umbrella (Aung Thaw 1968:Fig.71). Terracotta plaques from Khin Ba Gôn and Kinnunchôn at Sriksetra and from Maingmaw show various figures, mostly guardians and *rishi*. In a few instances the large plaques bear the figure of a man on a horse, identified by Luce as one of the four celestial horses of Vishnu (1985: 143, Pls.40,41). Stone depictions from Sriksetra include a female deity, possibly Mahayanist and a *dvarapala*. Five bronze figures of musicians and dancers are thought to resemble a troupe sent by the court to the Chinese capital in 802AD (Aung Thaw 1972).

According to traditional accounts, neither Pyu nature spirits nor ancestral figures were represented in human form. It has been suggested that it was only with the absorption of Pyu Tagaung by

the consolidation of the Bamar at Bagan, that venerated but not represented natural elements were transformed into fully recognised tutelary spirits (Brac de la Perriere 2002:100). Amongst the Pyu and at bronze working sites of the Chindwin and Samon, anthropomorphic wooden images may have existed. Evidence for such images has not survived, although ancestral or memorial figures are well recorded more recently such as amongst the Chin (Carey and Tuck 1896: Pl.16). Thus in the context of prehistoric practices, the Samon 'mother goddess' bronzes may represent a different strand of anthropomorphism, and when fully understood may prompt revision of the circumstances within which Pyu images were produced.

The catalyst for change in materials if not concepts may have come from a new population group, as has long been suggested in relation to the Pyu (Luce 1974). Alternatively, this may have been one result of norms and technology acquired by sectors of an existing population through maritime and overland trade. The clustering of sites around Beinnaka has prompted suggestions that it might be a Pyu 'homeland' pre-dating walled Pyu settlements (Hudson 2001:7). With increasing Pyu social complexity and related territorial dominance, however, there appears to have been a gradual disappearance of the overt animistic-ancestral practices in the Samon, possibly in the early centuries AD. By the mid-ninth century AD, the Pyu (and Mon) began to be absorbed into Bamar ritual and kingship at Bagan. The absence of a major fortified site may have facilitated consolidation of existing settlements including the traditional 'nineteen Pyu villages'. At a royal rather than chiefdom urban scale, Bagan becomes naturally defensible, a potential not offered by the position of Pyu cities. A number of Pyu features, ranging from outer walls and urn burials to silver coins, are absent at Bagan. Other customs are retained but change in form. For example, bricks stamped with village names replace the finger-marked bricks of the Pyu (Moore and Aung Myint: 1991). As with the apparent transition from the Samon to the Pyu, the Pyu-Bagan interface may reflect not the influx of intrusive groups, but a "fresh merger of existing tribes" (Maung Htin Aung. 1970:11). In both cases, more research may bring very different scenarios from to that are now formulated and at the same time find commonalities with earlier historiography

CONCLUSION

Chindwin and Samon sites, as understood to date and described here, were village-based bronze-using societies. Both groups engaged in animistic ritual practice, making use of ceremonial rings. Around Monywa, at Chindwin villages, these were made of stone. To the east, south of Mandalay, the rings were made from stone and also glass. In addition, these Samon inhabitants produced a range of distinct grave goods, notably bronze packets (*kye doke*), floral ornaments and 'mother goddess' figures. Bronze was also used to cast hilts for iron swords, although production sites for these goods have not yet been excavated. Similarly, the nature of agricultural intensification generally linked to localised iron production is not yet clear. The mortuary finds of the Samon suggest a stratified rice-producing society, one where rice was used as a ceramic temper. In contrast, the Chindwin bronze sites are not clearly associated with intensive paddy production, and in pottery examined to date, sand not rice chaff was used as a temper. Wet rice cultivation already underway at Samon village sites may have been augmented by the Pyu grouped around walled sites in the Samon valley and on its fringes. Another aspect of accelerating land alteration was related to control of water resources. Remains of this are detectable at a number of Pyu sites, to the extent that existing canals

and moats can be attributed to this period.

For the three groups of sites described here as Chindwin, Samon, and Pyu, the extent of agricultural and cultural spheres is distinct at some junctures and amorphous at others. Within these variable domains, links to place provided focal points for human activity and instigation of change. A representative classification of these bronze and iron cultures should harmonise this constancy of the land with an inherently changing environment. Such a typology does not exclude a temporal sequence but the purpose of the process is to interpret the reasons and circumstances that prompted events rather than solely marking out the passage of time. Analogously, the present understanding of that past exists only in the context previous interpretations. In both instances, the exercise is ongoing, always in need of adjustment of ideas, concepts and representations.

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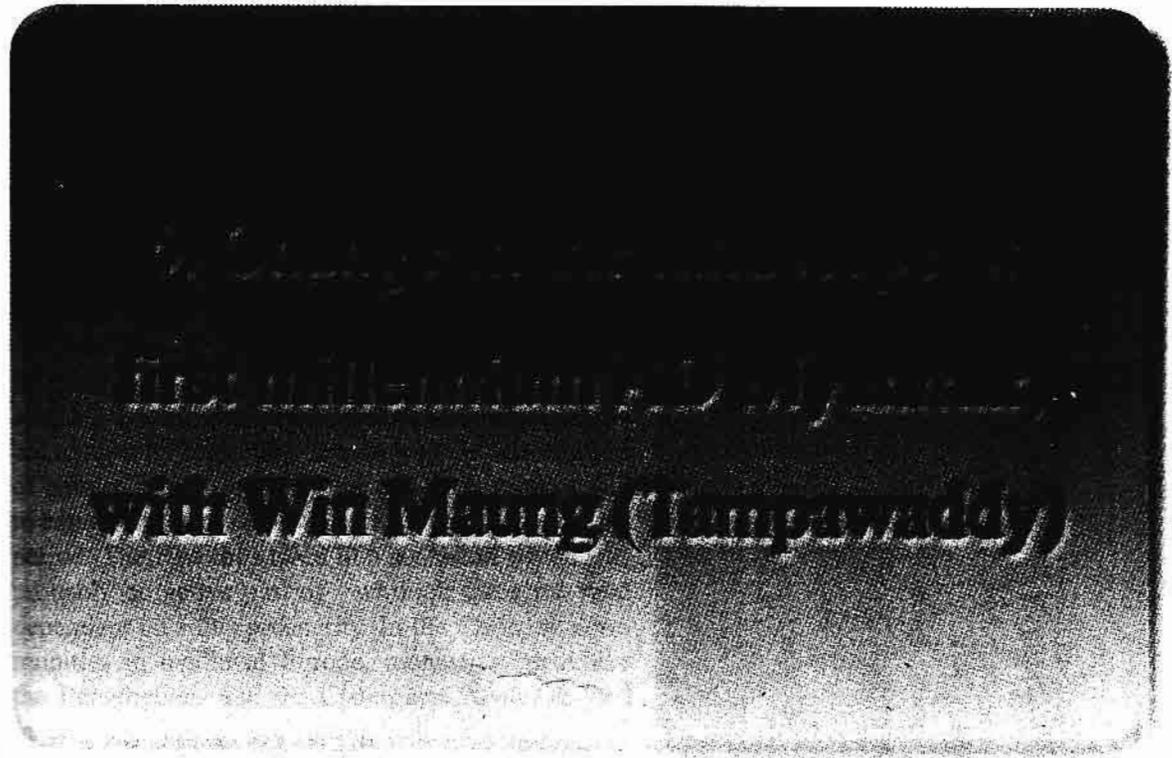
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Change in the landscape of first millennium AD Myanmar

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(ရေကုန် အိုင်ပျက်)

'The pond disappears when the water is gone'

MAN AND THE ENVIRONMENT

Environmental change was as much part of the ancient landscape as it is of the present. Nonetheless, the land is often described as a passive 'other', a world beneath our feet rather than one which is all around us.³ Awareness of the inseparability of the physical and spiritual aspects is central to this perception of the world. During the first millennium AD in Myanmar, the amalgamation of Hindu-Buddhist elements transformed not so much the fundamental classification of spiritual elements in the world but the understanding of how these operated in relation to human existence. In ancestral and animistic practice, chthonic beliefs and lineage tied to place were central. Consequently, in the transformations of the first millennium AD, the landscape remained pivotal.

Discussion of social transformation during this millennium often focuses on the rise of kingship and state but an equally important change was the introduction of new religious communities and their relationship to expanding cultivation and trading networks of this period. The *Bhikkhus* lived in a seclusion which was probably an active part of - while at the same time dependent on - this prosperity. In the Christian communities in medieval Europe, monastic orders like the Benedictines and the Cistercians "took the lead in clearing forests, converting unbelievers, and extending agriculture".⁴ There are no equivalent written records from first millennium AD Myanmar, but evidence of monastic groups comes from the walled sites whose remains mark the landscape of both northern and southern regions of the country.



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² Traditional architect, Tampawaddy, Myanmar

³ Gell 1998: 17; Ingold 1995:40

⁴ Eaton 1993: 313

Our understanding of the walled sites and the cultures from which they emerged is distorted, however, for by and large only a small portion of the country's river system has been systematically surveyed for artefacts of the first millennium AD. Nonetheless, it is during this time that the first and in many ways the most eloquent testimony of human response to environmental inconstancy is created. Traces of this relationship can be seen in the 'archaeological scars' which are part of today's landscape.⁵ Aung Myint, who coined this term, likened it to the process of scar tissue forming over to a deep cut when large quantities of soil are displaced adjacent to natural and man-made features such as *in-gyi* or seasonal lakes and walls made of earth, laterite and brick.⁶ An analogous effect has been noted at Neolithic Avebury in the British Isles:

"In the creation of this place great trenches were dug into the ground with the soil being sculpted into immense banks, inverting the natural state of the chalk. The land was turned inside out, placing the henge on a frontier between worlds above and beneath the ground."⁷

The effects of ancient agency can be detected in the "disturbances they leave in the material world", from stone tools to brick and laterite walls. These at times embody physical agency such as controlling flood waters but at others may have engaged the world around them on a more cerebral level. From tools to walls, gates and urns, these objects, akin to images in the sense of 'binding' or 'wrapping' the mind, create a frontier which at the same time is a channel. The dual sense of boundary or threshold and passage is seen in the association of stone tools with thunderbolts and of walls and urns embedded in land replete with tutelary and other spirits.⁸

"Personal agency creates the distributed art objects that belong to the corpus; our mind becomes manifest in the objects, traces and leavings that we generate during our lifetime"⁹

ARCHAEOLOGICAL EXPLORATION

In relation to Myanmar, the combined 'weight' of these traces highlights a great imbalance. Much of the Myanmar landmass drains into the Ayeyarwaddy (Irrawaddy) basin. The Ayeyarwaddy, its tributaries and other rivers have in most cases formed north-south valleys between similarly oriented ranges.¹⁰ Archaeological exploration, however, has focused on a few major sites along the Middle Ayeyarwaddy recorded in traditional chronicles.

Thus in this paper we map out not one, but fifteen valleys where first millennium AD artefacts have been recorded.¹¹ We show boundaries of these on the accompanying map but in reality, the rivers,

5 Moore and Aung Myint 1991, 1993

6 Aung Myint 1998, Moore and Aung Myint 1991, 1993

7 Watson 2001: 309

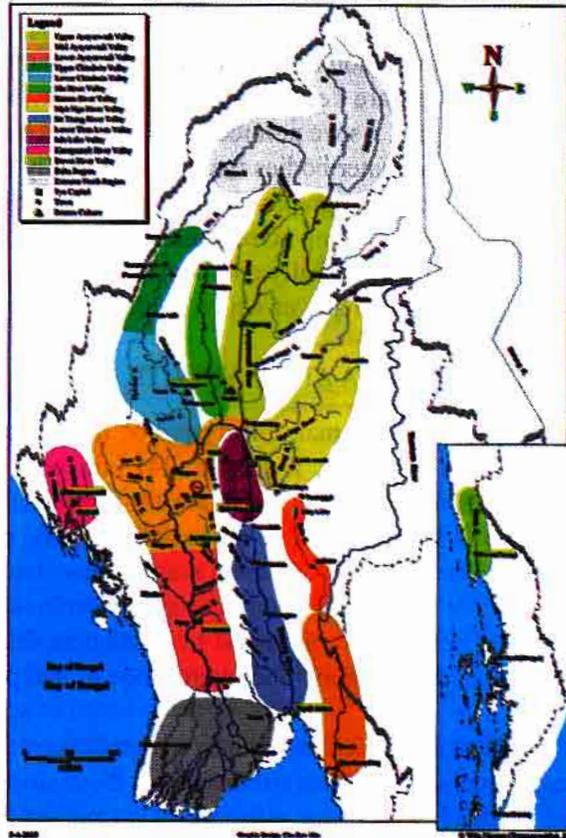
8 Eliade 1957: 25, Gell 1998: 102, Layton 2003: 452

9 Layton 2003: 458

10 One notable exception, and thus absent in our profile, is the Upper Thanlwin (Salween) where swift and deep gorges have cut into the Shan Plateau but no valley has formed.

11 On the appended Valley, town and finds Table, we give the names of villages at the start and end of each of the sectors and examples of artefacts from these villages

Various River Valleys of Prehistoric and Proto-historic Settlements in Myanmar



MAP 1 Valley Civilizations of Myanmar

Valley region ¹²	Degrees (n) x (e)
Upper Ayeyarwaddy	22-28 x 96-98
Middle Ayeyarwaddy	20-22 x 94-97
Lower Ayeyarwaddy	16-20 x 94-97
Upper Chindwin	23-26 x 94-95
Lower Chindwin	21-23 x 94-95
Mu	22-24 x 95-96
Samon	19-22 x 95-97
Myit Nge (Dotawaddy)	22-23 x 96-98
Sittaung	17-20 x 96-97
Lower Thanlwin	17-19 x 97-98
Inle (Inlay) Lake	21 x 97
Kissapanadi (Kaladan)	20-21 x 92-93
Dawei	15-15 x 98
Delta rivers and canals	16 x 96-97
Extreme North (Me Hka and Mali Hka)	25-28 x 96-97

Table 1 Valley regions

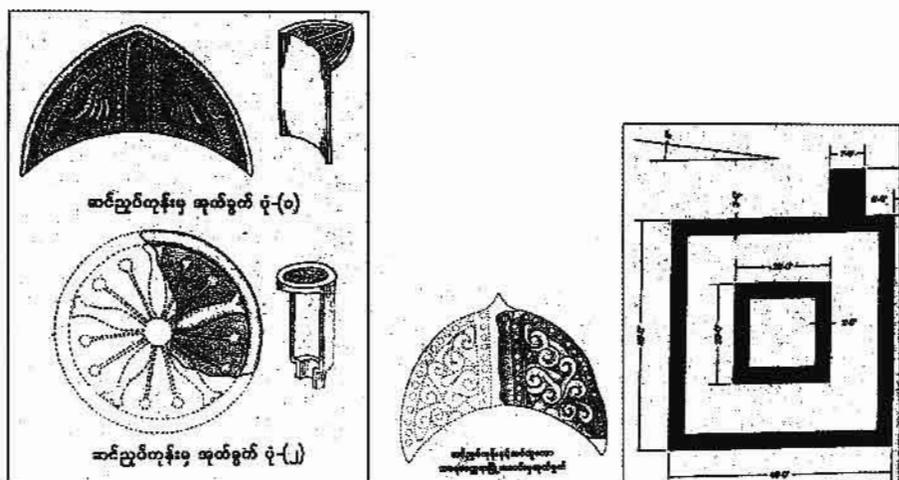
valleys and the peoples that occupied them all changed. The ecologies differ greatly, from the high rainfall of the southern coast to the arid central plains. Walls mark certain locales where peoples settled but at others it is only an accumulation of artefacts near a current village that identifies them as 'ancient sites'. Although diverse, all are keyed off a body of water, be it a river (*myit*), stream (*chaung*), seasonal lake or pond (*in-gyi*). As we pointed out above, this simple description does not imply constancy. Quite the contrary as water bodies fluctuated radically from rainy to dry months, shifting within the confines of the local topography. Man's impact on these features likewise varied in relation to many different groups moving across and settling in the valley regions. Thus the valley landscapes were fluid, defined conceptually and physically in relation to a host of changes, natural elements and population changes, many of which continue today.

RIVERS AND STREAMS: TERRACOTTA AND LATERITE

There are four major river valleys of Myanmar, all in need of further archaeological survey: the Ayeyarwaddy (1130km), Chindwin (644 km), Thanlwin (241 km south of the Shan Plateau) and Sittaung (322 km). The principal middle-sized rivers are the Myittha, Mu, Samon, Dotawaddy (Myitnge), Panlaung, Zawgyi and Dawei. Notable among the streams or *Chaung* are the Mone, Man, Yin, Pin, Hsin TeWa, Hsin The, Bilu, Shweli and Tapein. Many small streams enter like veins into larger rivers flowing from north to south, their courses determined by the local topography. These streams and many others not usually discussed in relation to first millennium AD walled centers played a significant role in the economy and interchange of this period.

Because of the clear correspondence between prehistoric settlement and this intricate drainage pattern, sources of clay and consequently terracotta artefacts from these sites are abundant. Thus, even where the river course has changed, we can see evidence of its ancient flow from the distribution of pottery and other clay artefacts. There are, for instance, a series of streams coming down from the western uplands that empty into the Ayeyarwaddy south of Bagan where a range of pottery and other artefacts have been gathered. One of these is the Man Chaung of the Middle Ayeyarwaddy that stretches far up into the Chin Hills, but other important valleys are to the east. Or to the east, silver coins and terracotta roof tiles have been recorded along the Bilu Chaung flowing south from Inle Lake.

Another artefact where distribution reflects drainage patterns and soil types are terracotta roof tiles. A number of these, decorated on their ends with star-like patterns have been documented at sites near and Tagaung.¹³ For example, at the village of Hsin Hnyat south of Tagaung, tiles have been collected by the Headmaster of the Hsin Hnyat Basic Education School (U Tin Win Oo). In 1998, two different types of votive tablets were recovered by U Tin Win from his house compound, some three furlongs (201 metres) northeast of Hsin Hnyat. A number of pipe sections were also recorded, some shallowly curved tile-like pieces presumed to be for the crescent tiles and others more tubular associated with the circular tiles.



Tiles from Hsin Nnyat and Sriksetra (middle), Plan of Hsin Hnyat structure after Chit San Win 2004

The crescent-shaped tiles (*circa* 15cm height and 21cm width) are divided into two sections by a central vertical band. The triangles thus make two horizontally placed Isosceles' triangles. Each of these is bordered by a series of small dots and has a tri-lobed floral motif filling the middle of each side triangle.¹⁴ Crescent roof tiles have also been found at Sriksetra near to Khin Mu Chon Kon where a terracotta tile with a horseman had earlier been documented. This is similar to the tiles from Tagaung but rather than having a tri-lobed floral *pan-sweh* is filled with a curvilinear *kanok* or floral pattern. The tile was found either at Ma-thi kya kon, the 'hill where the young girl Ma Thi fell' or Gwe-bin-tet kon, the 'hill where the Gwe bin tree grows' (ဂွေဝင်တက်ကံ).¹⁵

The circular tiles (*circa* 13-20cm in diameter) have a deeply inset face into a rim (*circa* 1-3cm thick) and are decorated with sun-like rayed or *dharmacakra* design. In most examples, 10-15 rays are seen, in one case with five thicker lotus shaped and ten narrower rays tipped with circular raised dots around a central circular spot. In 1998, the largest concentration of the two types of tiles was recorded on a mound in the fields of U Tin Win Oo some five kilometers northeast of Hsin Hnyat. Along with the tiles, a number of finger-marked bricks were also found.

In 2000, the Department of Archaeology carried out excavation of the mound unearthing the outer wall of a structure measuring 14 metres square, with an inner structure measuring 6 metres square. Outer and inner walls both were 91cm in width, while a platform on the southeast side measured 2.9m in length and 2.3m in width. The structure was aligned 7 degrees east of a north-south orientation. The plan is like that seen at Beikthano's KKG4, 6, 12, 14, 18, 24; Halin structures HL5, 12, 14, 15; and Maingmaw (Pinle) structures number 7 and 8. All these, called stupa-like structures by San Shwe (2002) are thought to have borne a large central dome. Most are also associated with urns containing bones, beads, silver coins and other small objects. A large number of additional tiles and tile pipes were found during the excavation, although not all pieces were retained for further study.¹⁶

¹⁴ Chit San Win 2004: 165-166

¹⁵ Chit San Win 2004: 172

¹⁶ Win Maung (Tampawaddy), pers.comm.15.04.06

Laterite cells
Mu-hsoe-ma-gu,
Kyaikkatha; Zothoke
'keyhole', Kaw Bein
tunnels (right)



Based on the finger-marked bricks, stupa-like plan, associated finds and related sites, the roof tiles have been provisionally dated to the first millennium AD, commonly called 'Pyu artefacts' if recorded in Upper Myanmar. Additional roof tiles have been noted at Tayoke Myo on the northwest side of Inle Lake. Other first millennium finds near the lake are seen at Bodhithat, including finger-marked bricks, silver coins and quartz beads. (See appended *Table of Valleys, villages and finds*)

In Lower Myanmar, laterite objects are also found, reflecting the close relationship of artefacts to the ecology. Particularly in the Mon State of Lower Myanmar of extensive tracts of this reddish yellow precipitate are seen. Laterite forms in regions with a variable moisture cycle contrast, giving high water levels to laterite substratum. Laterite is soft before exposure, but hardens on exposure making a durable construction material. Deposits range from several centimeters to a meter in depth, and were widely used for construction and perhaps localized iron production during the first millennium AD. Systematic study of the relationship of ancient laterite stupas, sculptures and more recently built road beds to the distribution of laterite beds has yet to be undertaken but patterns of earlier use fit well with known deposits.

Around Kyaikkatha, for example, the laterite areas north of the walled site are in active use today. Part of the eastern wall of Kyaikkatha contains a series of laterite cells (Mu-hsoe-ma-gu) associated in local legend with a Khmer princess pining after the local prince who founded the site. To the southeast at Kaw Bein, near Kyaikto, underground networks of tunnels are seen, possibly part of earlier military fortifications. A similar feature is found at the centre of the walled site of Zothoke, south of Kelasa Mountain. Trenches such as these would have perhaps provided cover for attacking troops and also during longer sieges, in a manner not unlike later times: after the British victory at Yangon in 1824, some ten kilometers of trenches were documented from Kemmedine to Poojad-own.¹⁷ With these few examples of the close relationship of archaeological sites to the terrain, we return below to our tabulation of the main features in the water drainage pattern.

¹⁷ Charney 2004: 98; San Win has recorded further tunnels at Natkyizeik (Bawgabangu, Khalun, Muppalin) circa 3.2km north of Kyaikkatha; Hpaya-tataung (Kyaik-lane); Kawkadut (Zothoke) and Mayangon (Thaton) (Pers.comm. 04-06)

UPPER AYEYARWADDY VALLEYS

The course of the Ayeyarwaddy can be divided into three sectors, each circa 322 km in length. The Upper Ayeyarwaddy (*Anyā*) starts at the Mehka and Malika River junction north of Myitkyina and ends in Letpandan Township, going from Myitsone to Mandalay. Streams (*Chaung*) and rivers (*Myit*) meriting particular archaeological attention along the Upper Ayeyarwaddy include the Moe Kaung Chaung, Tapein Myit, Shweli Myit and Chaung Ma Kyi Chaung (Mattaya). For example, bronze-iron age artefacts including bronze drums of the early first millennium AD Dian culture are found at the villages of Hsin Bo, Hti Kyaing, Yan Bo, Ma Bein, Tagaung and Mattaya. In addition, in the Upper Myanmar Mehkha-Malikka valleys are many 'later' groups not yet documented archaeologically. These include Tibeto-Burman speaking peoples such as Marhu, Azi, Lashi, Rawan, Phun and as well as others. The many fluctuating groups this mixture implies are reflected in Map 2 Ancient Settlement Circles below, where the geographical sphere reflect various networks of alliance.

To the east of the Upper Ayeyarwaddy is Muse Township just west of the Thanlwin where it crosses the border with China. There are many other rivers and streams in this area, notably the Shweli coming from southern Yunnan down to Bhamo. In Northern Shan State, given the absence of a valley, there is a break until the many streams come together at the Dotawaddy (Myitnge) area and down to the Ayeyarwaddy around Mandalay. To the southeast is Inle Lake, of interest both for its ancient history and the mixture of ethnic groups presently occupying the area. The definition of 'groups' in relation to first millennium AD habitation is also needed, such as the varied ones subsumed under the names Pyu, Bamar, Mon, Thet, Khadu, Shan and Kachin.

The Middle Ayeyarwaddy begins at Mandalay and ends south of Magwe at the Yin valley near Beikthano. Along the Middle Ayeyarwaddy, there are eight notable streams: Hsindehwa Chaung, Chaung Ma Kyi Chaung, Yaw and Kyaw Chaung, Salin Chaung, Mon Chaung, Man Chaung, Pin Chaung and Yin Chaung. In the northern part of the Middle Ayeyarwaddy, documentation is needed of the streams around the Popa crater where the topography has been greatly altered. Finds further south along this sector include those at Beikthano (Vishnu), as well as abundant stone, bronze, iron artefacts. The Lower Ayeyarwaddy (*Khe*) begins from the Yin and goes south to near the town of Letpandan. There are four major streams flowing into this sector: Pani Chaung, Mindon Chaung, Bwet Chaung and Nawin Chaung. The region includes Sriksetra and continuous occupation at sites near Hsin-baung-weh to Letpan village. While there has been excavation at Bagan and the walled sites associated with presumed Pyu-speaking peoples sites in the region, there are also many sites with bronze-iron artefacts needing study.

CHINDWIN VALLEY CULTURES

The Tanaing-kha and many other streams enter into the upper reaches of the Chindwin (Than La Waddy) valley. This valley as a whole can be divided into two sectors of *circa* 241 km: the Uru Chaung from Upper Homalin to Kalehwa, and the Myittha River to the junction with the Ayeyarwaddy. Included in this region are Myingyan and Pakkokku. Given the importance of the Chindwin and the abundant Neolithic and Bronze Age artefacts from areas such as Nyaunggan, Budalin in the Lower Chindwin, this area of one of priority for further research. Opposite Budalin, on the other bank of the Chindwin, Salingyi area has a rich variety of rock and ore sources. Volcanic craters both banks offered additional sources of stone and copper. Megalithic remains are abundant in the Lower Chindwin, with studies of Chin use of large burial stones point to the potential of ethno-archaeological research in this area. To the east of the Chindwin, running parallel to it and the Ayeyarwaddy, is the Mu valley stretching from Three Mountains (Taung Thone Lone) to near Myin Mu opposite Magwe.

WALLS AND DEFENSE

Hanlin, Beikthano, Sriksetra, Pinle (Maingmaw) and many other first millennium AD sites in the Ayeyarwaddy and Samon valleys are commonly separated by some five to fifteen kilometers, although the artefacts from smaller villages record widespread habitation. In addition to the remains of walls, the larger sites are identified by structures immediately inside and outside the walls. The placement and various forms these present today, suggest that apparently 'complete' enclosures in fact record on-going construction process. The buildings and walls reflect efforts to cope with the change as trees were felled, the rains failed, ponds dried up, and rivers and streams shifted course.

Although natural water courses are seen inside first millennium AD walled sites, extensive change to streams and rivers change means that we cannot be certain whether the present day hydrology is that of earlier periods. For instance at Hanlin, if indeed the walls seen today were all in place, it is doubtful whether the Halin Chaung flowed across the centre of the ancient city in the first millennium AD. In addition, the water flow of the surrounding area substantially changed with colonial-period canal constructions. At Beikthano, the Yanbe and Yin Chaung flanking the site on the north and south probably attracted Neolithic habitation, but the streams within its walls and the large *in-gyi* on its western flank show evidence of considerable and constant alteration. At Maingmaw today, the Nat Hlyeh Chaung runs through the centre of the site but as at Halin, the first millennium AD hydrology may well have been different.



Plan of Sriksetra after U Aung Myint

At Sriksetra as well, the advantages of settlement south of the Nawin Chaung and north of a series of *in-gyi* at the foot of an upland zone on the southwest, probably prompted village-based cultivation long before monastic communities settled and walls began to be built. However, the narrow wall on the east of Sriksetra appears to have been erected as a quite separate undertaking, perhaps in response to changes in the large *in-gyi* bordering its eastern face. An additional and significant factor may have been warfare, with water bodies an important element in siege fortifications. Stockades, for instance, could only be built on the inner edge of a moat, with palisades and redoubts constructed to make use of rivers, moats and marshland. In the dry season, moats could be home to bamboo stakes and thorny bushes, the latter as effective as barbed wire.¹⁸ Daw Thin Gyi long ago highlighted the defensive character of Sriksetra's multiple walls and forts. Although not all scholars concur, three walls and moats, some 30 metres in width have been noted on the south and west "where danger threatens over the low ridge".¹⁹

Some walls were made of bricks, others were earthen ramparts or laterite blocks, and in Lower Myanmar, stone was also used. For example at Kelasa, a line of stone fortifications reaching from the village of Winka and up over the peak of Mya Thabeik has been recorded. This pattern continued in later centuries, with the walls of Bago at the end of the 17th century AD reportedly made of stacked, unmortared iron-stone walls some three metres in height.²⁰ These structures were augmented with perishable materials, at times timber fortifications and at others formidable barriers created by thorny bushes and bamboo hedges. When combined, a barrier could be massive. For example, a Cham fortification with a six meter high brick base was surmounted by a three meter brick palisade and topped by wooden walls to a total of twenty-four meters.²¹

None of these fortifications of course remain standing at Halin, Beikthano, Maingmaw or Sriksetra but it is important to consider the dimensions that these may well have reached. In addition, all of these activities would have altered the local ecology, from felling of trees to providing new habitats with the planting of hedges. Our examples in this section highlight a few of the streams and *in-gyi* but the two examples which follow, at Bagan and Tagaung involve the much larger Ayeyarwaddy.

BAGAN AND TAGAUNG

Although both Bagan and Tagaung are directly the river today, there are reasonable arguments that both were originally located safely away from the banks and the danger of flood. At Bagan, Daw Thin Gyi concluded from aerial photographs that the west wall had been gradually lost to the Ay-

18 Charney 2004:92

19 Aung Myint 1998: 67,68, Thin Gyi 1965. Thaw Tint (pp.90-91) recorded some 2.7 m of archaeological deposits along the river bank at Pyay. In ashy black soils overlying clays and gravels, Neolithic potsherds with rhombic and cross-hatch designs are noted, along with various animal bones such as calves' skulls, fish vertebra, pigs jaw and fresh water shells. (Thaw Tint and Sein Tun 1985 (Unpublished). *The Quaternary Stratigraphy and Paleolithic-Neolithic Evidences from Central Burma*. University of Rangoon.)

20 Dijk 2004: 1,38 cited in Charney 2004: 79 fn.17; San Win 2005.

21 Charney 2004: 80

eyarwaddy through erosion and flood.²² A gradual shift in the river eastwards is also supported by its westward jutting out at the village of Myit Khe ('lower portion') north of Bagan.

More recently, study of aerial and satellite photography has generated a similar case for river-induced destruction at Tagaung, today located east of the Ayeyarwaddy. In this instance, however, it is contended that the river shifted westward within the geologically recent past.²³ Movement of the river course is supported by the documentation of thick, clean sand deposits and Late Paleolithic tools along the 'Old Ayeyarwaddy' east of the present river course. These finds have been used by Tin Thein to suggest a change in the course of the Ayeyarwaddy between the Paleolithic and Neolithic. Other environmental factors, however, are important in our interpretation of the 'absence' of a western wall.²⁴ One of these is the site's location on a major fault line and probably related lack of great river change.²⁵ Another is the prevalence of earthquakes in the area: the most recent was in 2000 with a minor earthquake in 1989. Finally, there are the effects of constant erosion and deposition of the river and streams feeding into it.

Working within the premise that the river moved west, one of the present authors has suggested that not only the location but the layout of Tagaung may have conformed to a tradition that walled cities traditionally associated with the various Pyu groups had nine quadrants with a central citadel. There are today three walled areas at Tagaung, two with a rounded shape and one more rectangular in form. All three, however, are missing the western wall. When the nine quadrants are plotted to form an oval-shaped city plan, the area of the 2004 excavations becomes the northeast quadrant of the old city.²⁶

Traditionally the first royal city, Tagaung had always posed a problem, for it is directly on the Ayeyarwaddy and excavations for many years failed to yield any pre-Bagan evidence. However, excavations in 2004 yielded finger-marked bricks and urns, with ground survey having recorded finger-marked bricks in all three parts of the walled site. In addition, the distribution of other artefacts likewise indicated earlier habitation on the east of the Ayeyarwaddy. For instance, along the 10 km span of the river south of Tagaung, bronze axes have been found at Padi-Hpyu, polished stone tools, bronze artifacts and furnaces at Kyan Hnyat. Finally, Paleolithic tools have been found in ranges to the east of Kyan Hnyat, the Thauung Hwet ('10,000 hidden') range caves. Thus in our view, Tagaung is not a single site but better described as the walled zone in a string of sites along the Ayeyarwaddy. Economically attractive hinterlands with ores and well watered rice-growing land are located to the east and south to the south.

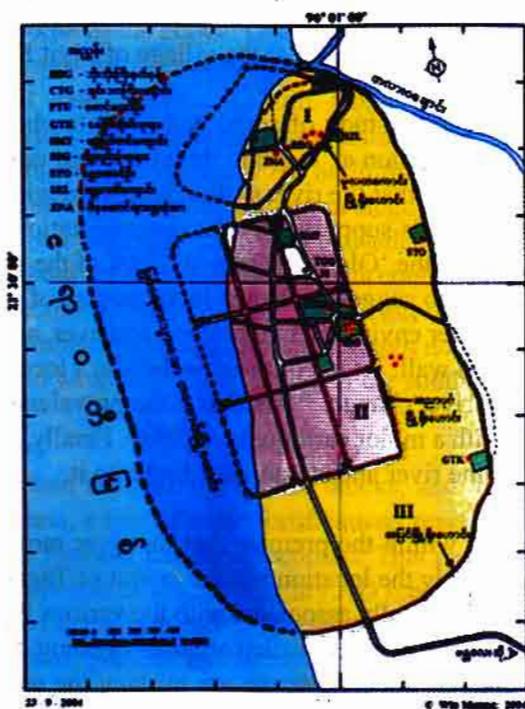
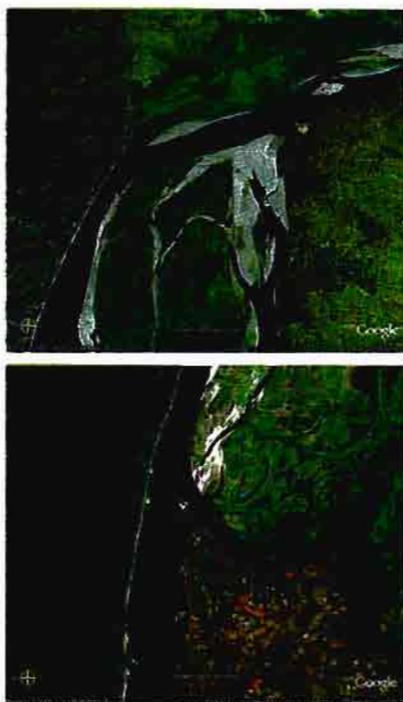
²² Thin Kyi 1965

²³ Chit San Win 2004; Moore 2005; Win Maung 2005

²⁴ Ashin Pandita (U Min.Han), pers.comm. 30.03.06

²⁵ Comparing for example, the river course in current imagery with maps 1885 AD maps, such as the series of six sheets, *The Irrawaddy River* drafted by Capt. S.G. White for H.Q. 4 Corps. Courtesy U Chit San Win, 11.04.06.

²⁶ Win Maung 2005



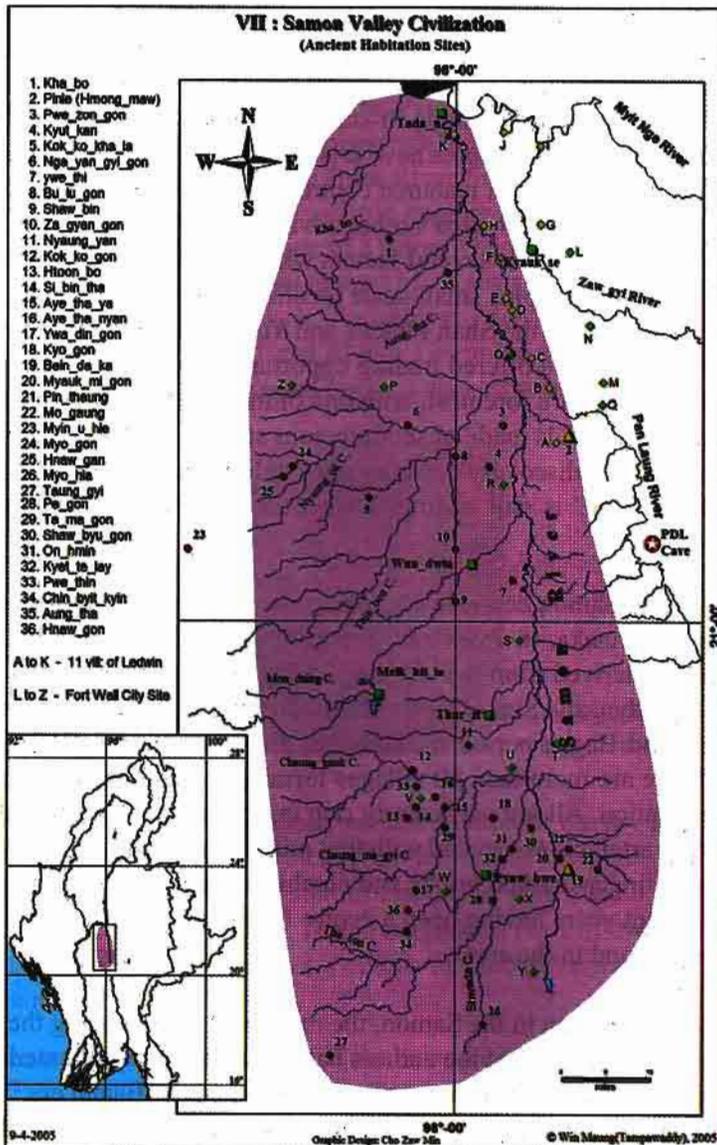
Bagan and Tagaung (map Win Maung (Tampawaddy))

SAMON: DESICCATION AND RESOURCES

A different pattern of river change, one of desiccation rather than water excess is seen due south of Tagaung along the Samon valley. The Samon is short (161 km) and unlike other rivers, flows from south to north. The region is sparsely settled with villages along small streams flowing down from the west into the river, and others aligned along the ore-rich foothills of the Shan Plateau. From the late 1970's, Maung Maung Tin (Mahaweiza) began to study the Samon region to the south of Mandalay. This included the townships of Kyaukse, Thazi, Pyawbwe, Yamethin and many others forming a line along the Samon at the foot of the Shan Plateau.

Areas such as Kyaukse have long been known for their Bagan period rice production. Yet despite the general presumption of rice cultivation as one of the primary bases of first millennium AD prosperity in Upper Myanmar little was known about the prehistory of cultivation in the region. A few bronze celts had been collected from the Shan Plateau by Morris and others in the colonial period. However, although Aung Thaw did support prehistoric excavations at Taungthaman and Shwezayan, work south of Mandalay in the Samon was limited to excavations at Badi-gon near Beinnaka, mentioned again below. In the late 1970's, Maung Maung Tin began to survey villages in the Samon and a picture of the 'Samon valley' civilization emerged.²⁷ Among the bronze artefacts were a number not recorded before, such as *kye doke* or bronze packets, 'mothergoddess' figures and floral ornaments.

²⁷ Win Maung 2003.



Samon valley; Win Maung (Tampawaddy) map



Kye doke from Shaw Bin; Win Maung (Tampawaddy) collection

The Samon is arid today, with new irrigation projects over the last twenty years beginning to counter the 20th century desiccation and subsequent pattern of crop failure. The construction related to these projects and subsequent excavations have brought to light the widest array of first millennium bronze and iron artifacts in a region seemingly ill-suited to support such prosperity. In fact, however, many major first millennium AD cultures have arisen in apparently marginal ecological niches, with the main explanation centering on resource control. Water excess is generally more difficult to harness than too little water, with an area's other advantages often more than compensating for a dearth of water. These pluses include several factors where the Samon scores well - proximity to trade routes and major ore sources plus small-scale localized resources. On the first, the Samon is adjacent to major routes leading to the Shan Plateau and Yunnan on the east and the Chindwin and regions beyond on the west. These offered trading opportunities and ores. Among the small scale resources, semi-precious stones are foremost, with one of the most attractive objects of the Samon culture being highly polished beads made of semiprecious stones. In the late 1970's, Aung Myint's work with aerial photos and his discovery of Maingmaw unfortunately also prompted bead-digging in the area. Sadly, 'bead-fever' is still adding to the non-systematic excavation of many grave sites.²⁸

The most significant of the Samon centers, where one site is called 'Badi-gon' or 'bead mound', may have been around Beinnaka, in Pyawbwe Township, Mandalay Division.²⁹ Chronicles state that the name Beinnaka is derived from the last king of Tagaung, a lineage of mythical origins tied into the rise of the Bagan dynasty. Survey and excavation around Beinnaka, however, has yielded not only proto-historic and Bagan period artefacts but also an earlier wall along with stone and bronze implements. There are more than 60 villages forming a radial array around Beinnaka with a similar pattern of habitation. All are particularly rich in bronze-iron artefacts and in many cases the silver coins and other artefacts associated with first millennium Pyu peoples. At Wadi, a circular walled site, silver coins, finger-marked bricks and elephant beads have recorded, with the nearby village of Payagyi in recent years having been a centre for the manufacture of 'Chin beads' made from the abundant fossil wood in the area.

Sites of other periods are also seen in the Samon, the most well known being the 11 *Ledwin* or ricefields of Kyaukse (A to K).³⁰ One of the authors has additionally documented fifteen 'Fort Wall City Sites' (L to Z) where the wall at least appears to date to the post-Bagan era.³¹ In contrast to the clustering of Samon bronze-iron sites in the southern part of the valley, the 11 *Ledwin* are in the northern part of the Samon, along the Panlaung and Zawgyi. These two rivers run parallel to the Samon but rather than going along the valley, flow down from the Shan foothills to the east.

28 Moore and Aung Myint 1993

29 Win Maung 2001

30 In the A to K order they are labelled on the map, the *Ledwin* sites are Pinle (Myodwin), Pyinmana, Myittha, Ywamonegyi, Myingondaing, Panan, Thindaung-gyi, Tamoak, Hmek-kha-ya (Mekkaya), Tabet-ka and Khan-luu.

LOWER MYANMAR

To the south, there are at least three significant regions for further study. First, in Sittaung valley there are a number of different areas such as the Pyuu Chaung, Myo Chaung, Bago Myit and Ye Chaung. Second, along the Lower Thanlwin are the Belu Chaung and the junction of the Yun Chin Chaung and watercourses such as the Bilin River further south. The area includes Taungnoo south to Ye, with the southern coastal areas little explored. North of Ye, in the present day Mon State, is the first millennium AD walled site of Thaton. There are other first millennium AD walled settlements such as Winka and Ayetthema around Mt. Kelasa, Donwun to the east of the Bilin, and more sites in Mudon south of Mottama. In Tanintharyi Division, Neolithic tools and walled sites are found along the Dawei and Tanintharyi Rivers. Given the evidence for early occupation to the south near Krabi, exploration of the coastal caves is also merited.



Laterite galon from Donwun and chinthe from Kyontu

All the water bodies experience tremendous variation between the dry (November-April) and the rainy months (May-October). This includes rivers as well as the ponds 'that disappear when the water is gone' in the proverb cited at the start of this paper. Water levels change quickly during the monsoon periods, with regular warnings issued on sudden rises of 2-4 meters. The effect of this flood pattern can be seen in the meandering course of the Ayeyarwaddy and in major alterations along rivers, streams and creeks.

Some of these are recent, with a major shift for example, along the Lower Sittaung in the early 20th century AD.³² In 1911, the Sittaung cut across a long bend northwest of Kyaikto to make a new channel. This brought erosion on the eastern Kyaikto area and additional sedimentation on the Bago side.³³ The river change is significant, so that Kyaikkatha is now virtually on the Sittaung river mouth at the apex of the Gulf of Muttama. Smaller river courses were also affected, so for example, just west of Kelasa Mountain at Winka great amounts of sand have been deposited in

As we indicate in brackets, some of these appear to be fortresses linked to other sites: Myin-saing (14th to 15th century AD), Hpwat-bet-san (Pinle fort), Myaung-hla (Pinle fort), Pauk-myaing (Pinle- Wadi fort), Pyin Si (Pinle fort), Saw Hla (Twa Khaing Gyi) (Pinle fort), In-gan (Pinle fort), Sagara (Anawrahta 11th century AD), Hlaing Det (Maingmaw fort), Nyaungyan Ma-gyi (Anawrahta 11th century AD), Yin-daw (Beinnaka fort), Yanaung (Beinnaka fort), Wadi (Beinnaka fort), Yamethin (Beinnaka fort) and Wadi (Payagyi).

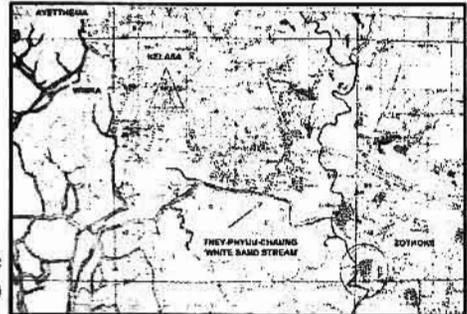
© San Win 2005

© Chibber 1933:32

the Theh-phyuu-chaung, or 'white sand stream'.³⁴ This has brought a combination of erosion and deposition to both banks of the outlet. As a result of changes such as these, the first millennium AD walled sites of Sittaung and Kyaikkatha, for example, are now directly on the river but Kelasa and Thaton are further inland than was probably the case two thousand years ago.



Map of the 1911
Sittaung change
(left);



Steam changes in the
Kelasa region (right)

Change can also be further south of the Bilin River around walled sites such as Donwun, Mayan-gon and Hsinbyukyn near Thaton. In contrast to developments in the arid regions like the Samon, the focus in Lower Myanmar is control of excess water. For instance, the inauguration new Mayan-gon Sluice Gate, with 15 valves each measuring 1.8 by 3.6 metres will reclaim 10,000 acres of wetland.³⁵ Documentation of these sites and others by San Win and his team has led to finds of a number of stone tools and rings as well as incised blackwares supporting a profile of Iron Age to mid-first millennium AD Hindu-Buddhist habitation in the lowlands lying between Thaton and the Bilin egress into the Gulf of Muttama.³⁶ The meandering of not only the river but smaller west flowing canals characterizes this low 'no-man's land'. Thaton faces the coast on the west but on the east it butts against the Martaban Range aligned with the geologic fault line stretching south past Zingyaik Mountain to Paung. The terrain contrast in this region was made stronger during the colonial period with the construction of the railway along this edge running past Thaton.

Due to the danger of flood, and in Lower Myanmar inundation from the sea, first millennium AD sites are rarely located directly on the coast or on the banks of major rivers or streams. Nonetheless, villages and cities made extensive use of these water sources. This was generally in relation to smaller and more easily controlled watercourses or *in-aing*, a range of ponds and lakes made suitable for fishing by putting up weirs, and where damming and bailing out of water is regularly carried out. Sites such as Taungthaman-*in* exploited such locales at least as early as the Neolithic,

34 San Win 1986

35 New Light of Myanmar, 29.05.06

36 The wave-like and criss-cross design on the pottery is similar to pieces from Sanpannagon (16.15n x 97.20e) some 20km southwest of Thaton (San Win 1986: 167, 182, fig 15). In Thailand, similar sherds are seen at Ban Ku Muang, Amphoe Inburi, Changwat Singburi (Indrawoath 1985: 53, figs 17-21). The black-ware has been noted at Taungthaman as well as sites in Thailand (Stargardt 1990: 22-23). Earlier survey of Zokkli, in the estuary of the Zothoke stream suggested that it was previously a small island separated from the shore by a shallow lagoon. Erosion over time has exposed a number of stone implements and rings (Thaw Tint and Sein Tun 1985: 97).



Stone ring from Mayangon, Thaton³⁷;
Railway past Thaton follows fault line

with expanded cultivation on its shores not only increasing agricultural surplus but attracting a host of new insects, birds and small mammals to the area.³⁸

CONCLUSION

The Taungthaman excavations took place in the midst of flatlands, an area thick with pagodas and monasteries. The precise date when the first monastic communities were constructed here and elsewhere Myanmar during the first millennium AD remains open. It is not the moment but the process of this establishment we need to reconstruct, for institutional settings and social forces - the 'habitus' - were on the move. The vital role of the landscape in this transformation is essential to see if we are to "arrive at an adequate understanding of understanding" of these changes.³⁹ Their establishment engaged physical and spiritual aspects of the environment in a manner perhaps analogous to the so-called desecralisation of the forest in 8th century AD Europe:

"In the presence of a great crowd of pagans, Boniface personally chopped down a sacred and exceptionally large oak tree known to the German peoples as the 'Oak of Jupiter'. On witnessing this, the crown formally accepted the Christian cult, while Boniface built an oratory from the felled timber and dedicated it to St. Peter."⁴⁰

In Myanmar, this process took place gradually, with parallel developments throughout the country. Migration was not only along the Ayeyarwaddy, but the Chindwin, Mu, Samon, Thanlwin and Salween. And there is every reason to think that the limestone caves of the eastern and southern regions were inhabited by at least the Neolithic. By the end of the first millennium BC and early centuries AD, one or another of the valley cultures came to dominate. We have highlighted the direct correspondence of these cultures to an unpredictable profile of rivers, streams, creeks, ponds and lakes for such changes constantly informed reinterpretation of social and religious structures.

³⁷ Five rings or sections of rings, four made from slate and one from a fine-grained quartzite were found. In addition, more than a hundred stone tools were recorded including adze/axes, scrapers and sickles made from fine-grained and equate quartzite, slate, microgranite, sandstone (greywackes), fine-grained sandstone, indurated mudstone, siltstone and diopside porphyry (Courtesy U San Win 04.06, Moore 2006 (forthcoming).

³⁸ Higham 1998:67

³⁹ Wagner, *Reading Iconotexts: from Swift to the French Revolution* (London 1995) p. 171 cited in *Clunas 2006 Practices of Vision* pp 352-361 in *Asian Art* (Brown, R. and Hutton, D. eds) Oxford: Blackwell, p. 353

⁴⁰ Eaton 1993: 313 fn 20 citing Wilhelm Levison, *England and the Continent in the Eighth Century* (Oxford: Clarendon Press, 1946), 45-46.

From streams at Halin to the Ayeyarwaddy at Tagaung and the arid Samon valley, we stress the diverse ecological modifications that have affected archaeological interpretation. Other equally varied examples are found along the Ayeyarwaddy and Chindwin, the Mu, Samon, Myit Nge (Dotawaddy), Sittaung, Lower Thanlwin and Dawei rivers. The landscape was one where desiccated ponds, meandering streams and new river courses were a matter of course. The unpredictability was normal and corresponding amendments were made to walls, weirs and stockades. Adjustments were never the same and were never completed; rather than the world being an object of human interest, man dwelled in the world – a world not of *homoeostatic equilibrium* but an “active, perceptual engagement with components of the dwelt-in world, in the practical business of life.”⁴¹

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Table of Valleys, Villages and Finds

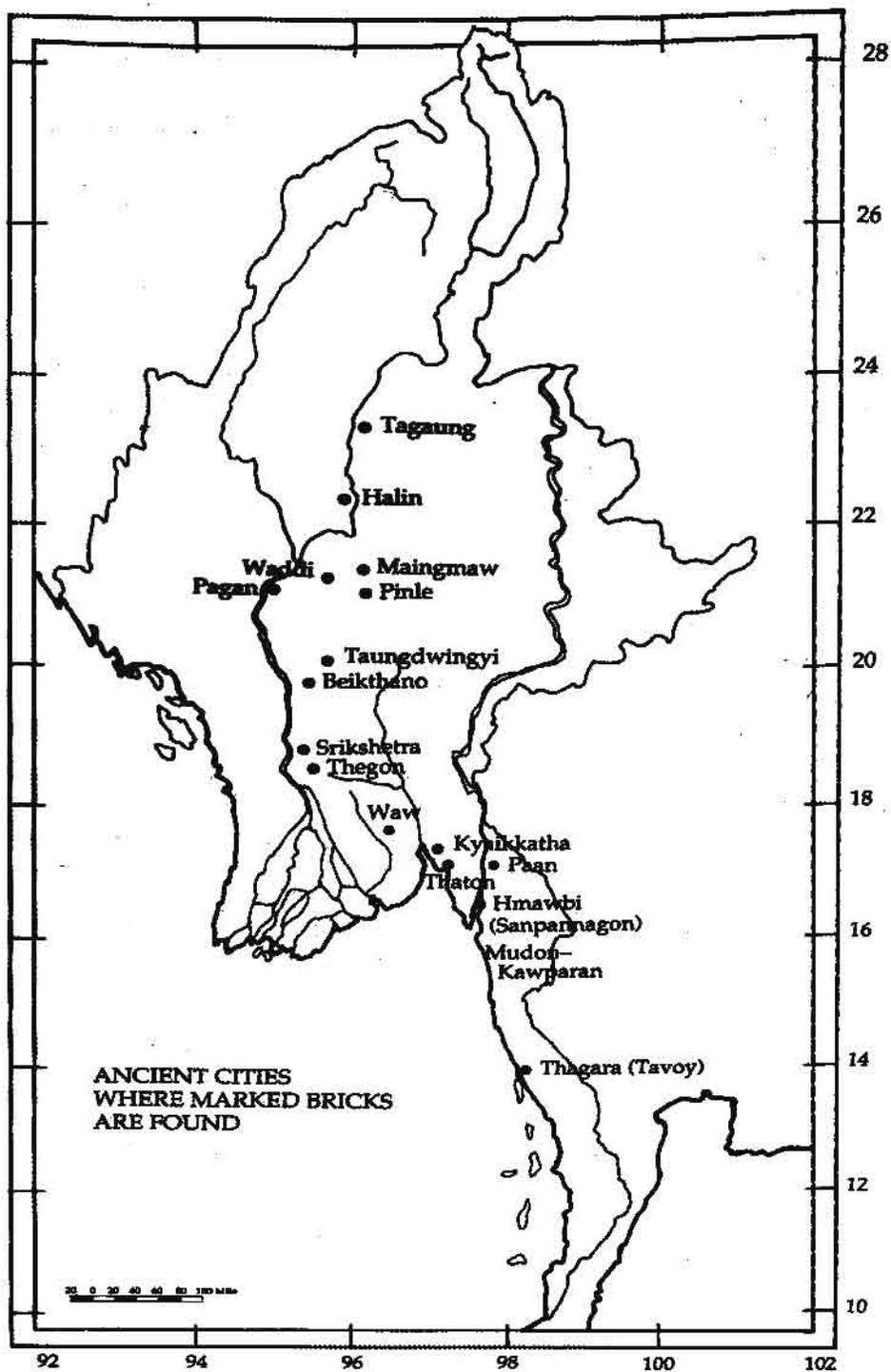
Region	Valley		From	Village 1	Find 1	To	Village 2	Find 2
I	Upper Ayeeyarwaddy	22-28 x 96-98	Myitsons (Me Hka and Mali Hka)	Hsin Bo, south of Bhamo	Bronze drum	Mandalay	Yan Bo, East of Tagaung	solid bronze axe
		20-22 x 94-97		Khabo; Yankin Hill (Yedaga guu-taung); Madaya; Taw Zu	Stone rings; Bronze drums (whole and fragments)	south of Magwe	Lepanchibaw; Lepanwa; Beikthano	Neolithic tool; bronze bracelet with faces and bronze image Buddha
		16-20 x 94-97	Mandalay	Taungdwingyi	silver coins; polished beads	Letpan dan	Sriakra	Neolithic tools, gold Pali-inscribe plates
III	Lower Ayeeyarwaddy	23-26 x 94-95	Let Pan (south of Magwe)					
			Upper Homalin	Homalin	Neolithic tools	Kalehwa (Junction Myitha River)	Kalehwa (wall)	Neolithic tools
IV	Upper Chindwin	21-23 x 94-95	Myitha River	Nyaunggan	Neolithic and bronze tools	Myingyan	Myotha	'megalithic' finds
		22-24 x 95-96			Silver coins with narrow-base Bhadapitha and Rising Sun motifs seen at Maingmaw, Beinnaka, Pindaya			
V	Lower Chindwin		Taung Thone Lone	Keba		Myin Mu	Halin, Myin Mu	Neolithic, bronze (Halin); gold Makara bracelet (Myin Mu)
VI	Mu River							

VII	Samon River	19-22 x 95-97	Yamethin	Myo Hla, 15 walled city sites; Louk Sauk	bronze-iron artefacts from 36 village sites	Tada U	11 Ledwin of Kyaukse	Kye doke, 'mother-goddess'; blue glass rings
VIII	Myit Nge (Dhotawaddy)	22-23 x 96-98	Muse	Kyaukse region east of Mandalay	bronze axe, green quartz and red carnelian beads, bronze pottery	west of Inwa (Ava)	Taungthaman	Neolithic tools, iron
IX	Sit Taung River	17-20 x 96-97	Pynnana	Tatkon	Kye Doke; polished stone beads	Gulf of Muttama (Martaban)	Kyaikkatha; Hpyuu	Neolithic tools, silver coins; bronze Buddha images
X	Lower Than Lwin Muttama	17-19 x 97-98	northern part of Pynnana	Phyuu	bronze-iron artefacts	Mawlamyaing (Mottama)	Kelasa, Winka	Neolithic tools, terracotta plaques; zoomorphic beads
XI	In Lay Lake and Bilu Chaung	21 x 97	Taunggyi	Tayoke Myo and Bodhithat north side of Inle; Nam Pelu, Nam Paung on Bilu Chaung	Pyu' roof tiles; walled site, finger- marked bricks	Loikaw	Ramawadi south of Inle	quartz beads, silver coins
XII	Klissapanadi (Kaladen) River	20-21 x 92-93	Munhdaung, Kyaukdaw	Dhannyawadi	silver coins	Sittwe	silver coins	Wethali

XIII	Dawei River	13-14 x 98	Dawei	Thagara	Neolithic tools, bronze image Buddha	Thayetchaung	Neolithic tools	Thayetchaung
XIV	Delta Region Kanbe, Twante	16 x 96- 97	Syriam	Kanbe, Twante	bronze image Buddha	Gulf of Muttama	Kyauktan, Padagyi	Laterite sculptures
XV	Extreme North (Me Hka and Mali Hka)	25-28 x 96-97	Moe kaung		Neolithic tools	Myikyina	Beads, gold	Maru, Azi, Lashi, Rawan, Phun - later migrated tribes

The English and Burmese
ON ARGENT BRICKS IN MYANMAR

THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.
1954



Map 1

FINGER-MARKED DESIGNS ON ANCIENT BRICKS IN MYANMAR

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AND

ELIZABETH MOORE

SCHOOL FOR ORIENTAL AND AFRICAN STUDIES

UNIVERSITY OF LONDON

INTRODUCTION

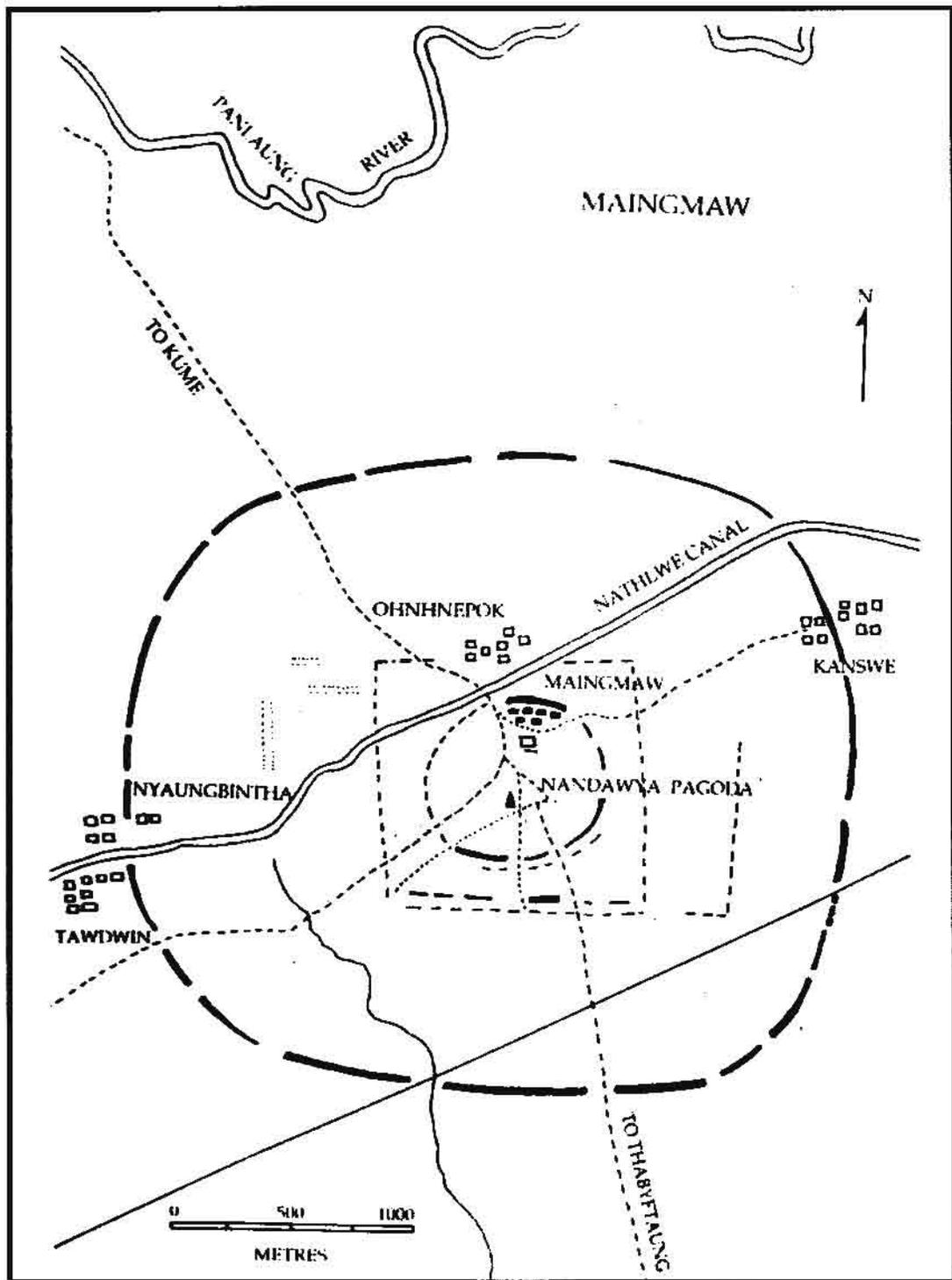
Bricks with finger-marked designs are found at many of the ancient cities of Myanmar. A comparative study of the bricks, the design and the sites where they are found has been conducted over the last twenty-five years. Aerial photographs have long been used in Myanmar, but there has been no previous classification of the ancient settlements, numbering over one hundred, whose walls and/or moats make them visible from the air. Aerial discovery has also prompted initial excavations by the Department of Archaeology, for example at Maingmaw and Kyaikkatha. Using a sample of the ancient cities, it has been possible to initiate an expansion of artifacts recovered from surface survey. Domes, beads, and bricks. It is hoped that publication of the work can encourage recording of more finger-marked bricks in Myanmar, and in other regions of South and Southeast Asia.

The finger-marked patterns of Myanmar bricks constitute a cultural tradition which coincides with the construction of Mon and Pyu

walled cities in the early centuries of the Christian era. The practice faded out by the early Ava period (13th-14th century). Many of the artifacts such as beads and coins, diagnostic of this era, are easily collected or traded, perhaps as a souvenir or gift. Bricks, however, are bulky and not very useful as individual pieces of a city wall or stupa. Generally, the transportation of this number of bricks is cumbersome and uneconomical over great distances, so that bricks are manufactured locally or in the neighbourhood of a structure. This appears to have been the case even at Pagan, situated in a rain-shadowed area and without sufficient localized woodlands to fuel brick kilns. Pagan's bricks were supplied by many surrounding village's, all within the economical transportation limits. A large number of Pagan bricks bear village names indicating sources of supply; some, such as Sale, are on the west bank of the Irrawaddy River (Dr. Than Tun 1973).

Thus for the construction of a city wall, the production and tiring of the bricks would have been carried out by the local people. Alternatively, if local expertise was lacking, technicians may have been brought in from elsewhere to give instruction on methods of making and firing bricks. In this way, expertise in brick making could easily spread. Changes in the patterns marked on the bricks offer a means of charting

Note on Spellings. As "Myanmar" and "Yangon" are now in common usage, this spelling has been used in this article in place of "Burma" and "Rangoon". However, for ease of recognition and because of different means of transcription, many other placenames have been left. For example, we have used Tavoy (not Dawe or Dawei), Prome (not Pyi or Pyee), Irrawaddy (not Ayarwady or Eyarwady), Pegu (not Bago or Pago), Salween (not Thanlwin), Sittang (not Sittaung).



Map 2

the spread of this technology. The finger-marked designs found on a percentage of the bricks also implies large-scale production requiring a systematic means of recording output. The designs can be divided into seven stages, forming a scale of increasing sophistication:

- (1) *haphazard markings* with no preconceived pattern or design
- (2) *known patterns* repeated with variations, including simple lines, straight, curved or diagonal
- (3) *greater complexity* in the patterns, still using the same straight, curved or diagonal elements
- (4) *finger-drawn* numbers, symbols or letters.
- (5) *stamped* symbols, numbers, or letters, imprinted initially or as overmarks on finger-drawn lines
- (6) letters which are *scribed, pressed, stamped* or written as overmarks on bricks
- (7) bricks with *reliefs, emblems* or other decorative designs

Of note also is the correlation between developments in brick-marketing techniques and the enclosure of Pyi and Mon centres. Similarities in city shape, and finger-marked designs on the bricks used to build those cities, present a significant means of understanding the high degree of interchange which took place between two cultures traditionally defined as distinct entities. The presence of finger-marked bricks in the U Thong Museum, Thailand suggests much future research there as well.

MARKED BRICKS: DEFINITION AND DESCRIPTION

Sometimes the brick is marked straight or diagonally along the whole length. A few examples have irregular wavy lines. There are a number of indications that the patterns were made by fingers.

The maximum number of lines is four, made just deep enough to make the lines stand out

boldly. Exceptions are weathered bricks where exposure has eroded the marks. Two or three parallel lines are the most common, a position easily taken by the middle two or three fingers of the human hand. The grooves are smooth and rounded, being about the width of the finger tips. Had they been formed by a blunt stylus, the lines would be thinner and more angular. The width of the parallel lines mirrors that of the four fingers when extended naturally. It can be seen that the thumb was not used, for when the hand is laid flat on the brick surface, the line made by the thumb is slightly separate from the close parallel position of the other four fingers.

The marked bricks recovered from Pyu and Mon sites vary in size, but can be divided into two groups. The length, width and thickness of the larger bricks is 43-50 cm x 19-25 cm x 6-9 cm (17-20" x 7 1/2-10" x 2 1/2-3 1/2"). The smaller bricks are 41-43 cm x 18-19 cm x 6-7 cm (In the accompanying illustrations, the bricks are not drawn to scale, the emphasis being on the patterns. Generally, the bricks from a site fall into (one or the other size group. However, of note at Srikshetra was the mixture of large and small-size bricks. The bricks at nearby Thegon were relatively small, being 35.41 cm long, 15-18 cm-wide. and 5-6 cm thick.

Within the matrix of the clay used in making the bricks, large quantities of rice chaff is found. Analysis of a number of these inclusions showed that bricks from Maingmaw, Beikthano, Srikshetra, Halin and Waddi contained predominantly rounded grains. This study, conducted in the mid-1970's by Kyoto University, tabulated the presence of three types of rice husks embedded in eighty-two samples of old bricks. The types were rounded grains found on early-maturing paddy, large grain upland rice, and slender late-maturing paddy. The results found that the rounded grains predominated up through the Pagan period. From the 12th century AD. the percentage of the slender type increased in the dry-zone Kyaukse region. Today, these late-ma-

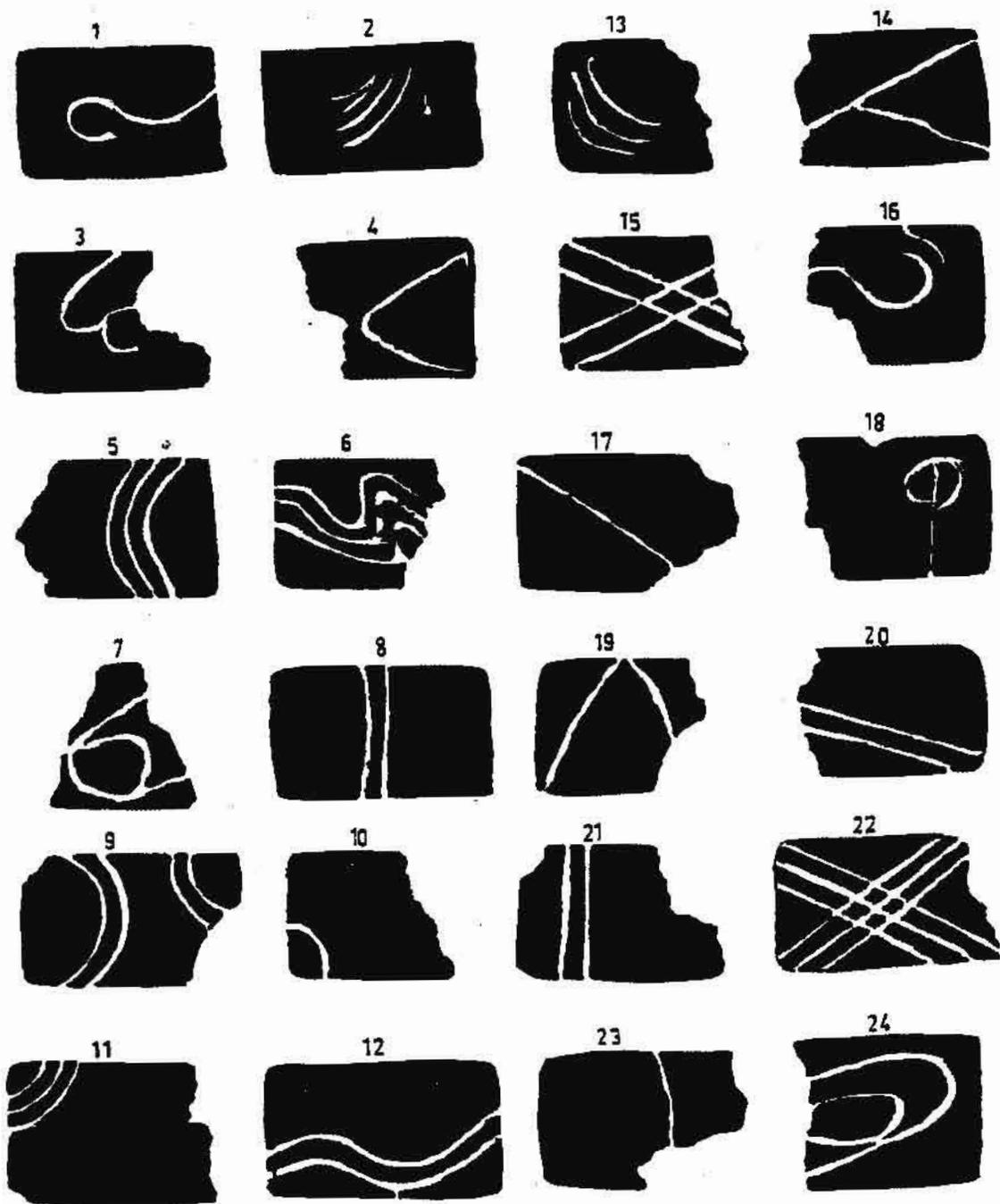


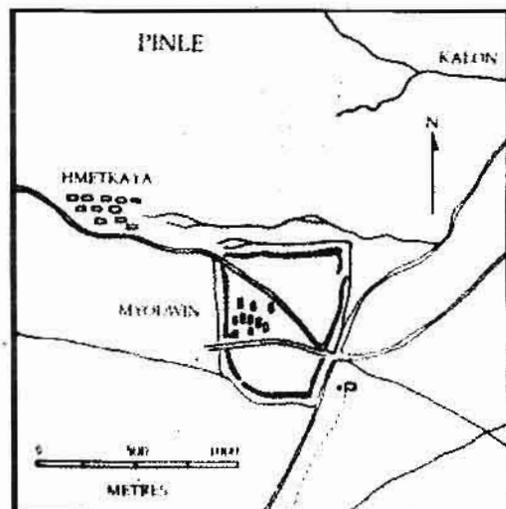
Fig. 1 U Aung Myint Artifacts found in Maingmaw, paper no. 5, June, 1978

tung varieties, many more of which were introduced in the late 19th century, are the most common (Watabe & Tanaka 1981). Unfortunately, dating of the brick samples was not carried out during the research.

ANCIENT CITIES INCLUDED

The presence of marked bricks has been verified at the twenty-two sites, listed below, which are described in this report (Map 1). Many have been subject to ground survey, but many more await inspection. The sites are arranged in order of archaeological importance in relation to the size of the ancient scars made by old walls and moats

- | | |
|---------------|----------------------|
| 1. Beikthano | 12. Taungdwingyi |
| 2. Halin | 13. Thagara (Tavov) |
| 3. Snkshetra | 14. Pinle |
| 4. Maingmaw | 15. Zothok |
| 5. Thaton | 16. Winks |
| 6. Kyaikkatha | 17. Taikkala |
| 7. Waddi | 18. Paan |
| 8. Thegon | 19. Waw (Kyontu) |
| 9. Pagan | 20. Mudon (Kawparan) |
| 10. Hmawbi | 21. Muthin |
| (Sanpannagon) | |
| 11. Tagaung | 22- Kawgun (cave) |



Map 3

MARKED BRICKS AT MAINGMAW AND NEARBY SITES

The present study of marked bricks began with Maingmaw (21-17 north x 76-12 east) (Map 2), about 50 miles (80.5 kilometres) south of Mandalay and some 20 miles (32 kilometres) from Kyaukse. Although U Aung Myint first identified the site on aerial photographs in 1965, preliminary survey was only able to be carried out in 1977.

Maingmaw is enclosed by two walls, the first site discovered where both exterior and interior walls are rounded. The diameter of the site, measured to the outer wall, is 3 kilometres from east to west and 2.5 kilometres from north to south. The diameter of the inner wall measures about eight hundred metres across. Maingmaw appears on aerial photographs as a slightly flattened circle, bisected by the Nathlwe Canal from southwest to northeast. The present village of Maingmaw is located in the northern part of the inner enclosure, at the heart of the old city. It is also referred to as Mongmao, Mongmai, or Maingmao.

Preliminary work at Maingmaw indicates that it may be the earliest of the large Pyu cities yet investigated, predating even Beikthano (Aung Thwin 1982: 18). Objects recovered included beads, funerary urns, rouletted wares, coins with *srivatsa* and rising sun motifs and stone molds for casting gold flowers. Mention is also made of bricks with a *badhapitha* relief similar to those found at Srikshetra, and square brick structures similar to those found at Beikthano. Silver bowls with Pyu inscriptions dated to the 6th century AD were found at nearby towns (*ibid*).

During U Aung Myint's first visit to Maingmaw, pieces of brick were found at a number of locations along the city walls. Most unbroken whole bricks had been carted away by villagers to sell in nearby towns. Following a request to village authorities, further pilfering was halted. However, even amongst the broken bricks, a

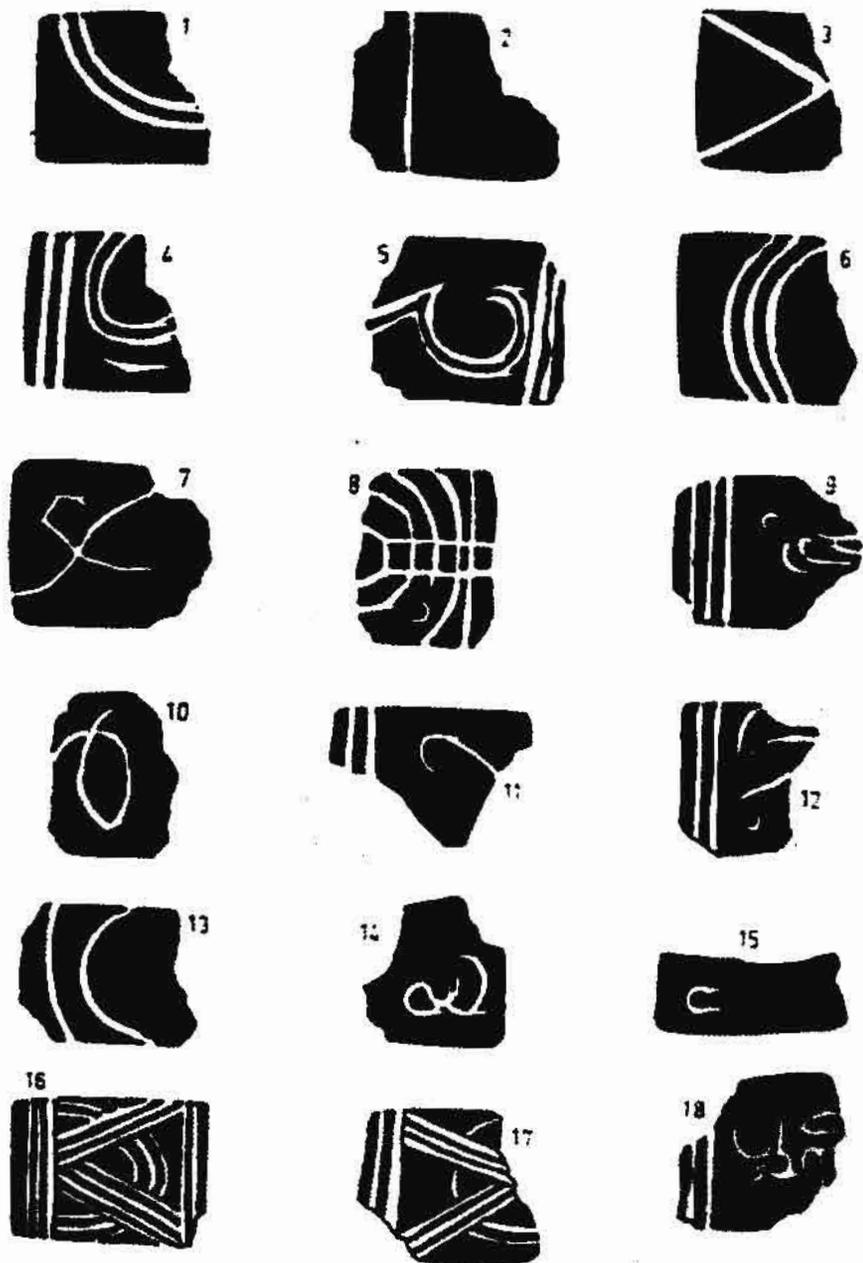


Fig. 2

1-3 U Aung Myint, *Preliminary study on Waddi*, paper no. 6, 1979

4-6 U Mg. Mg. Tin, U Myint, Tin Mya Bhein 1979

7-15 U Aung thaw, *Beikthano Excavation*

16-17 U Win Maung (Tampawaddy) *Rubbing form Yekyibin village, near Beikthano* 1979

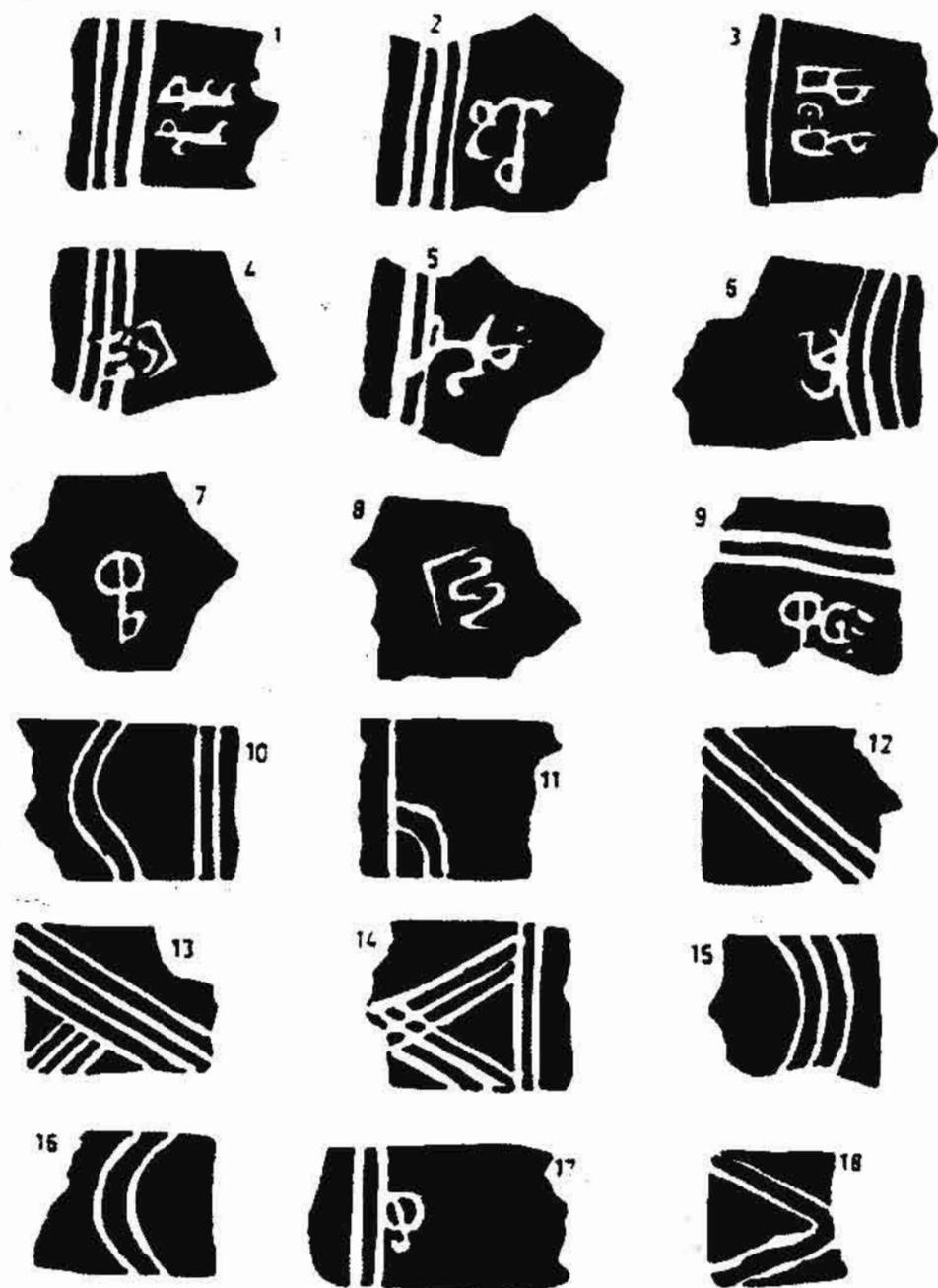


Fig. 3
 1-12 U Mg. Mg. Tin, U Aung Myint, U Win Maung (Tampawaddy)
 16-18 U Aung Myint, *Preliminary Study on Waddi*, paper no 6, 1979

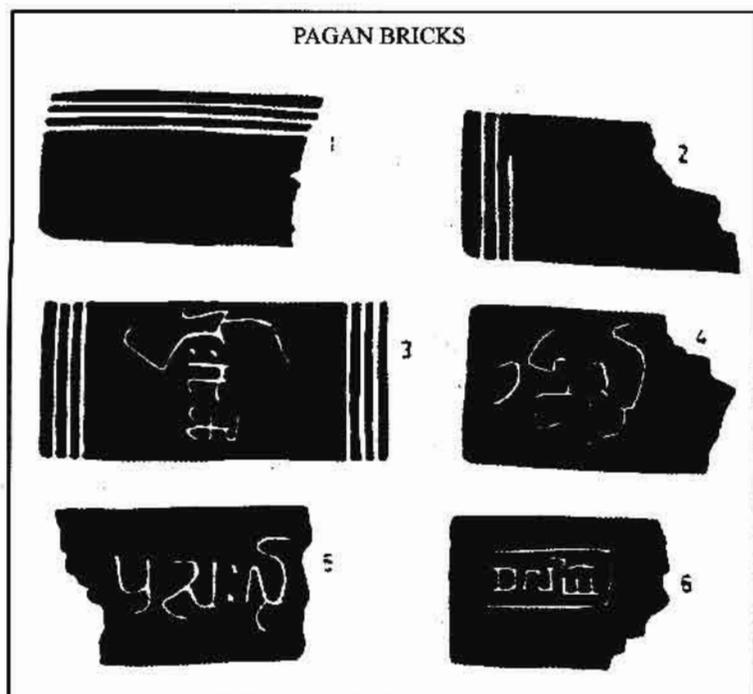
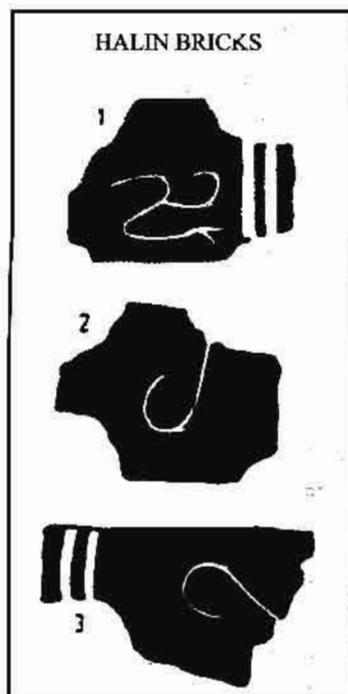


Fig. 4

- 1 U Myint Aung, *Halin Excavation*
2-3 U Win Maung (Tampawaddy) 1980

Fig. 6

- 1-5 Pagan Museum Collections
6 Dr. Than Tun, *History of Pottery*, 1973

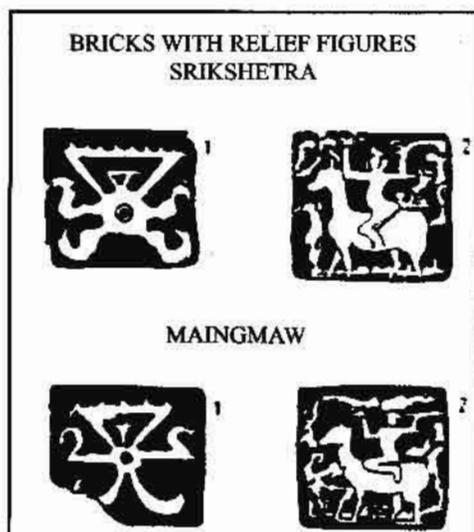
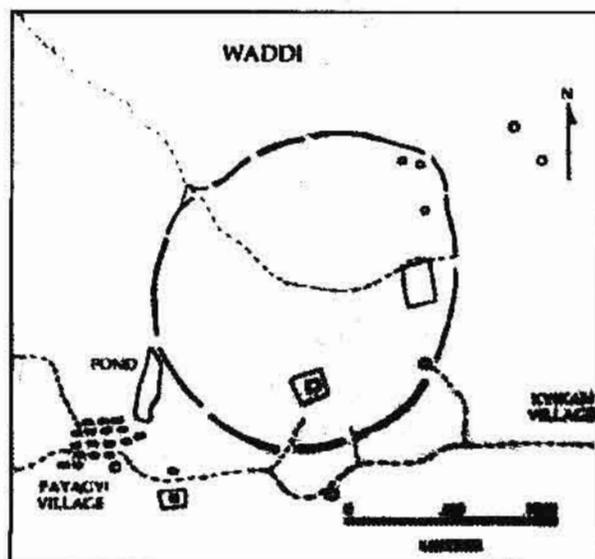
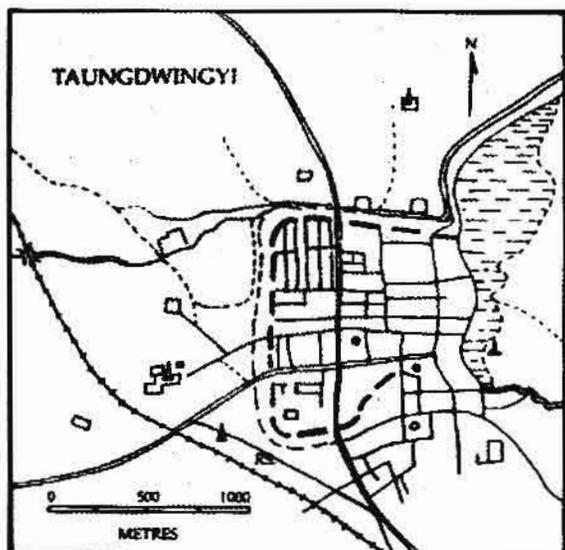


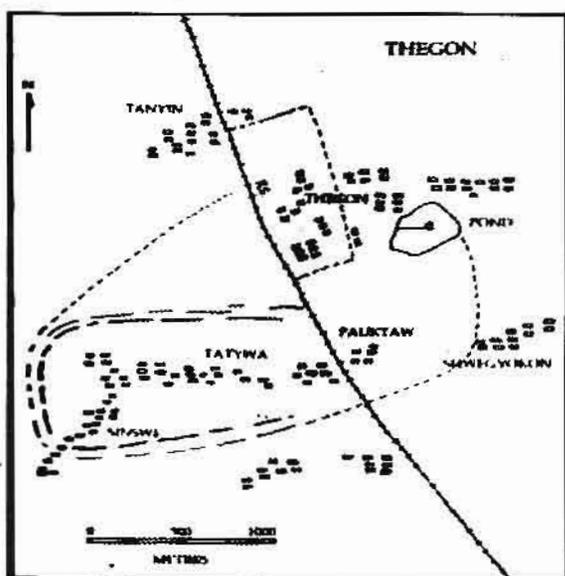
Fig. 5
U Aung Myint, *Rangoon University Historical Journal* vol 1/2 1984



Map 4



Map 5



Map 6

number were found with markings, prompting a search of the ruins of the ancient stupas. Here, too, many of the bricks were marked with lines (*Fig 1*). After a few more trips, a special excursion was made to the site. This time U Aung Myint was accompanied by Dr. Than Tun (Professor of History at Mandalay University), U Maung Maung Tin (member of the Burma Historical Commission), and U Win Maung of Tarnpawaddy (a keen observer of history and archaeology). The group recorded about twenty-four different patterns of brick markings. Rubbings were also made. The whole bricks recovered were large, measuring about 44-48 cm long, 23-25 cm wide, and 6-8 cm thick.

When darkness came, work continued by candlelight. Finally, the group retired to a nearby cow-shed for the night. Aggressive mosquitoes made sleep impossible, and discussion of the newly discovered city continued throughout the moonlit night until dawn. The next day the neighbouring villages of Hnankin, Ohnhnepok, and Kanswe were surveyed and more marked bricks were found. The last two of these villages are located within the outer wall of ancient Maingmaw.

Marked bricks were also found at Pinle, a walled site located about 5 kilometres southwest of Maingmaw (*Map 3*). Pinle is more angular than Maingmaw: although the north wall is straight (about 625 metres long), the other sides are rounded. The total enclosed area of Pinle is about the same as the inner walled portion of Maingmaw.

These two sites highlight some of the as yet unexplored questions about the development of enclosed settlements in Myanmar. Were both walls at Maingmaw built at the same time? What is the chronological relationship between Pinle and Maingmaw? Their form and brick markings indicate some contemporaneity, while their size difference shows that enclosure was not restricted to the larger sites. In this respect, their distribution resembles the protohistoric moated settlements of Northeast Thailand (Moore 1990).

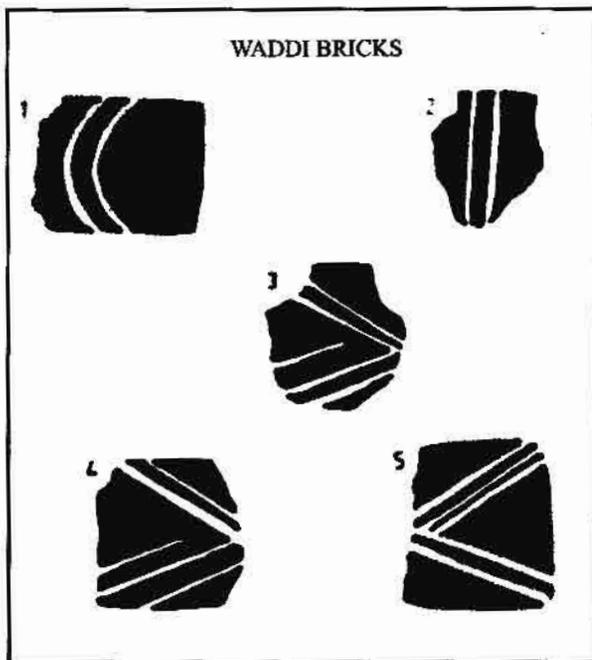


Fig. 7
1-5 U Aung Myint, *Preliminary Study on Waddi*,
paper no.6, 1979

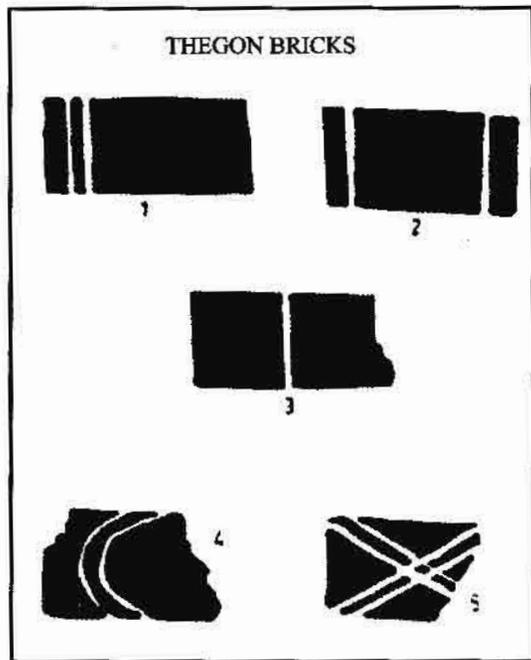


Fig. 9
U Aung Myint "Pyu Cuities in the process of excavation
and hitherto unexcavated", in *Rangoon University
Historical Journal*, vol 1/2 1984

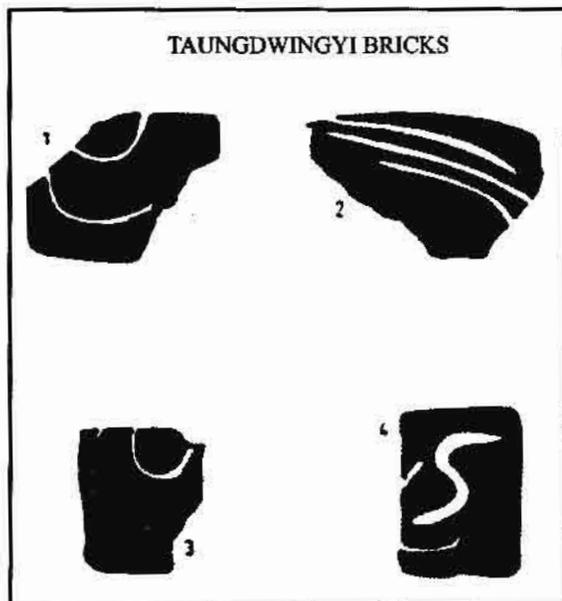
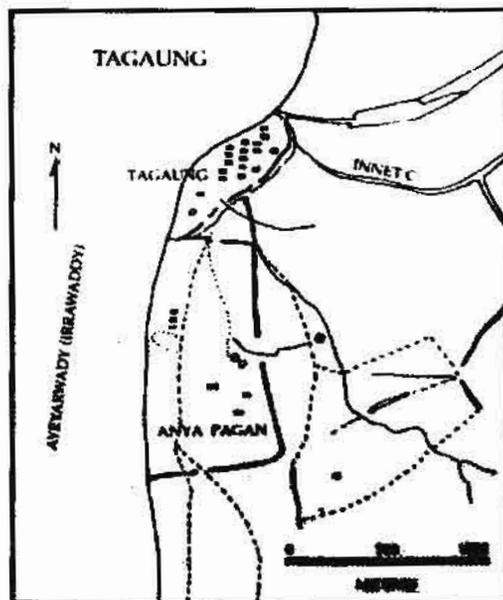
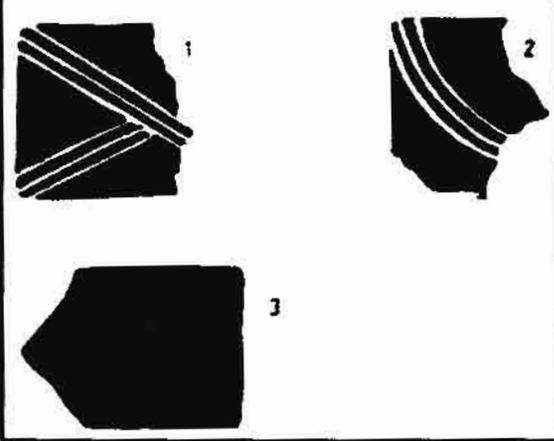


Fig. 8
U Mg. Mg. Tin, U Aung Myint, U Win Maung (Tampawaddy)
rubbing from Taungdwingyi 1979



Map 7

TAGAUNG BRICKS



MARKED BRICKS AT BEIKTHANO, SRIKSHETRA, HALIN

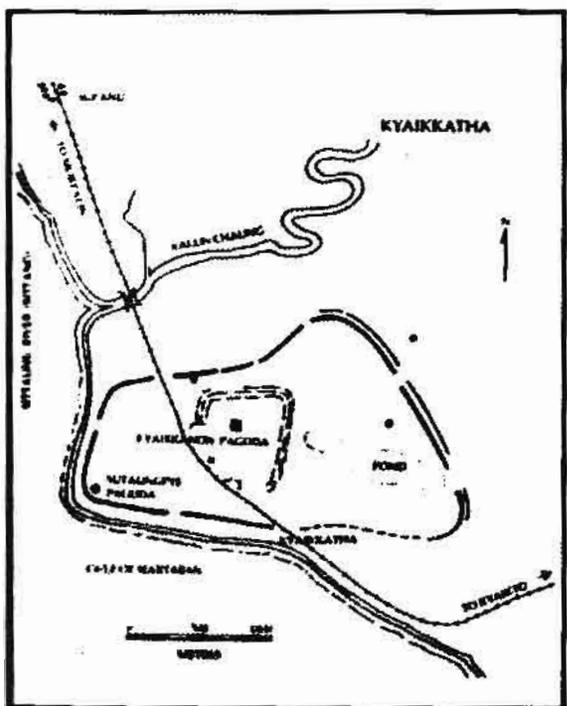
Following the discoveries at Maingmaw, the search was extended to other Pyu sites. The well-known cities of Beikthano (1st-5th century AD), Srikshetra (5th-8th century AD) and Halin (2nd-9th century AD) all proved to have marked bricks (Figs. 2, 3, 4). Halin appeared to have fewer than Beikthano and Srikshetra, but a more thorough search is needed.

When the patterns on marked bricks from all the surveyed Pyu sites were compared, many similarities were seen. Each site also yielded unique designs. At Srikshetra, although a large number of finger-marked bricks were found, there were also many instances where patterns were over-stamped with Pyu numerals or letters.

Another type of brick found at Srikshetra and at Maingmaw was stamped (Fig.5). Some were decorated with a bold relief of a horseman although much the same. finds from each site differed in the action of the figure. Thus they were not produced from the same mold, but made locally at each of the sites. Somewhat similar designs of riders on horseback form part of the pottery assemblage from Phase V (600-800 AD) at Chansen in Central Thailand (Bronson and Dales 1970: fig 14b). Other stamped brick from Srikshetra and Maingmaw bear the emblem of the *bhadapita* symbol. The sample from Srikshetra is exhibited in the museum at Hmawza. Like the bricks stamped with horses, the differences in the *bhadapita* symbols show that each of the bricks was made locally.

G.H Luce (1985) illustrates forty examples of inscribed bricks, which Duroiselle (1924) had published brief mention of many years earlier. U Aung Myint was shown by the late U Bo Kay an larger unpublished album of Duroiselle's work recording patterns on Srikshetra bricks. Luce mentions finds of hundreds of bricks with 'mason's marks' at Kyangin, Pyogin-gyi, Baw-bawgyi, Hsinmakowundin and other Srilshetra

Fig. 10
1-2 U Maung Maung Tin 1985
3 U Than Swe Tagaung excavation



Map 8

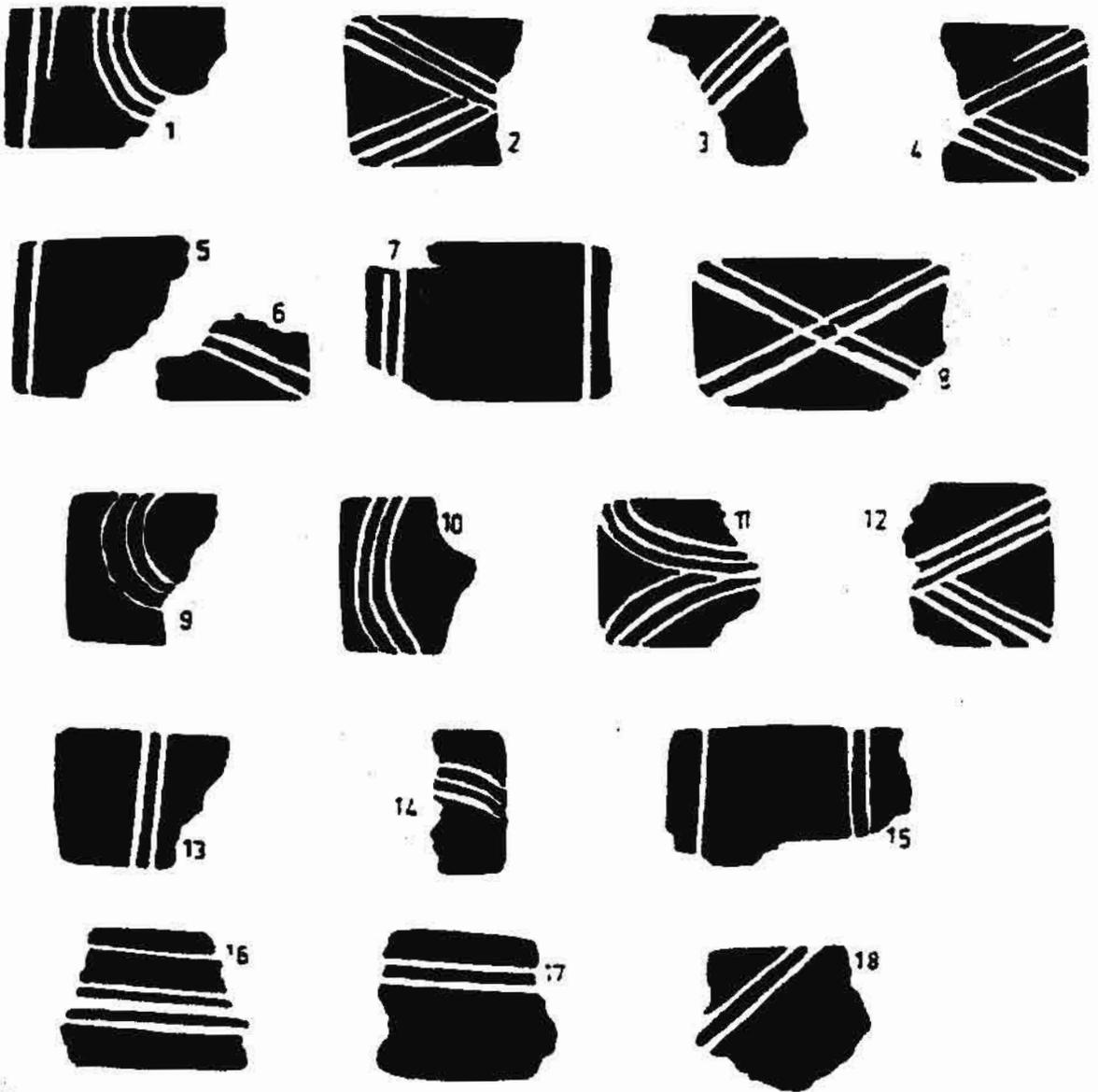


Fig. 11
 1-12 U Aung Myint, *Historical Journal* vol. 1/1 1983
 13-18 U San Win Recorded study 1985

sites. He tentatively identifies the symbols as Pyu numerals, perhaps somewhat simplified (Luce 1985: 140).

The fact that the stamped numbers overlie the fingermarks indicates a later development, a conclusion supported by the lack of standardization in the finger-markings and the occurrence of stamping at later sites. The bricks from Maingmaw, thought to predate Srikshetra, were finger-marked but not stamped. At the somewhat later site of Halin, a brick with a letter etched or drawn with a sharp stick was found (U Myint Aung 1968) (*Fig. 4 No. 1*). At Pagan, where the foundation of the city is generally placed in the 9th century AD, many of the finger-marked bricks are also inscribed with letters. One example, found in a toddy palm grove near Wetkyi-In, Pagan, has three finger-marked lines across the width of the brick at both ends. Written on the middle part of the brick are letters which can be interpreted as meaning "Sri, a villager of Kadaw" (*Fig. 6*). A number of similar examples, with writing imprinted along the length of the brick, have been collected by the Archaeology Department. Generally the writing refers to the name of a place or village (Dr. Than Tun 1973).

OTHER PYU SITES: WADDI, TAUNGDWINGYI, THEGON

U Aung Myint has also recovered finger-marked bricks at Waddi, Taungdwingyi, and Thegon (*Maps 4, 5, 6, Fig. 7, 8, 9*). Waddi (21-25 north x 95-42 east) is enclosed by a rounded wall. It is similar in shape to Srikshetra, but much smaller, with a diameter of 1500 metres. Waddi is situated about six kilometres east of the town of Natogyi. Taungdwingyi (20-00 north x 95-32 east) is a quadrangular-shaped city with rounded corners, located about ten kilometres east of Beikthano. Although cities with single wide moats such as Taungdwingyi are generally dated to post-Pagan periods, the finding of finger-marked bricks shows that it was occupied

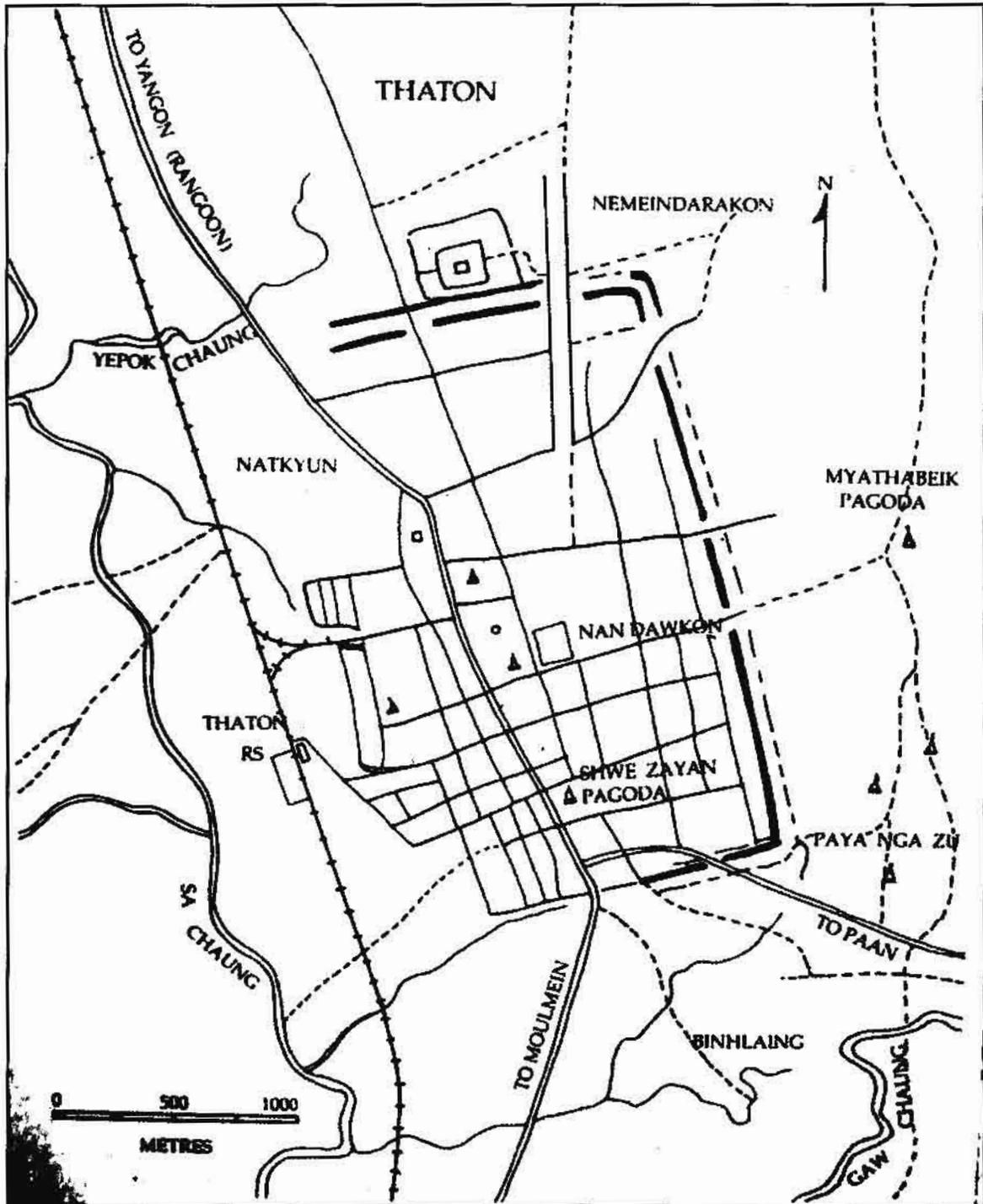
many centuries earlier. Thegon (18-38 north x 95-25 east) has a lozenge-shaped round wall. It is longer on the east-west axis (about 2500 metres), than the north-south (only about 1000 metres). On the west of the site, parts of the enclosure are double, possibly triple walled.

Because of the proximity of Taungdwingyi to Beikthano, and Thegon to Srikshetra, the presence of similar artifacts such as beads, coins and finger-marked bricks comes as no surprise. Waddi, however, is further from any known major Pyu site, and nonetheless had a number of large-size fingermarked bricks from the wall, and heads with black and white designs.

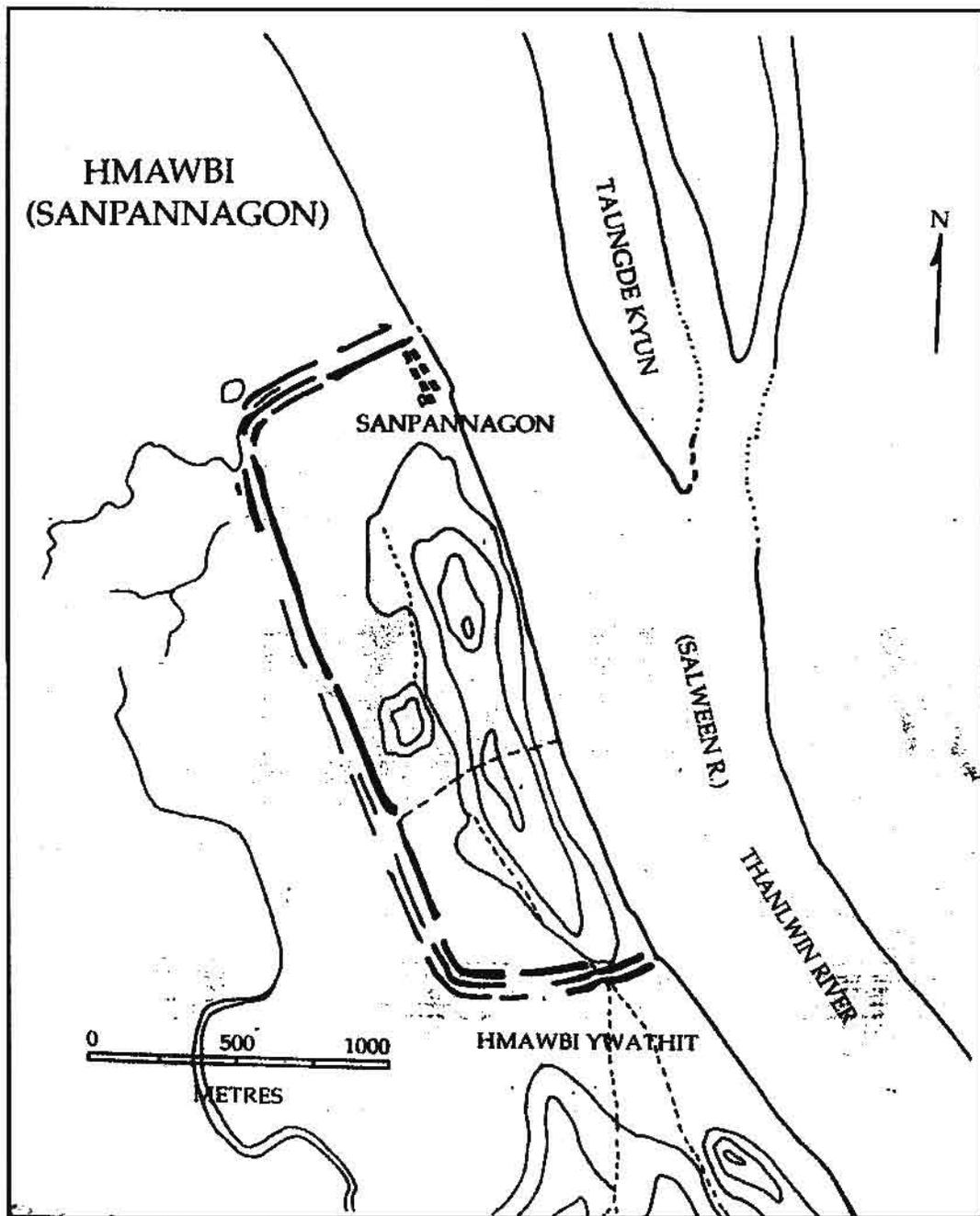
BRICKS AT TAGAUNG

Tagaung (23-31 north x 96-01 east) (*Map 7*), located on the east bank of the Irrawaddy River, is traditionally held to be the cradle of Burmese civilization (Aung Thaw 1972:99). However, excavations have not yet substantiated this legend. Today, Tagaung is a small village, with only remnants of the old city wall left. These form two parts, with the northern walled area being irregularly rounded, and the larger southern part being more quadrangular, with angular corners. The wall borders both parts on only three sides, with the fourth side being the Irrawaddy River. Although no finger-marked bricks were reported in these excavations U Than Swe (Department of Archaeology) has recorded a bricks with a scratch mark believed to be the number 17 (Dr. Than Tun 1973) (*Fig. 10*)

U Maung Maung Tin, who visited Tagaung in March 1985, mentioned in his article "The Old City of Tagaung" that he collected and loaded into his car a number of etched bricks. When asked if the designs were similar to the finger-marked bricks of the Mon and Pyu cities, U Maung Maung Tin said that they were the very same type, a sensational find. The two pieces of brick remaining in U Maung Maung Tin's possession are marked with three curved lines, diagonal on one piece and curved on the



Map 9



Map 10

THATON BRICKS

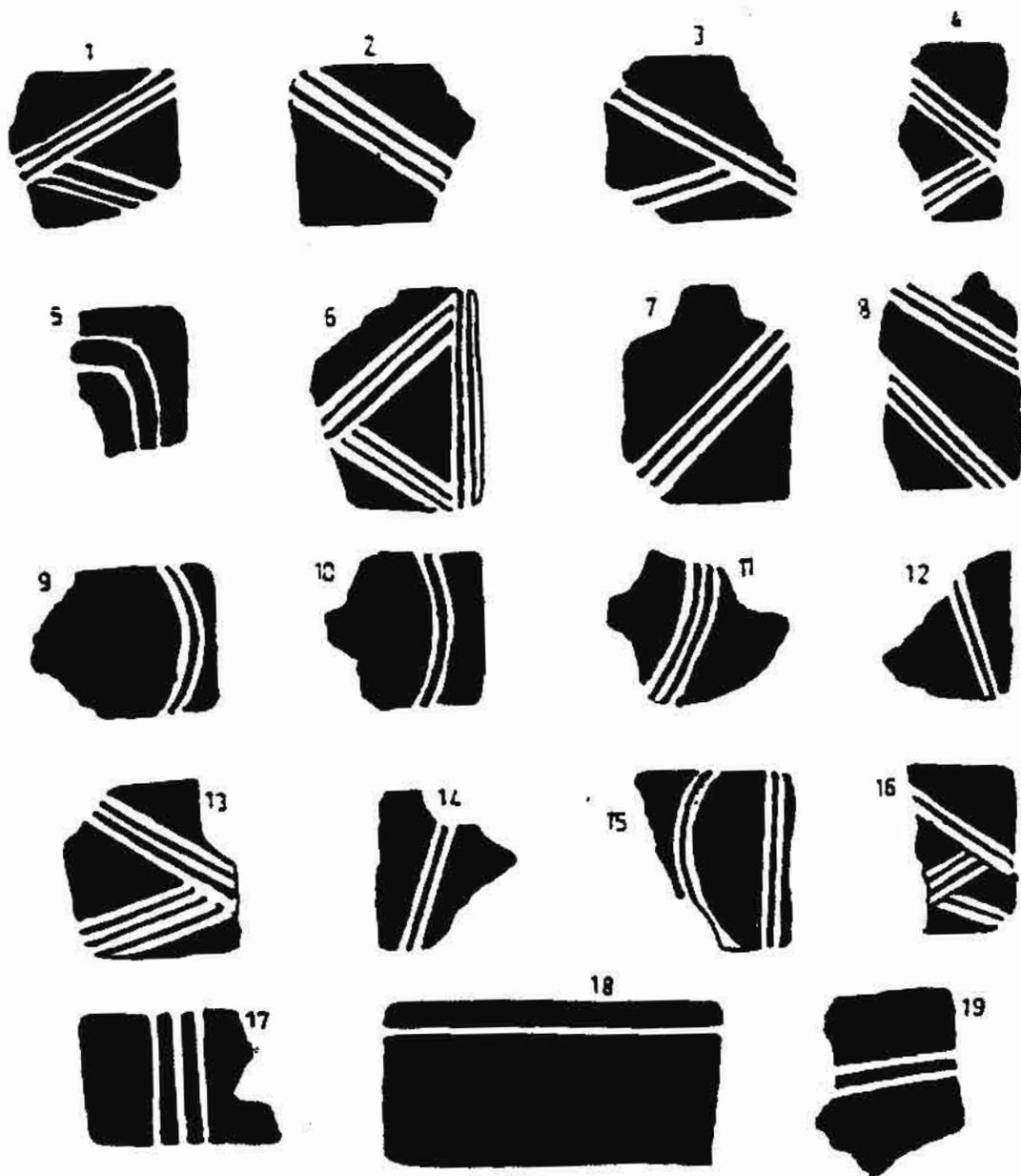


Fig. 12
U San Win, *Recorded study* 1985

HMAWBI (SANPANNAGON) ARES BRICKS

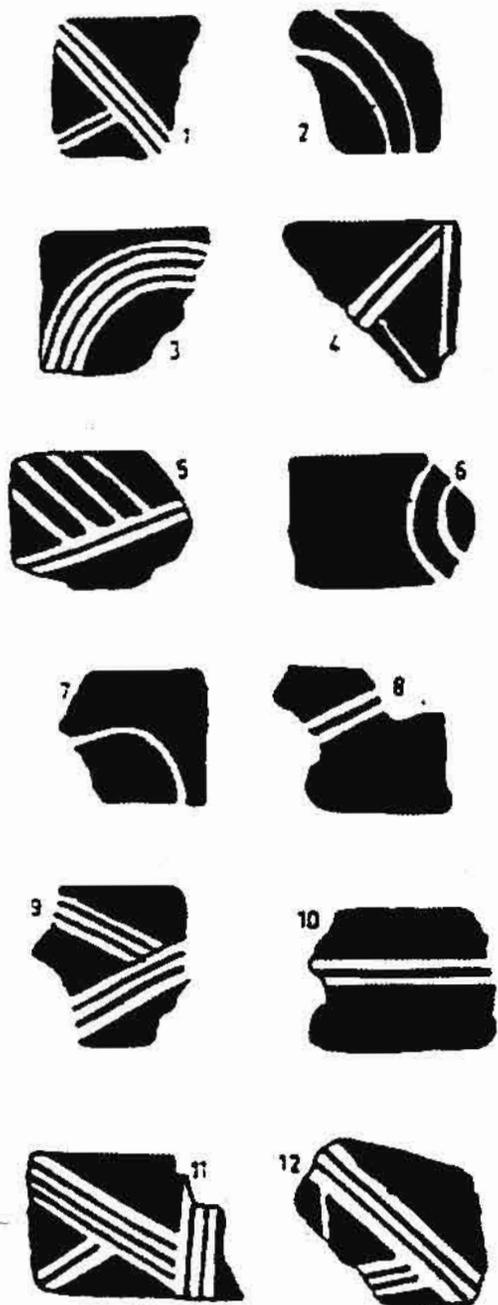


Fig. 13
U San Win, Recorded study 1986

PANN BRICKS

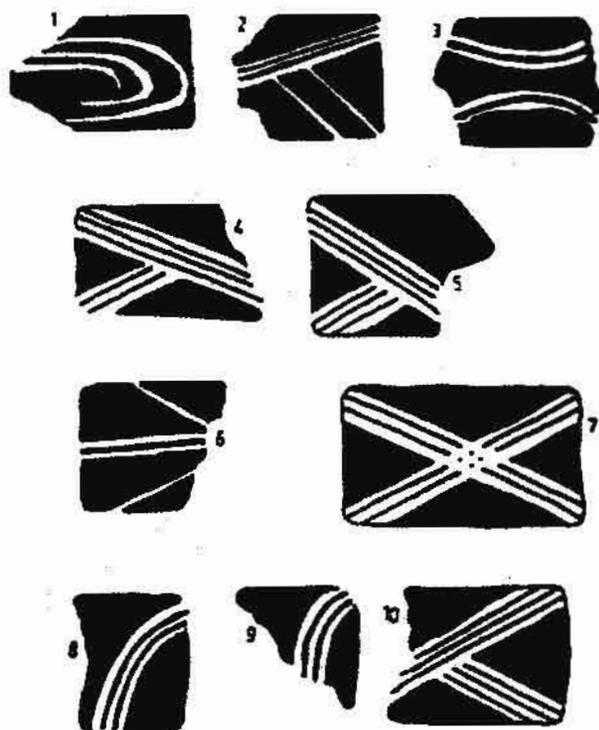


Fig. 14
1-10 U San Win, Recorded study 1986

MUDON BRICKS

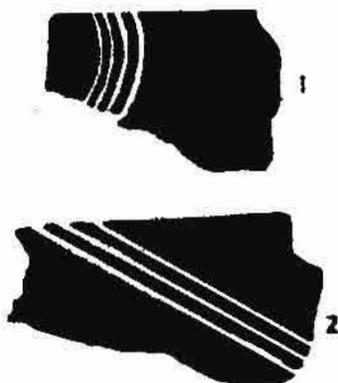
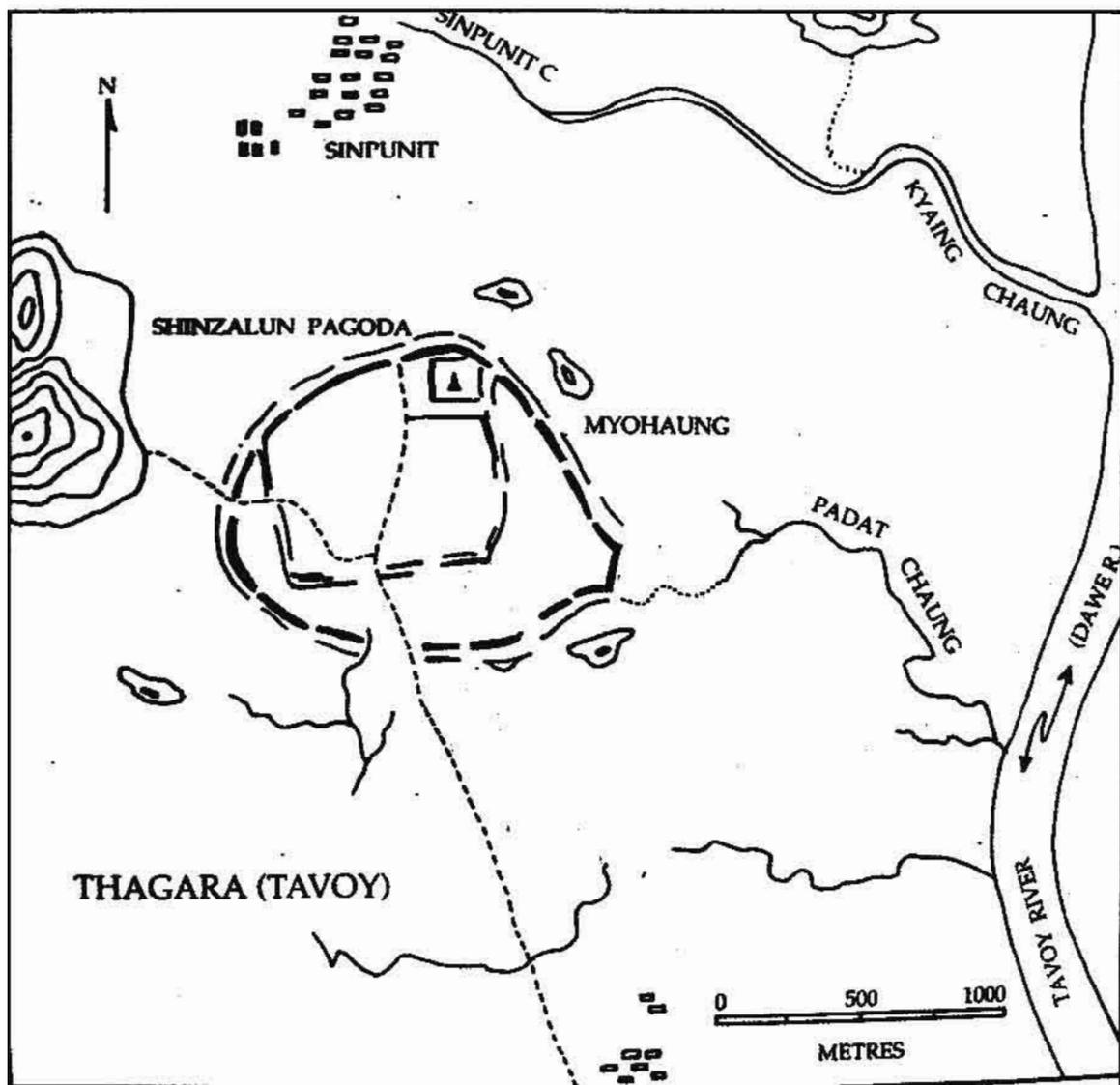


Fig. 15
1-12 U Thaw Tint from kawparan village. Mudon township 1984



Map 11

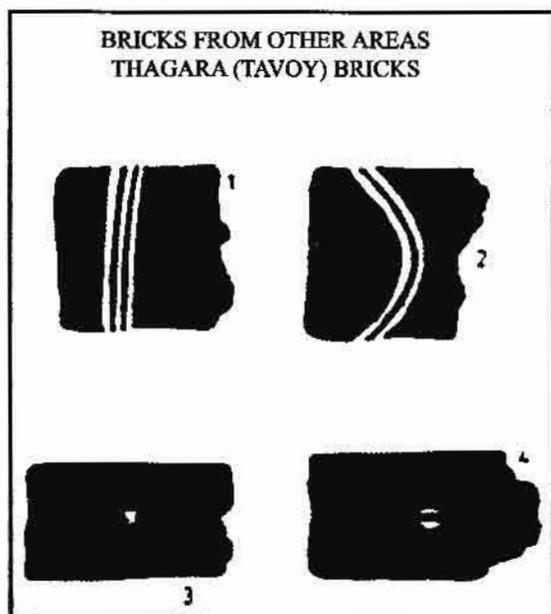


Fig. 16
U San Myint, *Recorded study 1986*

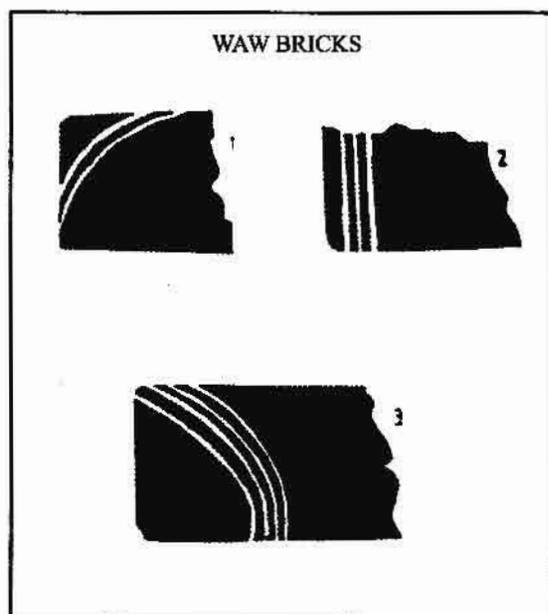


Fig. 17
1-13 U San & U Tin Khaing, from *Waw, near Kyontu pagoda 1986*

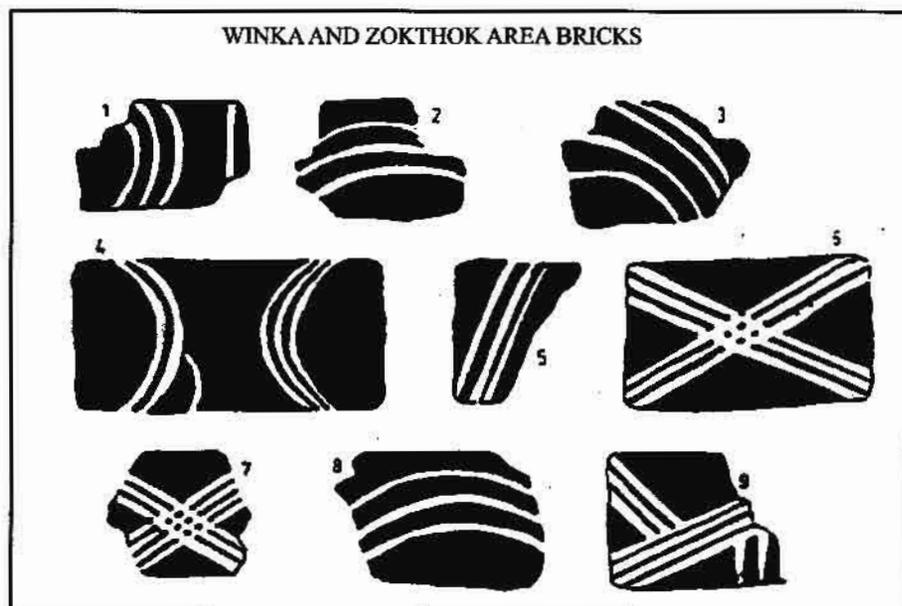
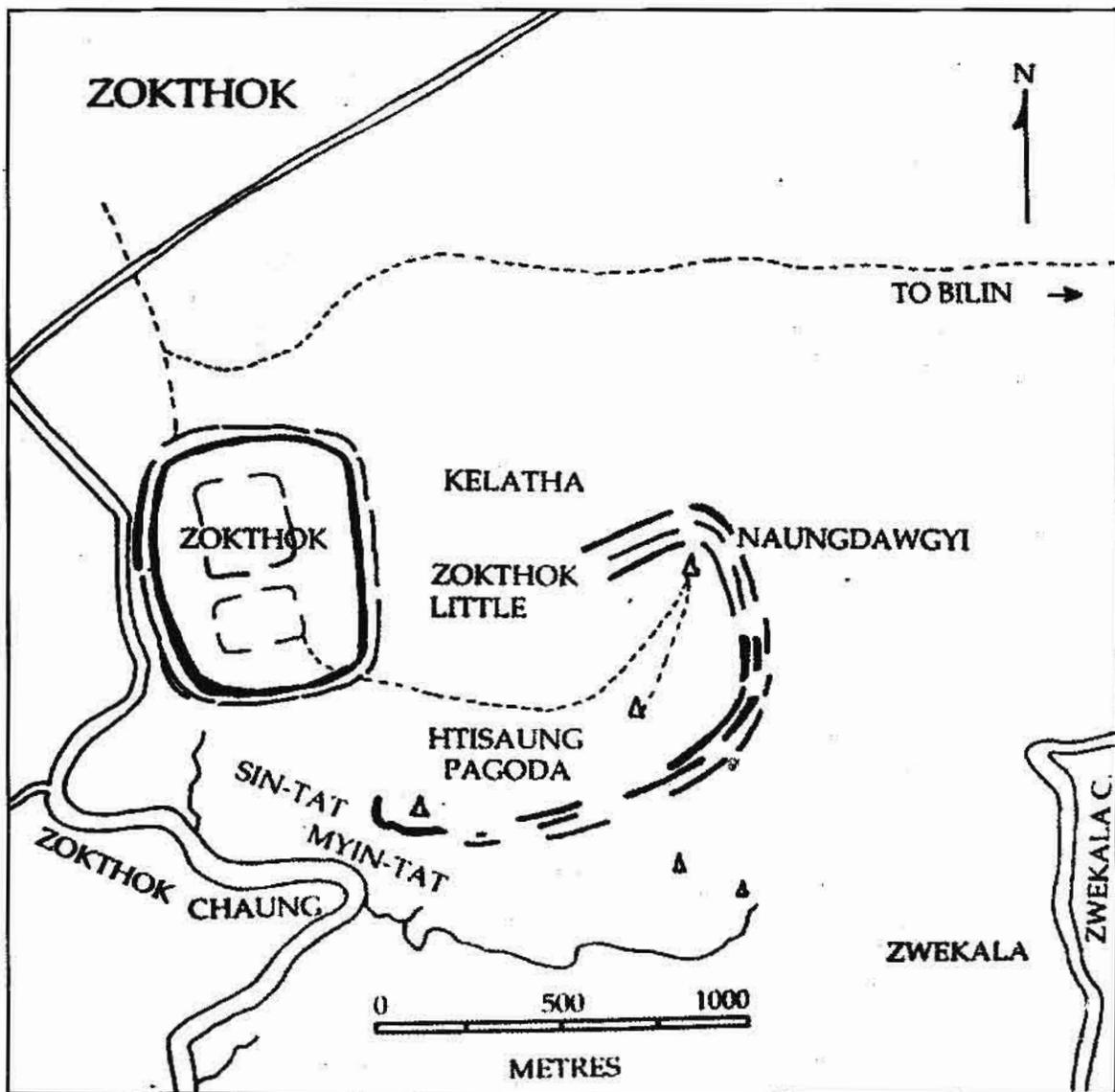


Fig. 18
U San Win, *Recorded study 1986*



Map 12

other. The pieces measure 8 3/4" long and 2 1/2" thick the length not being measurable as the whole brick was not recovered. These discoveries, first written up in Burmese for the daily newspaper, were translated into English by the editors and published under the heading of "The Bricks with the Etching" (U Maung Maung Tin 1990).

FINGER-MARKED BRICKS IN MON CITIES: INTRODUCTION

Remains of Pyu cities are spread over a 200 kilometre stretch of the Irrawaddy basin, in the central dry zone of the country. In contrast, the Mon sites are clustered around the mouth of the Sitang (Sittaung) River, the apex of the Gulf of Martaban. The mention in chronicles of the Mon as an early group has been supported by archaeological excavations indicating that many Mon sites were contemporary with the Pyu. For instance, beads, pottery and finger-marked bricks are similar to those from Beikthano. Another find in the Kyaikkatha area was several hundred coins. The coins are of interest as similar coins have also been found at sites ranging from Oc in South Vietnam to Nakhon Pathom in Central Thailand.

KYAIKKATHA

Kyaikkatha (17.20 north x 96.51 east) (Map 1) is located between Mokpalin and Kyaikto railway stations. It was first identified by U Aung Myint in 1976 while studying a World War II aerial photographic mosaic strip (scale 1 1/4" to 10 miles). A re-examination on postwar photos confirmed the peculiar pattern surrounding the small railway station village. The old city has an irregular outer wall, about 2500 metres east-west and 1000-2000 metres north-south. It is very broad in the eastern part, narrowing at the western end bordering the gulf. The inner enclosure consists of three quadrangular walls with rounded corners (750 metres at their maximum extent) which surround the Kayikkanon pagoda.

Kyaikkatha is a particularly noteworthy site, both because of its unusual shape and its location at the apex of the Gulf of Martaban. This position offered easy access to the sea and to the interior. A preliminary field survey of Kyaikkatha was made in 1981, and in the second trip U Aung Myint, was accompanied by U Maung Maung Tin, Dr. Kan Nyunt (History Department, Yangon University), U Tin Mya Thein, and U San Win. Coins, with a conch shell emblem on one side and a sivatasa on the other, were found on the first trip. On both occasions, a large number of finger-marked bricks were recorded along the outer wall land from ruined stupas on the interior (Fig. 11). The bricks were of the large type. While the pattern of straight and curved lines was similar in marking to those found at Pyu sites such as Maingmaw, there appeared to be fewer examples with wavy lines. Marked bricks were also found in the surrounding villages of Supanu, Kalun, Malawgyang, Kalatcha, and Mokkamu.

MON CULTURE IN THE REGION OF THATON

The region around Thaton, between the Sitang and Salween Rivers, is generally regarded as having been the centre of the Mon country, or *Ramañadesa*, during the first part of the Christian era (Aung Thaw 1972: 34). Although the presence of Mon Theravadin Buddhists at Thaton is thought to date to the fifth century AD, the archaeological evidence is scanty. However, the site has been continuously occupied and rebuilt in later periods. It was to Thaton that King Anawrahta turned in the 11th century when he captured that city, taking the Buddhist *Tripitaka*, along with King Manuha, back to Pagan (*ibid*: 35).

Objects dating to this later period include a number of large stone somas, or boundary stones, over a metre high. Now at the Kalyani-sima, Thaton, these are carved with scenes from the Jataka stories (see *Archaeological Survey*

of India, 1930-34, pl. CXVI). The stones are very similar in form and content to 9th-11th century AD Mon or Mon/Khmer *semas* found at enclosed sites in Northeastern Thailand (Piriya 1974). The *semas* are unique to the Northeast within Thailand, where they are thought to be the continuation of a pre-Buddhist megalithic tradition (Srisakra 1975). Many of the enclosed sites may also have their origin in a pre-Buddhist culture (Moore 1989). The presence of these *semas* in Thaton points to contact between the two regions in the late first millennium AD. Mon migrations into lower Myanmar from Lamphun have been explained as either a result of disease or retreat in the face of Khmer incursions during the 11th century (Piriya 1974, Luce 1953, Quaritch Wales 1947). However, this hypothesis provides little information on the presence of the *semas* as they are only found at this period in the Northeast. The question is further complicated by the presence of large stone slabs carved with Buddhist scenes found at Srikshetra and Halin (Luce 1985 : 53). The point here is the way the artifacts — *semas* or finger-marked bricks — suggest a earlier and more wide-ranging interchange between Mon and Pyu centres than has been previously assumed.

THATON AND ENVIRONS

Thaton is surrounded by two quadrangular walls (*Map 9*). The moat between is faced with laterite (Aung Thaw 1972 : 35). In a 1986 ground survey, U San Win (Department of History, Yangon University) located some marked bricks on the flattened and weathered southeast part of the city wall. Further bricks were found in the surrounding villages of Gaw, Binhling, Natsingon, Kyetshazun and Sinbyukyun. The size of the bricks was similar to those found at Pyu sites. As at Kyaikkatha, the finger-marked patterns were of the straight and curved varieties, with few examples of wavy lines (*Fig. 12*).

Hmawbi (Sanpannagon) (*Map 10*), on the west bank of the Salween River (16-14 north

x 97-36 east), is about 25 kilometres north of Martaban (not to be confused with the Hmawbi located about 42 kilometres north of Yangon on the Yangon-Prome road). The southerly Hmawbi, discovered by U Aung Myint from aerial photographs, has the shape of an elongated quadrangle (2225 metres long and 750 metres wide). The triple walls, slightly curved, border only three sides of the site. The remaining side is the Salween River. Ground survey of the Hmawbi environs and the neighbouring village of Kinywa yielded a number of finger-marked bricks, along with a few beads of the type commonly found at Pyu cities (*Fig. 13*). No bricks with stamp imprints or overmarked letters were found (U San Win 1984).

In recent years, scholars travelling in the peninsular areas have reported marked bricks at a number of other locations. In the Karen State, U San Win has found marked bricks in Paan (*Fig. 14*), its surrounding villages, and even in some limestone caves such as the Pagat and Kawgun caves where ancient palm-leaf manuscripts have been found. In 1984, U Thaw Tint (Department of Geology, University of Yangon) discovered some pieces, 6-9 cm thick, during a field trip in Kawparan village in Mudon township (*Fig. 15*). Further to the south, another important and exciting brick find was made at Thagara, known locally as Myohaung ("the old city"). Thagara (14-10-30 north x 98-10 east) is located on the west bank of the Tavoy River, about eight miles north of Tavoy. It has a rounded shape (*Map 11*). The east-west axis is 1.6 kilometre in diameter, while the north-south axis is slightly shorter. An additional quadrangular wall is found on the interior, presumed to be built in a much later period. In Thagara, two pieces of finger-marked brick were found (23 cm wide by 8 cm thick). One had three straight lines across the width while the other had a double curved mark (*Fig. 15 Nos. 1, 2*). The bricks had become weathered from being placed near the village well and trodden on. Thus although

Such marks were still very conspicuous, they were shallow (U Aung Myint 1984).

Two different marked bricks were found in the area, one in a village near Thagara, the other in Tawoy (Fig. 16 Nos. 3, 4). The patterns were on bricks measuring 41 x 20 x 7 cm. On one surface was a shallow mark, in one instance a rectangle (4 x 3 cm), the other being two semi-circles formed into a circle with a diameter line separating them. It seemed that while the brick was still soft, it was stamped or pressed with the end of a stick or block of wood with these dimensions.

THE AREA OF PEGU

To date, survey for finger-marked bricks at Pegu (Bago) has had little success. The existing walled city, square with near right-angle corners, was built by Bayinnaung (1551-1581). It is possible that current excavations by the Department of Archaeology of a brick palace dated to this era may provide some examples, although marked bricks do not appear to post-date the Pagan period. A likely location would be the older enclosure of Pegu, located east of the present city. Much of the wall here has been flattened and weathered. A preliminary survey failed to locate any marked bricks, but a careful search has not yet been made.

Within the Pegu region, however, marked bricks have been found at a number of sites. For example, in 1985 U Tin Khaing and U San Tin found marked bricks in the neighbourhood of Waw, 27 kilometres northeast of Pegu (U Aung Maung Tin 1990) (see illustration). Although the length of these three pieces could not be measured, they had a width of 18-20 cm and a thickness of 6-9 cm. A terracotta relief figure and some terracotta tablets, both similar to recorded Pyu pieces, were also found.

Other brick finds occurred in Mon villages and ruins including Taikkala, Winka (see U Myint Aung 1977), Muthin, Zweekala, Leikkon, Kabatha, and Zokthok (Map 12; Fig. 18). Two

well-known laterite structures are found in this area: Htisaung (Tizaung) pagoda is noted for its basement and plinth, both constructed of large laterite blocks; at Sin-tat and Myin-tat (Hsindat Myindat, lions and elephants) is a laterite frieze. Standing 76" high, it is said to have once been about a mile long, although today only 360 feet remain. It is very similar to the laterite frieze which lines one of the ponds at Muang Phra Rot (Kok Pip), Prachinburi, Thailand, a late first millennium AD enclosed site.

CONCLUSION

By classifying the finger marked designs on bricks, the spread of the tradition can be charted. Further intensive study should be made of a sample of contemporary sites where these bricks are found; with dating one should also be able to determine the period in which the bricks were fired.

There are a number of possible answers to the mystery of why the bricks were marked, but it is most likely that they were identification marks of a village or group of villages. Each village or village tract may have had a registered mark by which their bricks were distinguished from other villages. This system could have developed in conjunction with large constructions such as city walls, where a number of smaller surrounding villages were obliged to contribute a certain number of bricks to the undertaking. It is reasonable to assume that the bricks with the identification markings were put on top of a stack or pile of a certain number of bricks. A lot may have equalled a hundred, or a thousand, so that the inspection authority could quickly see whether the quota allotted to a certain village tract had been fulfilled.

Inspection procedures may also provide a clue to the stamp imprints, often numbers or letters, which overmark the finger-drawn lines. It may have been that the overseer, when satisfied, may have added his personal stamp, much like the forester's hammer marks on a log or stump.

This would have indicated that the lot had been inspected and passed.

When it is remembered that the bricks were used to construct city walls, stupas and other buildings, it is clear that the brick designs were not for decoration. Any pattern drawn on the broad surface would be obscured by the brick laid on top of it, and no designs have been found on the narrow surface of the bricks. This leaves the mystery of why they are so similar from one place to another, and in places such a distance apart.

Future research may come up with other ideas, ones which will lead to a better understanding of the Mon and Pyu cultures. The work to date offers insight into the high degree of hierarchical coordination, if not voluntary cooperation, required to build the massive fortified cities of protohistoric Myanmar. Whatever the final answer, the finger-strokes marking the ancient bricks remain as a surprisingly intimate record of a long ago human gesture.

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Dr. James S. G. ...

The ...

Pyu and Chin with Aung Myint



Figure 1. Ancient bead sites of Myanmar

Beads of Myanmar (Burma)

Line Decorated Beads Amongst the Pyu and Chin

ELIZABETH HOWARD MOORE AND U AUNG MYINT

ILLUSTRATIONS BY ROBERT MOORE AND U AUNG MYINT

School of Oriental and African Studies University of London

INTRODUCTION

The use of beads is common amongst many of the ethnic groups of Myanmar. Antique beads are valued for their inherent ancestral potency and are used together with newer beads. This combination of ancient and modern is particularly striking amongst the Chin peoples. Old beads favoured by the Chin originate from Pyu and Mon sites dated to the early first millennium A.D.¹ These included both zoomorphic as well as geometric shapes, although the Chin preference is for geometric beads such as spheres and cylinders, especially those decorated with linear patterns.

The most most commonly decorated bead shape, whether ancient or modern, is spherical. Repetition of patterns on various bead forms, suggest that designs were significant whatever shape. The Pyu sites such as Maingmaw (မာင်မာ) and Waddi (ဝတ်တီ), for example, are some sixty kilometers apart but possess almost identical beads. (See Map 2). The importance of pattern is also borne out by finds of black Pyu beads with white lines made by three different techniques: painting incising, and an alkali resist. In the first technique, the white lines are painted on the surface. In the second, illustrated in the Appendix with an example from Taungthaman, the pattern has been cut into the bead, filled with white, and then polished. The third method involves the use of a resist material to paint

lines on the bead. The bead is then baked and the surface blackened, except under lines painted with the resist. The black colour penetrates to a depth of one millimetre, although often the colouration is much shallower. The pattern of white lines is revealed when the resist is removed. The technique is similar to South Asian methods described as "etched".²

These methods have

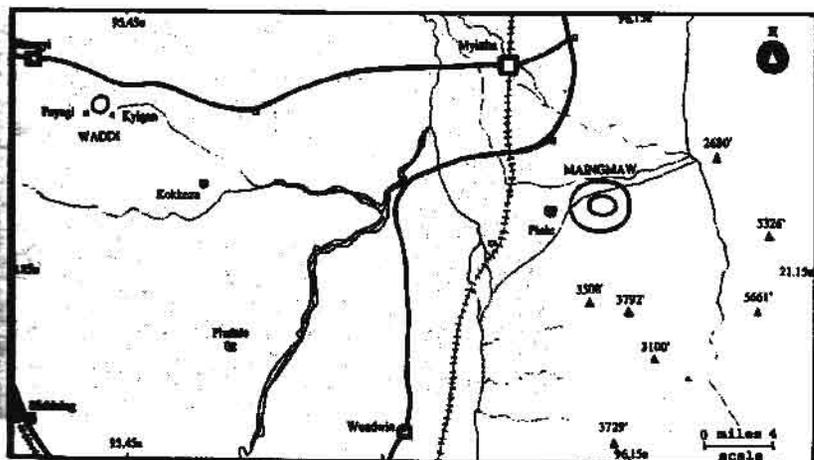


Figure 2. Maingmaw and Waddi

been used to decorate beads made of bone and non-fossil wood, opalized fossil wood, and a black material *mahuya* (*ma-hu-ya*). This last has been variously translated as a "chalcedony" (including agate, carnelian, and onyx, all cryptocrystalline types of the silica mineral quartz), and as "jet."³ Decorated carnelian beads are rare, although undecorated spheres are quite common and Chin use of ancient and modern examples continues to the present day. However, the Chin most highly value black beads with lines, again both Pyu and modern.

It is this interface between Pyu and Chin which is the focus of the present article. A database of ancient Pyu beads forms the Appendix. This illustrates and describes spherical, cylindrical and flat Pyu beads, decorated and undecorated. All have provenance, either excavated by the Department of Archaeology,⁴ or verified by Myanmar bead scholars.⁵ The Appendix is a survey of design categories rather than a quantitative analysis of ancient beads. The Appendix drawings are to scale, with notes on provenance, materials, and measurements contained in the database accompanying the illustrations. The beads are primarily from the Pyu sites of Srikshetra, Beikthano, Maingmaw, Waddi, Ny-aungyan, Beinnaka, Taungthaman and Kadaw. While some examples from Halin are illustrated, most are undecorated, and it appears that Halin is richer in yellow and green stone beads than line decorated black and white types. A few examples have been included from the contemporaneous Mon sites of Sanpannago (Hmawbi), south of Thaton and Kyaikkatha (see map 1). To date, spherical black and white beads have not been found at Mon sites in Myanmar although the Appendix includes a black barrel with white lines from Sanpannago and a cylindrical banded agate bead from Kyaikkatha.

A total of 127 beads are illustrated in the Appendix: Spherical (24), barrel (60), cylindri-



Figure 3. Three barrel beads made by U Ba Kyi, 25-30 mm in length, collection U Aung Myint.

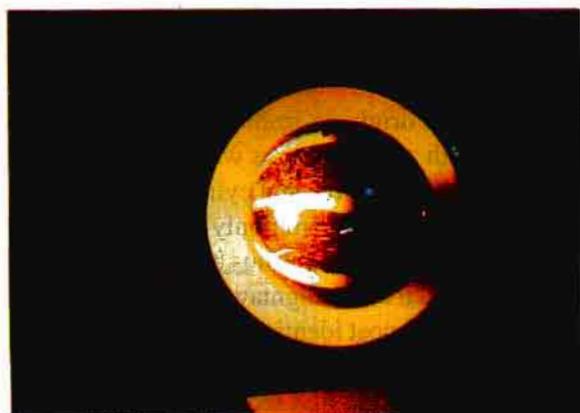


Figure 4. Six-line black and white bead from Mingmaw, diameter 10 mm, collection U Aung Myint.



Figure 5. Orange carnelian cylinder, length 30 mm, collection U Maung Maung Tin.



Figure 6. Barrel bead from Maingmaw, 28 mm length, showing opalized interior, Mandalay Museum.



Figure 7. Assorted beads from Srikshetra including wooden bead (no. 86), 16 mm length, collection U Win Maung.



Figure 8. Spherical black and white bead from Srikshetra, similar to bead no. 5 from Maingmaw, 12 mm diameter, collection U Win Maung.

cal (31) and flat (12). There are 24 spherical beads, 12 black with white lines, two orange with white lines, and 10 undecorated. The number of vertical lines ranges from 6 to 12, with the greatest number on larger beads.

Noted in the Appendix is a black and white bead recovered from surface survey at Taungthaman, a Neolithic-Pyu site south of Amarapura. This bead (10 mm in diameter), is made of *mahuya* and has ten vertical incisions which have been filled with a white feldspar substance (courtesy U Pin Ya, Taung Lelon Monastery; personal observation U Hla Gyi Maung, Department of Archaeology, 1992).

Horizontal lines are also seen on decorated spheres, from Maingmaw, Waddi and Shrikshetra. Other patterns include zig-zags, arrows, circles and dots. Several designs seen on spherical beads are replicated on barrels but in some cases, only one bead of a particular pattern has been recorded, or a design found only at one site. For example, the spherical bead (no. 7) decorated with twelve pentagons, has only been recovered from Maingmaw. Of note are two similar dodecahedron beads from Taxila, with white "etched" lines on black agate (Beck 1941, p. 1, II, nos. 1 and 18). For other unique patterns from Maingmaw, however, a South Asian prototype has yet to be found. An example is the "arrow" motifs on bead no. 11, which was turned up by ploughing in the centre of the ancient enclosure of Maingmaw at the time of excavations there (Department of Archaeology 1978).

The decorated spherical beads range in size from four to twenty millimetres, with undecorated spheres reaching forty millimetres. Kadaw has been particularly rich in five to ten millimetre black beads with six vertical white lines, while an eight millimetre example with no thread hole was found at Maingmaw by U Ngwe San, a villager. Two other similar beads

measuring ten and eleven millimetres and bored, were also reported from Maingmaw by villagers U Chit and U Sein Ko. During 1980, excavations at Maingmaw by the Department of Archaeology under U Sein Maung Oo, black beads with line decorations were found mixed with ashes in terra-cotta jar burials outside the city wall. Additional finds at the gravesite included miniature pots and green, orange, and white beads.

On a number of spherical carnelian beads, part of the surface is covered with a white milky layer (e.g. no. 15). Nine out of a string of forty spherical beads from Srikshehra (now on display at the National Museum, Yangon) display this milky coating. It was also observed on a number of examples collected at Nyaungyan (field survey U Maung Maung Tin and U Aung Myint 1978). While bead experts in Myanmar describe this as a natural quartz layer, Beck notes similar beads from Taxila, and ascribes the white colouration to an alkali treatment (Beck 1941,5). As chemical tests on the Taxila beads revealed a large amount of soda on the surface, similar tests on this type of bead from Myanmar should resolve the nature of the coating.

There are sixty barrel beads illustrated in the Appendix. They include: twenty-two black with white lines, eleven orange with white lines, two white with black lines, a bone example with white lines, and twenty-four undecorated. The designs are generally symmetrical, although exceptions occur, such as the orange line decorated bead from Srikshehra (no.29), with angled lines grouped at one end of the bead without the usual bands which appear at the other end. The two barrels with black lines come from Maingmaw (nos.59 and 60). One is made from a greyish stone; the other is tusk or bone and lacks a thread hole. Both provide important evidence of experimentation on all available materials. The barrels range in size from five to sixty millimetres in length. The undecorated examples include crystal from Beikthano and Srikshehra (the larger examples), and banded agate, with colours varying from blue, to white, grey and black.

The cylindrical beads number thirty-one, with undecorated being the most numerous, twenty-five. Five black cylinders with white lines are shown and one fossil wood bead (not opalized) cut but not filled. No orange cylinders with white lines are shown. Lastly, twelve flat beads are shown, ten squares and two rectangles. Ten are black with white lines, with only one orange with lines. Although less common than black, other orange flats have been recorded, at Maingmaw, Waddi and Srikshehra. The designs are found on both sides of the flats, and, in some cases, a different pattern is on each side. The thread holes are generally diagonal except in the rectangles, where the hole runs the length of the bead.

Undecorated bead materials include: carnelian, crystal banded onyx, amber, jasper, jade, and amethyst. The absence of line decorations on amber, jasper, and jade is not surprising as only fibrous forms of cryptocrystalline quartz will take up colour in solution (Glover, personal communication, 1992). It is notable that line decorations are only seen on black, white-brown (bone) and orange coloured beads.

LINE DECORATED BEADS: "CHIN, "PYU" AND, "PUMTEK"

The only man-made patterning on beads found in Myanmar is line. Further research is required to understand the significance of the patterns. Parry illustrated beads with named designs (1932, 290) but did not explain the names. Ebbinghouse speculated that designs were misinterpreted on more recent beads, based on a lack of odd-numbered designs in favour of more easily produced even designs (1991, 13). Allen (1986) has concluded that the most frequent design on spherical and oblate black and white beads is longitudinal lines, with six or twelve lines being common.

The black and white beads described by these authors are called *pumtek*, and like the use of black and white beads in Myanmar, have both an archaeological and ethnographic context. They have also received attention, in recent years, following their appearance in the bead market of New Delhi in 1983 (Ebbinghouse 1991, 1). Ethnographic surveys suggest that the use of *pumtek* has been primarily amongst the Haka Chin and the Lakher (also known as Mara), two of the many groups in the area around the Pakistan, India, Myanmar border region (Civico 1991,4).

In Myanmar, these black and white beads have been variously labelled "Pyu", "Mon" and "Chin". The range of shapes and sizes are similar to *pumtek*: spheres (c. 9-19mm), cylinders (c. 25-50 mm in length), and flat square (c. 25 mm diagonal) (Civico 1991, 2) ⁶ As mentioned earlier, the black and white beads have been made from a range of materials, including stone and opalized wood. There has been a presumption that stone examples, were older, and the fossil wood beads were made recently in imitation of stone originals (see for example, Ebbinghouse [1991] quoted in Civico 1991,12). However, the abundance of opalized wood beads excavated from Pyu sites testifies to the antiquity of this material in Myanmar bead production. ⁷

The term "Pyu" is also problematic. A reliable body of radiocarbon dates for Pyu material is lacking, as is detailed in stratigraphic comparison of the artefacts from the excavated sites. There is also ambiguity surrounding the presumed sequence of so-called Neolithic and Pyu periods in Myanmar. At the of Taungthaman (Amarapura), for example, Neolithic stone tool and ornament use is associated exclusively with subsurface layers and not with surface



Figure 9. Assorted beads including bead no.127, flat white lines, 9 mm wide, collection U Maung Maung Tin.

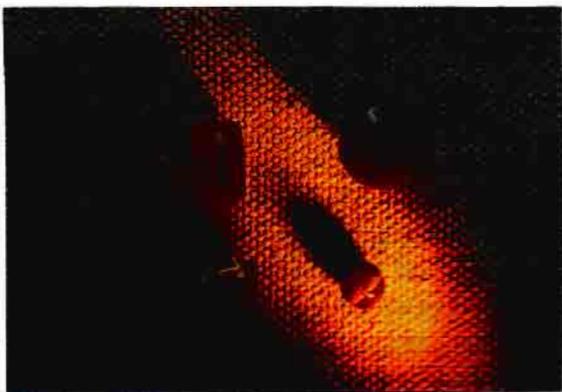


Figure 10. Assorted orange beads with white lines including bead no. 12 (spherical with single white line, 4 mm diameter), no. 33 (barrel, 9mm length).

finds of Pyu items such as beads.⁸ Nonetheless, numerous stone objects have been found on the surface at Taungthaman including tools and nine-pointed bracelets. The nature of the Bronze and pre-Pyu Iron Ages merits investigation at other sites in the Mandalay region such as Shwezayan, where evidence of stone tool manufacture has been recorded (personal communication, U Hla Gyi Maung, Department of Archaeology, Myanmar, 1992).

LINKS BETWEEN THE PYU AND THE CHIN

Black and white beads have been popular for an unknown length of time amongst the Chin peoples in Myanmar, and are known locally as “Chin” beads, even when excavated from a Pyu site. Many Chin, now or in the recent past, inhabited former Pyu areas.⁹ The link between the Chin and the Pyu is also found in traditional accounts. After the fall of Shrikshetra in the ninth century A.D., the Pyu are said to have dispersed into four areas: the Arakan, Tavoy, the Inle Lake area, and the Yaw region (Zabu Kuncha, 1965). Chins who previously occupied sacred Mt. Popa fled to nearby hills. Chins in the Yaw township, west of Mt. Popa and across the Irrawaddy River, are still said to point in the direction of Mt. Popa when asked where they originated from.

Although the Haka Chin valued the black and white beads more highly than any other, Chin strings of black and white beads are often mixed with other more brightly coloured beads (Carey and Tuck 1896, quoted in Civico 1991, 5).¹⁰ Several strings of Chin beads in the National Museum Yangon are made up of carnelian, bone, amber, glass beads, and silver coins, as well as black and white line decorated beads.¹¹ These were donated to the museum as intact strings by a Chin man in 1967 (U Kyaw Win, National Museum, Yangon, personal communication 1992.)¹²

In 1904, the Deputy Commissioner of Myingyan District recorded the find of some ancient beads in a burial ground (District Commissioner Administrative Reports). The cemetery was part of an old Chin town where Pyu beads had been previously reported.¹³ This association of the beads with ancient graves may account for their heirloom value, but does not tally with traditional accounts, which describe the beads as the droppings of a well-fed goat.¹⁴



Figure 11. Black and white bead from Beikthano, illustrated in U Aung Thaw, *Excavations at Beikthano*, plate LII, a; cut to display interior by Department of Archaeology, now on display Yangon Museum.



Figure 12. Orange barrel and incised black and white bead (10 mm diameter) from Taungthaman. Shown with tubular bead (47 mm length), also recovered from surface survey at Taungthaman. Courtesy U Pin Ya.

Whatever their origin, the black and white beads were valued by the Chin as a currency in debt exchanges, in marriage negotiations and as family heirlooms (Head 1955, 48; Parry 1932,290; Civico 1991, 5-6. In fact, if the most valued beads were sold, the owner was said to risk illness and his wife would become barren (Head 1955, 48). The acquisition of beads was not restricted to marriage exchange, for women would purchase beads whenever possible (Carey and Tuck 1986,173).

Black and white beads were particularly significant at the time of marriage. Fifty to one hundred black and white beads might be asked as a bride price by the father of the bride, although the final payment might be only thirty to seventy (Head 1955,5). Part of the price paid by the groom's family to the aunt of the bride was beads, along with metal items such as a knife and bowl (Head 1955, 10-11).¹⁵ Beads, including red, honey-colour, and white, also formed part of the bride's dowry, but black and white beads were not part of the goods given by the wife's family, at least as observed by Head (1955, 14). Carey and Tuck also note that the woman brings, as dowry, her clothes and beads (1896, 189).

At death, beads, metal goods and textiles were placed in the Chin grave. The family grave, a stone vault within the living compound, would then be re-opened to receive the next corpse. At that time, heirlooms other than agricultural implements would be removed to pass on to living members of the family (Head 1955, 27,30; Carey and Tuck 1896, 192). Clay effigies of beads, along with anthropomorphic images, pots, gongs, and pigs, were also made as a guard against illness (Head 1955,40).¹⁶

By the late nineteenth century it was reported that Chins came down from the hills to the ancient Pyu villages in order to buy beads dug up by current residents. They were followed by traders who purchased any available beads to sell to the Chins. By the early twentieth century, the demand for beads led to extensive looting of both real and supposed Pyu burial sites. During this "boom" period, onlookers and hawkers selling food and staples came from neighbouring villages. The accounts below are those of elderly persons who either took part in the digging or witnessed it at Maingmaw and Waddi.

EARLY TWENTIETH CENTURY BEAD-DIGGING

U Chit, from Maingmaw, watched digging in the old burial ground outside the Pyu brick walls, in the west sector of Nyaungbintha (a village on the western wall of the old city). U Chit, sixty-three years old at the time of interview in 1972 said he was about ten or twelve, making the date about 1922 or 1924. He recalled spherical and barrel-shaped beads, some black with white line designs, but also other colours such as orange, tomato-red, coral-like, brown, and green. Silver coins, gold beads, and earplugs were discovered as well. Many coins and beads were mixed with ashes in earthen pots. Most of the pots were single, but some had a smaller pot on top of the larger one.

The growing Chin demand for authentic Pyu beads made them valuable trade goods, with price depending upon size and design. For example, a spherical bead with six white lines fetched six *kyats* (about US\$10 today), one with ten lines was ten *kyats* while intricate designs sold for much more. The business was so good that soon many began digging, and disputes and fights broke out about who had rights to which spot or site. In the 1970s, the administrative authorities finally tried to prohibit digging altogether (Aung Myint 1978).

During preliminary field survey at Waddi in 1979, interviews were held with some elderly people who had witnessed or participated in the digging for beads. Daw Than, who was sixty-seven years of age in 1979, of Payagyi village, near the ancient site, gave this account: "I was a young girl when I saw such digging for Chin beads in our village. It was crowded with the diggers, helpers, and the onlookers. The food stalls sprang up and hawkers came about, as if it was a village pwe (music and dance performance) going on. Even people from other villages, as far as Thedaw and Kanywa came to our place."

She said that Chin black and white beads were the most favoured articles. The digging was generally made in the *Myeni-gyin*, "red-earth ditches," as the villagers called them. Another location was an undulating red lateritic area on the east of Waddi, thought to be an ancient burial ground. The variety of beads found was similar to those in Maingmaw. Daw Nge, age seventy-two in 1979, of Payagyi, reported that she came across some small gold beads and also a small piece of gold which resembled a flower.

PRESENT DAY BEAD PRODUCTION

Some broken and unfinished beads, barrels and spheres without holes, were found in Waddi and Maingmaw. Unsuitable for use as earplugs, the unfinished spheres offer definite proof of local manufacture. The barrel beads were initially recorded as earplugs ear plugs due to their lack of holes (Aung Myint 1978), but the subsequent find of undrilled spheres suggests that the elongated ones were also unfinished.

The existence of partially finished beads is further supported by reports of village elders that the bead trade was so good during the 1920s that all the finished beads that could be dug up were quickly sold. The previously rejected beads without holes were then collected, bored and sold, until the supply of unfinished beads was also exhausted. The popularity among the Chin for beads from Pyu sites was such that by the 1940s, a well-made bead could reportedly sell for thirty to forty *kyat*. Finally, all ancient bead stocks, including newly bored antique beads were depleted. As a consequence, artisans began to try to manufacture beads to satisfy the Chin market.

The most successful of these was U Ba Kyi, interviewed in 1978, at the age of seventy-three. At that time he was still living in his native village of Payagyi, just outside the ancient brick



Figure 13. U Ba Kyi, age 75, displaying his black and white beads, Payagyi village, 1980. Photo by U Maung Maung Tin, print courtesy Noel Singer.

wall enclosing the Pyu site of Waddi. He died there in 1984, but his granddaughter continues to manufacture beads, using his old polishing equipment and pigmenting recipes. The beads made by his technique are not quite as black as the ancient Pyu beads but are made from the same opalized fossil wood that has always been used on the site. U Ba Kyi perfected the "Pyu" methods; his beads sold well, principally because he was careful to use only the old patterns on the same parent material.

U Ba Kyi chose white opalized fossil wood found in abundance at Waddi. The opalized wood is called *ingyin kyauk*, literally "*ingyin stone*." *Ingyin* is formally *Pentacem suavis*, but *ingyin kyauk* commonly also includes *thitya* (*Shorea obtusa*), and in (*Dipterocarpus tuberculatus*) (Rodger 1943, 10, Morehead 1944, 10). U Ba Kyi's technique for making white line decorations on black beads used a resist, prepared of slake lime, sand, soap and powdered borax. This was mixed with water to a gummy consistency (Aung Myint 1978). The pattern was drawn on the surface of the bead with this solution. When thoroughly dry, the bead was coated with an alkaline blackening solution of sodium arsenic sulphite, copper trisulphate, sulphur powder, and arsenic. U Ba Kyi's granddaughter uses the same recipe with the inclusion of breast milk.¹⁷ The beads were then heated using a household charcoal brazier.¹⁸ After cooling, the beads were scrubbed thoroughly in water. The result when the resist was cleaned off was a black-bodied bead with white lines on its surface.¹⁹

U Ba Kyi's beads continued to be bought by the Chin until the 1950s when demand started to slacken. By the 1960s the trade had all but stopped. Perhaps, due to competition from others who learned the technique, or perhaps because the Chin learned that the beads were new and lacked ancestral links, the value went down until the selling price did not cover even the production cost of the beads. The process came to a standstill. Nonetheless, in recent years, his granddaughter, Ma Khin San Thin, has continued the family tradition, living in her grandfather's house, using his treadle-operated

polisher, and making black and white beads. She is able to sell all the beads she can manufacture to Chin people and traders that find their way to her village, although she may be neither the artisan nor salesman that her grandfather was, for both the quality and price of her beads are considerably lower than his.



Figure 14 and 15. Chin women in the 1970s wearing black and white beads mixed with other varieties. Photos courtesy U Min Naing, former curator National Museum, Yangon.

CONCLUSION

A thousand years separates documented black and white bead manufacture by the Pyu and Chin. There is little evidence of the production of black and white beads after the Pyu period (c. first-ninth century A.D.), as is the case with finger-marked bricks (U Aung Myint and Moore 1992).²⁰ Black and white beads are also absent in subsequent royal cities, with no finds reported from Pyinnya, Inwa (Ava), Amarapura, or Mandalay. Black and white bead production was resuscitated in the twentieth century at a Pyu site where beads had been made a thousand years earlier. U Ba Kyi was a native of Payagyi; thus, he was not attracted to the village by the prospect of bead manufacture, but grew up there and began to make beads in response to Chin requests. This supports the account in Myanmar manuscripts described above, of the dispersal of Pyu peoples at the end of the first millennium A.D., with one of the regions settled by the Pyu corresponding to some Chin areas today.

Just as the portability of beads presents problems of dating, manuscripts recopied over the centuries clearly are open to debate. These accounts offer only a general explanation of the Pyu-Chin interface, with many questions remaining. Usage varies, the Pyu having been cremated and the ashes placed in urns with beads, whereas the most valued beads amongst the Chin have until recently been kept as heirlooms. Design significance has almost certainly changed as well. The Pyu interpretation of the patterns remains a mystery; names given by the Chin are today understood at a descriptive level only. While not claiming a remnant of Pyu in the Chin, the continued use of line decorated beads by the Chin offers insight into the range and depth of significances that beads might have held for the Pyu.

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NOTES

1. There are numerous similarities between the ancient beads of Myanmar and those excavated at sites in South Asia, such as Taxila (Beck 1941). The beads from Taxila are placed from the fifth century B.C. to the second century A.D., although stained or etched beads were produced from the third millennium B.C. onwards. The date and means of transmission of beads from South Asia to Myanmar remains uncertain, however, and is beyond the scope of the present article. Differences are also apparent, and it would seem that experimentation in bead making in Myanmar was not always modelled on South Asian methods. For example Beck (1941) denies the presence of any beads which were incised with a white material inlaid, whereas beads do appear to have been produced by this means in Myanmar.

2. The use of the word "etched" in referring to white line designs on beads does not always seem to imply the disruption of the surface seen on some Myanmar beads. For example, Glover (1989, 24) mentions that designs are "etched or stained" in describing the most common type of etched beads, the white line on red or black stones as classified by H. C. Beck (1933); Mackay (1933); and Dikshit (1949).
3. Most Myanmar dictionaries define *mahuya* as jet, a dense form of lignite coal (e.g. Tin Tin Neung, *Thalin Dictionary*), with Judson (Stevenson, Evelth 1921) being the only source translating it as chalcedony. Jet was a popular mourning jewellery in Victorian England, although black agate was often used in imitation of jet. It is possible that the ambiguity in translation is a result of European mistaking jet for agate.

Mahuya is also occasionally used to refer to tourmaline. Deposits of gem quality black tourmaline are found in the Mogok District. However, tourmaline is considerably harder than jet (7.0-7.5 versus 2.5-4.0), even harder than chalcedony (6.5-7.0). Thus the black mahuya which was incised for line decorated beads was most probably jet.

In Myanmar, *mahuya* stone reputedly has the power to pull out poison. The word is similar to Head's *mahooya* (1917, 10.12). Opalized wood was and is far more common than chalcedonies as the basis for black and white beads in Myanmar, The common word at first suggests initial chalcedony imports followed by replication in local materials. However, with the identification of mahuya as jet, not chalcedony, this is put into question. Carnelian, in contrast, is more readily available in Myanmar, and does not pose similar questions of origin and replication.

Opalized wood was not seen as a bead material at Ban Don Ta Phet, Thailand, an early first millennium A.D. site which yielded some 3000 beads, mostly glass, from burial contexts (Glover 1989, 21). However, only fifty of these were decorated with designs similar to "*pumtek*" (Civico 1991, 12).

4. Department of Archaeology officials include U Aung Thaw, U Myint Aung, U Than Swe, and U Sein Maung Oo.
5. U Maung Maung Tin (M. A., Member Historical Commission), U Win Maung (Tampawaddy), U Aung Myint (retired Conservator of Forests) or U San Win (Assistant Research Official, Historical Research Centre, University of Yangon)
6. This unpublished study was submitted in partial fulfilment of the requirements for the degree of B.S.C. Hons of the University of London. It was primarily based on analysis of two strands of black and white beads, one of ninety-six beads and the other of sixty beads. The first was purchased in London but said to come from India while the second was purchased in Thailand near the Myanmar border.
7. Ebbinghouse (1991) also hypothesizes the introduction of black and white beads by foreigners and the importation of agate. However, it does not seem certain that all agate was imported nor that, as he states, Pyu culture was uniform.
8. Previous publications citing the presence of black and white beads in burial contexts at Taungthaman (Stargardt 1990, 24) were not confirmed from U Sein Maung Oo, the excavator of the site or from Department of Archaeology records.
9. Reported sources for black and white beads earlier in this century include Mandalay, and Gavgaw in the Pakokku District (Civico 1991, 8; Head 1955, 48). The bead-making site of Natogyi (Waddi) is midway between Mandalay and Pakokku, in turn across the Irrawaddy River from

the Myingyan District mentioned in the 1904 report discussed in the text. The bead site of the 1904 report may refer to Natogyi (Waddi), which is in the Myingyan District.

10. Thus, black and white beads were found both mixed with other types, and as the only type of bead on a string. The two strings studied by Civico (1991,3) consisted entirely of black and white beads. He compares these to strings worn by Haka Chin women having round beads at the front and cylindrical ones at the back around the nape of the neck. Parry (1932) also illustrates a string of all black and white beads including spheres, cylinders, and flats, worn by a Lakher chief (an Assam group similar to the Haka Chin).
11. This mixture of bead materials was typical also of Chin strings photographed by former Curator of the National Museum, U Min Naing in the mid-1960s.
12. While most of the line decorated beads are black and white, white on orange beads are also on these strings. The star pattern on the silver coins is similar to that found on terracotta ear plugs excavated at the Pyu site of Maingmaw, now on display at the Mandalay Cultural Museum.
13. The Deputy Commissioner confiscated the horde of beads, rewarding the local authorities with seventy *kyats*, a handsome amount at that time. Their present location is unknown.
14. This tradition is similar to Tibet where *dzi* beads are sometimes said to grow spontaneously in *Yak dung*.
15. The hierarchy of bead types, and their use in exchange systems along with metal goods and textiles, is reminiscent of the place of metal *mamuli* and *ikat* on the island of Sumba in Indonesia (Rodgers 1985). Similar also is the location of graves in the centre of the village compound (Adams 1969).
16. The inclusion of beads among the grave goods is noteworthy, although the Chin custom of inhumation differs from the evidence for cremation offered by Pyu urns with beads. In this context, the presence of beads in relic caskets at Taxila (Beck 1941, 1) is perhaps more relevant and chronologically appropriate.
17. This may certainly have been an ingredient for U Ba Kyi, as well, which was not recorded, partly through delicacy; but, U Ba Kyi also said that the results were the same with or without the breast milk. In addition, Ma Khin San Thin reports the use of malachite in blackening the beads. Further visits to the village are needed to resolve these discrepancies.
18. The use of heat to enhance the colour of the bead is common, for example to turn carnelian from salmon pink to red. Black agate may be darkened by boiling in a sugar solution. In both cases, the parent material is a chalcedony quartz whose fibrous structure encourages absorption (see Glover 1989).
19. Mackay and Beck refer to a medium made from carbonate of soda crushed shoots of the kirar plant (*Capparis aphylla*) (Glover 1989). These were made into a paste and then applied before baking over a charcoal brazier. Further experiments were carried out by Mackay and Beck; by Williams, under Glover's direction at the Institute of Archaeology, London; and by Kenoyer in the United States. They all found that the mixture produced white designs, but that the plant shoots were only necessary to provide a gummy medium. Interestingly, in light of U Ba Kyi's use of sodium arsenic trisulphate, tests at the Institute of Archaeology using Energy Dispersive x-Ray Analysis were unable to detect sodium except on one bead from Kish in Lower Mesopotamia and the contemporary beads made by Williams (Glover 1989, 25).

20. However, a recent (1992) field survey by U Aung Myint at Pagan did yield some finger markings on bricks associated with earlier monuments. These included circle and broad striped.

Although a black and white bead has been documented in Kang Ganga village south of Pagary this is generally placed with the other evidence of Pyu occupation of the area prior to the ninth century A.D. founding of Pagan (U Aung Kyaing, Department of Archaeology, Pagan; personal communication 1992).

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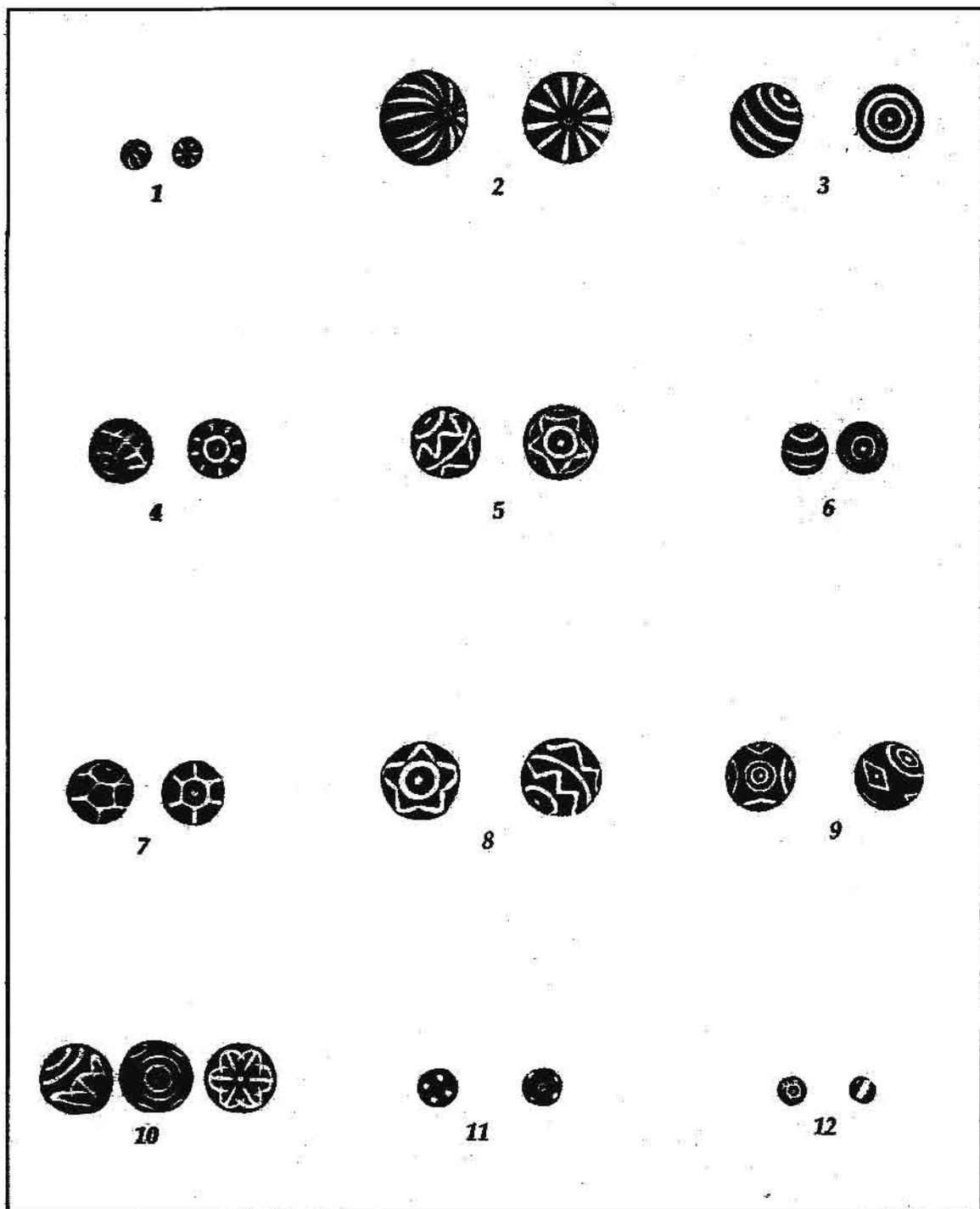
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FIGURE 16. SPHERICAL BEADS

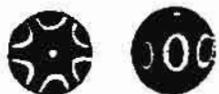


APPENDIX BEADS OF MYANMAR

FIGURE 16. SPHERICAL BEADS

1. SPHERICAL with white lines, (black; six vertical bands; 5 mm diameter): Kadaw; Department of Archaeology. Spherical beads with vertical lines range in size from 4-20 mm, with the number of bands varying from six to twelve.
2. SPHERICAL with white lines, (black; twelve vertical bands; 15 mm): Maingmaw; Mandalay Cultural Museum.
3. SPHERICAL with white lines, (black; five horizontal bands; 12 mm diameter): Srikshetra; Department of Archaeology. This size and design was also recovered from Maingmaw.
4. SPHERICAL with white lines, (black; three horizontal bands and eight short vertical lines; 10 mm diameter): Maingmaw; Mandalay Cultural Museum. The same design is seen on tubular barrel beads.
5. SPHERICAL with white lines, (black; three horizontal bands and two zig—zag lines; 12 mm): Maingmaw; Department of Archaeology. The same type of beads has been found during surveys at Waddi but with wider lines at top and bottom.
6. SPHERICAL with white lines, (black; three horizontal bands; 8 mm diameter): Maingmaw; Department of Archaeology.
7. SPHERICAL with white lines, (black; polygonal design formed between six vertical bands; 11 mm diameter): Maingmaw; Department of Archaeology. This type of bead has only been found at Maingmaw.
8. SPHERICAL with white dots, (black; three wide horizontal lines and two zig—zag bands; 14 mm diameter): Maingmaw (unpublished report); Department of Archaeology.
9. SPHERICAL with white lines, (black; two horizontal lines at top and bottom with band of diamond shapes around middle; 12 mm diameter): Maingmaw (unpublished excavation report); Department of Archaeology.
10. SPHERICAL with white lines, (black; two circular lines at top and bottom with interlinked "arrow" motifs in band around centre of bead; 12 mm diameter): Maingmaw (unpublished excavation report); Department of Archaeology.
11. SPHERICAL with white dots, (black; eight white dots; 7 mm diameter): Srikshetra; collection U Win Maung (Tampawaddy). similar pattern to glass beads favoured by the Chin.
12. SPHERICAL with white line, (orange carnelian; a single white line covering about half the bead surface; 4 mm diameter): Srikshetra; collection U Win Maung (Tampawaddy). A unusually small bead, with a single very broad white band on an orange surface.

FIGURE 17. SPHERICAL BEADS, CONTINUED



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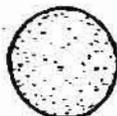
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FIGURE 17. SPHERICAL BEADS, CONTINUED

13. SPHERICAL with white circles, (black; six white circles around middle; 12 mm diameter): *Srikshetra*; collection U Win Maung (*Tampawaddy*). Similar to bead no. 14, but black rather than orange.
14. SPHERICAL with white lines, (orange carnelian; single white line at top and bottom of bead with four white circles around middle; 12 mm diameter): *Beinnaka*; collection U Win Maung (*Tampawaddy*).
15. SPHERICAL undecorated, (brownish-orange carnelian with milky white coating; 15 mm diameter): *Srikshetra*; *National Museum Yangon*.
16. SPHERICAL undecorated, (deeply saturated coffee colour carnelian; 17 mm diameter): *Maingmaw*; collection U Maung Maung Tin.
17. SPHERICAL undecorated, (orange carnelian; 15 mm): *Shrikshetra*; *Department of Archaeology Yangon*.
18. SPHERICAL with white circles, (yellow-orange carnelian; three white circles; 8 mm diameter): *Srikshetra*. This bead was recovered by villagers while sieving for gold in the area.
19. SPHERICAL OVAL undecorated, (purple amethyst; oval; 14 mm at its widest): *Beikthano*; *Department of Archaeology*. Recovered during Beikthano excavations (U Aung; Thaw 1969).
20. SPHERICAL undecorated, (orange carnelian; rounded irregular; 18 mm high with a diameter of 17 mm at broader end): *Beinnaka*; collection U Win Maung (*Tampawaddy*). Found at Beinnaka, Pyawbwe township (U Win Maung 1981).
21. SPHERICAL undecorated, (crystal; sphere; 17 mm): *Halin*; *Department of Archaeology*. The bead is in the collection of the Department of Archaeology. Similar spherical crystal beads (8 mm) have been found in Thaon, Sinbyukyun village (U San Win 1985, not illustrated).
22. SPHERICAL undecorated, (unidentified white stone; 13 mm diameter): *Maingmaw*; *Department of Archaeology*. The hole has not been bored (U Aung Myint 1978); a similar bead of white stone was found in Thaton, Binhlaiing, with thread hole (U San Win 1985, not illustrated).
23. SPHERICAL undecorated, (orange carnelian; 27 mm diameter): *Srikshetra*; *National Museum, Yangon*. The largest spherical bead yet reported, found during excavations at Srikshetra.
24. SPHERICAL undecorated, (orange carnelian; oval; 40 mm on longer axis and 25 mm along thread hole axis): *Srikshetra*; *National Museum, Yangon*. This bead is an orange-red, whereas the previous bead is a deep dull red.

FIGURE 18. BARREL BEADS



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FIGURE 18. BARREL BEADS

25. BARREL with white lines, (black; three horizontal lines on each end and two zig—zag lines in middle; 30 mm long, mid—diameter 11 mm, end diameter 8 mm): *Maingmaw*. There is no thread hole, and the badly weathered surface has faded to a greyish brown colour. It was dug up in the old city of Maingmaw by villager U Hla Aung (U Aung Myint 1991).
26. BARREL with white lines, (black; two horizontal lines on either end with two rows of triangles in the mid—section; 32 mm length): *Maingtaw*; recorded during survey of site, owned by villagers.
27. BARREL with white lines, (black; zig—zag lines; broken, 27 mm length): *Mainginaw*; recorded during survey of the site. As this bead is broken, the white body can be seen. The deepest penetration of the black surface is 1 mm but much shallower in most places.
28. BARREL with white lines, (black; three lines on either end and row of angled lines in middle; 30 mm): *Maingmaw*; recorded during survey of the site. No thread hole.
29. BARREL orange with lines, (orange carnelian; three white lines on one end and horizontal angled lines on the other; 23 mm length, 12 mm diameter): *Srikshetra*; collection U Win Maung (*Tampawaddy*). An unusually asymmetric bead.
30. BARREL with white lines, (black; two lines at either end and three zig—zag lines in middle; 30 mm length): *Maingmaw*; recorded during field survey of the site. No thread hole. The design of this bead, “tiger tail”, is considered most valuable if the triangles touch the end lines. A number of examples have been recovered from Srikshetra as well as Maingmaw.
31. BARREL with white lines, (black; two white lines at either end with polygonal pattern in middle similar to spherical bead no. 7; 27 mm length): *Maingmaw*; recorded during field survey of the site. The design of this bead is known as “land tortoise”. Like “tiger tail”, these names are current ones given by bead—makers, and not thought to be the Pyu or Chin designations.
32. BARREL with white lines, (pink—orange carnelian; four vertical lines with connecting horizontal spacers; 17 mm length and 10 mm end diameter): *Srikshetra*; collection U Win Maung (*Tampawaddy*). The thread hole on the bead is only partially complete.
33. BARREL with white lines, (orange carnelian; three horizontal white lines and white line of zig—zags; 9 mm length, 6 mm diameter): *Srikshetra*; collection U Win Maung (*Tampawaddy*).
34. BARREL with white lines, (black; 8 mm length, 10 mm end diameter): *Srikshetra*; collection U Win Maung (*Tampawaddy*). The bead is a truncated barrel, with small crescents cut into the wider end. It is not broken, being a very well finished bead.
35. BARREL with white lines, (black; two white lines at either end with triangles on middle section; 26 mm length): *Maingmaw*; recorded during field survey of the site.
36. BARREL with white lines, (black; four white diamond shapes around barrel; 27 mm length): *Kadaw*; collection U Maung Maung Tin.

FIGURE 19. BARREL BEADS, Continued

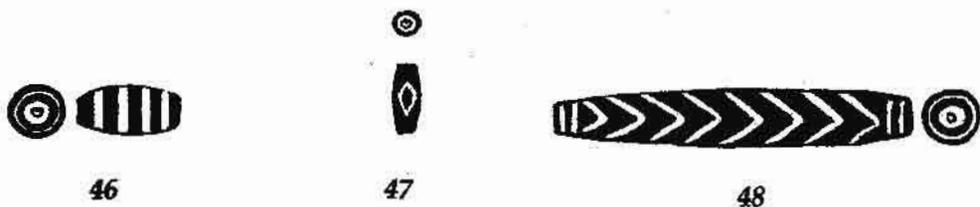
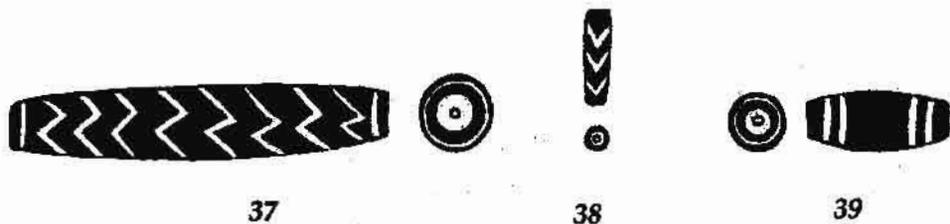


FIGURE 19. BARREL BEADS, Continued

37. BARREL with white lines, (black; a single white line on either end with eight zig-zag lines in middle; 66 mm length): *Maingmaw; Department of Archaeology*. The bead which is illustrated is of a style typical for Maingmaw, and is very black.
38. BARREL with white lines, (black; three zig-zag white lines; 26 mm length): *Sanpannagon; private collection*.
39. BARREL with white lines, (black; two white lines on either end of bead; 26 mm length): *Waddi; recorded during field survey of the site*.
40. BARREL with white lines, (black; four zig-zag white lines; 25 mm length): *Waddi; collection U Maung Maung Tin*.
41. BARREL with white lines, (black; two white lines on either end with two zig-zag lines around middle; 32 mm length): *Waddi; collection U Maung Maung Tin*.
42. BARREL with white lines, (black; three white lines on either end with horizontal lines on mid-section; 31 mm length): *Maingmaw; Department of Archaeology*. The pattern is similar to that on spherical bead no. 4.
43. BARREL with white lines, (beige bone parent material with three horizontal white lines; 9 mm length and 8 mm width): *Srikshetra; collection U Win Maung (Tampawaddy)*. The material of the bead remains unidentified, but it does not appear to have ever been coloured.
44. BARREL with white lines, (black; eight white lines around barrel evenly spaced along length of bead; 48 mm length): *Waddi; recorded during field survey of the site*.
45. BARREL with white lines, (black; two white lines around middle part of bead; 15 mm length): *Maingmaw; recorded during field survey of the site*.
46. BARREL with white lines, (black; four white lines around barrel evenly spaced along length; 18 mm length): *Maingmaw; recorded during field survey of the site*.
47. BARREL with white lines, (black; four diamond shapes around barrel of bead; 12 mm length with an end diameter of 4 mm): *Maingmaw; recorded during field survey of the site*. Similar design to no. 36 from Kadaw.
48. BARREL with white lines, (black; two white lines on either end with eight zig-zag lines in middle; 62 mm length): *Waddi; recorded during field survey of site*.

FIGURE 20. BARREL BEADS, Continued



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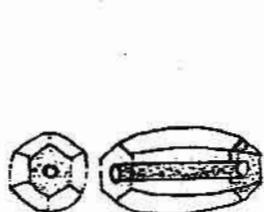


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FIGURE 20. BARREL BEADS, Continued

49. BARREL with white lines, (black; three sets of white bands, one at each end and one in the centre; 58 mm length): *Waddi*; recorded during field survey.
50. BARREL with white lines, (orange carnelian; three zig—zag lines; 11 mm length, mid—diameter mm, end diameter 4 mm): *Maingmaw*; collection U Maung Maung Tin.
51. BARREL with white lines, (orange—yellow carnelian; eight white bands evenly spaced along bead; 32 mm length, mid—diameter 14 mm, end diameter 7 mm): *Halin*; collection *Halin Bo Naga*.
52. BARREL with white lines, (yellow—orange; carnelian; five zig—zag lines; 40 mm length, mid—diameter 12 mm, end diameter 9 mm): *Taungdwingyi*; collection *Taungdwingyi U Hla Pa*.
53. BARREL with white lines, (yellow—orange carnelian; six evenly spaced white lines; 28 mm length, mid—diameter 13 mm): *Waddi*; collection U Maung Maung Tin. The bead has very little taper, and has an ovoid cross—section. It is made of translucent material so it can easily be seen that the shadow of the thread hole is not straight.
54. TRUNCATED BARREL with white lines, (pink carnelian; four white line decorations, with one close to the large end of the bead and the other three arranged at the small end; 17 mm length, 7 mm diameter on larger and 5 mm diameter on smaller end): *Halin*; collection *Halin Bo Naga*.
55. HEXAGONAL BARREL with white lines, (black; three evenly spaced white zig—zag lines; 35 mm length; profile is somewhat hexagonal): *Waddi*; recorded during field survey of the site.
56. BARREL with white lines, (orange—yellow carnelian; five white line decorations evenly spaced; 21 mm length, end diameter 5 mm): *Sanpannagon, Dattaw village*; recorded during field survey of the site. U San Win 1985.
57. BARREL with white lines, (orange—yellow carnelian; five white line decorations evenly spaced; 22 mm length, 5 mm end diameter): *Sanpannagon, Dattaw village*; recorded during field survey of the site.
58. BARREL with white lines, (orange and black; black mid—section with orange ends, end sections separated from the middle by a white line; 45 mm length, mid—diameter 12 mm, end diameter 6 mm): *Sanpannagon*; recorded during field survey of the site.
59. BARREL with black lines, (greyish stone; three black zig—zag lines; 17mm length and 5 mm diameter): *Maingmaw*; recorded during survey of site. No thread hole.
60. BARREL with black lines, (white tusk or bone; three zig—zag black lines; 15 mm long with a mid—diameter of 7 mm and an end diameter of 5 mm): *Maingmaw*; recorded during field survey of the site. No thread hole. U Aung Myint 1978.

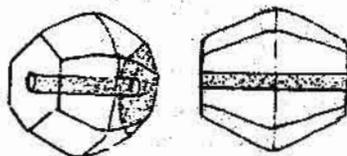
FIGURE 21. BARREL BEADS, Continued



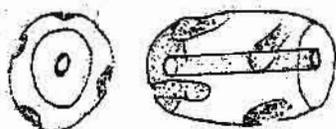
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FIGURE 21. BARREL BEADS, Continued

61. BARREL undecorated, (crystal; hexagonal; 21 mm length, 16 mm mid—diameter, 9 mm end diameter): *Srikshetra*; *Department of Archaeology*. The edges are smooth and rounded.
62. BARREL undecorated, (crystal; hexagonal; 16 mm length, 12 mm mid-diameter, 7 mm end diameter): *Srikshetra*; *Department of Archaeology*.
63. TRUNCATED BARREL undecorated, (crystal; truncated hexagonal bicone; 26 mm length, 25 mm mid—diameter, 15 mm end diameter): *Srikshetra*; *Department of Archaeology*. The edges are slightly round and smooth.
64. BARREL undecorated, (crystal; cylindrical ovoid; 28 mm length, 17mm mid—diameter, 11 mm end diameter): *Srikshetra*; *Department of Archaeology*. Smooth shallow depressions on the surface appear to have been purposely created as decoration.
65. BARREL undecorated, (green jade stone; plain; 51 mm length, mid—diameter of 9 mm and end diameter of 5 mm): *Halin*; *collection Halin Bo Naga*.
66. BARREL with white spots, (yellow—orange carnelian; 15 mm length, mid—diameter 7 mm and end diameter 4 mm): *Srikshetra*. The bead was found by villagers while sieving for gold. There are a total of 26 white dots on the bead, arranged in four rows of 6, 8, 7 and 5 dots.
67. HEXAGONAL BARREL with lines, (deep orange carnelian; hexagonal with four horizontal white lines; 15 mm length, mid-diameter 8 mm, end diameter 6 mm): *Srikshetra*. The bead was found by villagers while sieving for gold.
68. BARREL undecorated, (lac colour agate; 56 mm length, mid-diameter 9 mm, end diameter 6 mm): *Maingmaw*; *Department of Archaeology*. Recorded during field survey by U Than Maung, Aung Myint.
69. BARREL undecorated, (brown-yellow amber; 12 mm length, mid-diameter 8 mm, end diameter 5 mm): *Beinnaka*, *Pyawbwe township*; recorded during field survey of the site. U Win Maung 1981.
70. BARREL undecorated, (brown agate; 18 mm long, 11 mm mid-diameter, end diameter 6 mm): *Sanpannagon*; recorded during field survey of the site. (U San Win 1985).
71. BARREL undecorated, (brown agate; 13 mm length, mid—diameter 9 mm, end diameter 6 mm): *Sanpannagon*; recorded during field survey of the site. (U San Win 1985).
72. BARREL undecorated, (yellow amber; 12 mm length, 5 mm diameter at mid—point): *Thaton*, *Sanpannagon*; recorded during field survey (U San Win 1985).

FIGURE 22. BARREL BEADS, Continued



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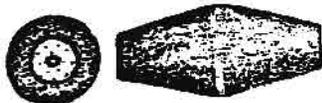
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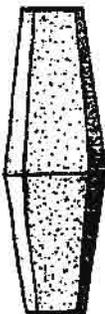
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FIGURE 22. BARREL BEADS, Continued

73. SHORT BARREL undecorated, (brown agate; 5 mm length, 3 mm end diameter): *Sanpannagon*; recorded during field survey of the site (U San Win 1985).
74. BARREL undecorated, (black onyx; white and grey natural zoning bands; 38 mm length, mid-diameter 10 mm, end diameter 6 mm): *Kadaw, Myingyan district*; unknown private collection.
75. LEECH BARREL undecorated, (black onyx; white and grey bands; 17 mm length, 10 mm high, end diameter 5 mm): *Maingmaw*; collection U Maung Maung Tin. The bead has a "leech" shape, with a laterally flattened cross-section. U Maung Maung Tin 1979.
76. OVAL BARREL undecorated, (black to dark brown onyx; one end of the bead is black, the other dark brown with a whitish grey middle portion flanked by two light brown bands; 23 mm length, 13 mm mid-diameter, 8 mm end diameter): *Maingmaw*; collection U Maung Maung Tin. The cross-section of the bead is oval.
77. BARREL undecorated, (black onyx; white bands; 16 mm length, mid-diameter 6 mm, end diameter 5 mm): *Maingmaw*; collection U Maung Maung Tin.
78. BARREL undecorated, (orange and white unidentified stone; divided into halves of orange and white longitudinally; 30 mm length, mid-diameter 10 mm, end diameter 5 mm): *Sanpannagon, Dattaw village*; recorded during field survey of the site.
79. ANGULAR BARREL undecorated, (green jasper; 29 mm length, 5 mm diameter): *Beikthano*; Department of Archaeology. Cross-section is quadrangular.
80. ANGULAR BARREL undecorated, (yellow; carnelian; plain; 12 mm length, 8 mm wide at mid-point): *Halin*; Department of Archaeology. Bead is a short truncated bi-cone square.
81. ANGULAR BARREL undecorated, (yellow amber; 25 mm length, 16 mm wide mid-diameter and 8 mm wide at ends): *Beikthano*; Department of Archaeology. Bead is a truncated circular bi-cone shape.
82. BARREL undecorated, (yellow amber; 35 mm length, 16 mm wide mid-diameter and 8 mm wide at ends): *Beikthano*; Department of Archaeology.
83. ANGULAR BARREL undecorated, (orange carnelian; hexagonal; 55 mm length, 17 mm wide at mid-section): *Beikthano*; Department of Archaeology (National Museum, Yangon). One of the largest truncated bi-cones found at Beikthano. The illustration in the excavation report (U Aung Thaw 1969, 142-143) incorrectly shows an octagonal cross-section but is described as hexagonal.
84. ANGULAR BARREL undecorated, (yellow carnelian; 29 mm length, 10 mm wide at mid-point): *Beikthano*; Department of Archaeology. A truncated square bi-cone (U Aung Thaw 1969).

FIGURE 23. CYLINDRICAL BEADS



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FIGURE 23. CYLINDRICAL BEADS

85. CYLINDRICAL undecorated, (black onyx; single white band in middle; 13 mm length, 14 mm diameter): *Maingmaw*; collection *U Maung Maung Tin*.
86. CYLINDRICAL undecorated, (brown wood; five squared off incisions around body of bead; 16 mm length, 10 mm diameter, with each incision being 2 mm width): *Srikshetra*; collection *U Win Maung (Tampawaddy)*. No evidence of incisions ever having been filled, or of bead having been blackened.
87. CYLINDRICAL with white lines, (black; stone; eight evenly spaced zig-zag lines; 43 mm length, 12 mm diameter): *Beikthano*; *Department of Archaeology [National Museum, Yangon]*. The bead has been cut on one end to show interior which is white stone. The black dye has penetrated about 1 mm into the body of the bead. The text (U Aung Thaw 1969) description of the bead in the excavation report does not match drawing, which is accurate when viewed against actual bead.
88. CYLINDRICAL undecorated, (black onyx; banded with white, light brown; 28 mm length, 12 mm width): *Kyaikkatha*; recorded 1992 in the collection of *Sayadaw U Agga Wuntha, Kyaikkatha*. One end has black and white lines reaching to the middle of the bead, while the other end is light brown, darkening to black at the end. Discovered in *Kyaikkatha, Pawdawnmugen*, during surface levelling at the pagoda site in *Kyaikkatha*. Another bead found at the same time is a green stone, barrel shape, 14 mm in length and 10 mm in width.
89. CYLINDRICAL with white lines, (black; a single straight white band at either end with four zig-zag lines evenly spaced in central section; 20 mm length, 8 mm diameter): *Halin*; collection *Halin Bo Naga* (now deceased).
90. CYLINDRICAL with white lines, (black; four zig-zag lines evenly spaced; 18 mm length, 6 mm diameter): *Sanpannagon*; recorded during survey of the site (*U San Win 1985*).
91. CYLINDRICAL with white lines, (black; five evenly spaced zig-zag lines; 35 mm length, 12 mm diameter): *Taungdwingyi*; collection *Taungdwingyi U Hla Pa*.
92. CYLINDRICAL undecorated, (black onyx with white band; 9 mm length, 5 mm width): *Srikshetra*; collection *U Win Maung (Tampawaddy)*.
93. CYLINDRICAL with white lines, (black; eight zig-zag lines evenly spaced; 44 mm length, 12 mm diameter): *Beikthano*; *Department of Archaeology*. The bead is illustrated in the *Beikthano* excavation report (U Aung Thaw 1969).
94. OTHER SHAPE undecorated, (crystal; hexagonal; 29 mm length, 11 mm wide): *Srikshetra*; *Department of Archaeology*.
95. CYLINDRICAL undecorated, (yellow amber; 17 mm length, 9 mm diameter): *Halin*; *Department of Archaeology*.
96. CYLINDRICAL undecorated, (yellow amber; 12 mm length, 8 mm diameter): *Halin*; *Department of Archaeology*.

FIGURE 24. CYLINDRICAL AND OTHER SHAPED BEADS



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FIGURE 24. CYLINDRICAL AND OTHER SHAPED BEADS

97. CYLINDRICAL undecorated, (green jasper; 6 mm length, 5 mm diameter): *Beinnaka, Pyawbwe township; collection U Maung Maung Tin.*
98. CYLINDRICAL undecorated, (bluish stone; 7 mm length, 4 mm diameter): *Thaton, Sinbyukyun village; U San Win collection.*
99. CYLINDRICAL undecorated, (lac colour; stone; 25 mm length, 4 mm diameter): *Waddi; recorded during field survey of site.*
100. CYLINDRICAL (lac colour; stone; 16 mm length, 4 mm diameter): *Maingmaw; Department of Archaeology.*
101. CYLINDRICAL undecorated, (lac colour; stone; 27 mm length, 5 mm diameter): *Srikshetra; Department of Archaeology. Cross-section is triangular.*
102. OTHER SHAPE undecorated, (crystal; 12 mm length, 5 mm diameter): *Beikthano; Department of Archaeology (U Aung Thaw 1969). Cross-section is quadrangular.*
103. OTHER SHAPE undecorated, (crystal; 21 mm length, 5 mm diameter): *Beikthano; Department of Archaeology (U Aung Thaw 1969). Cross-section is quadrangular.*
104. OTHER SHAPE undecorated, (green jade; 14 mm length, 7 mm diameter): *Srikshetra; Department of Archaeology. Cross-section is quadrangular.*
105. OTHER SHAPE CYLINDRICAL RING undecorated, (white stone; 2 mm length, 3 mm diameter): *Halin; collection Halin Bo Naga. A very short cylinder, this bead is almost a ring.*
106. OTHER SHAPE undecorated, (green stone (jade); 13 mm length, 9 mm diameter): *Srikshetra; Department of Archaeology Cross-section is hexagonal.*
107. OTHER SHAPE OCTAGONAL undecorated, (crystal; 30 mm length, 11 mm at broader end, and 4 mm on narrower end): *Srikshetra; National Museum, Yangon. The bead is a truncated octagonal shape.*
108. OTHER SHAPE undecorated, (crystal; 15 mm length, 6 mm diameter): *Beikthano; Department of Archaeology. Cross-section is hexagonal.*

FIGURE 25. CYLINDRICAL AND OTHER SHAPED BEADS, Continued



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FIGURE 25. CYLINDRICAL AND OTHER SHAPED BEADS, Continued

109. OTHER SHAPE TUBE undecorated, (green stone (jasper); quadrangular cross—section; 15 mm length, 5 mm diameter): *Beikthano; Department of Archaeology*. The green colour is deeply saturated, almost an emerald green.
110. OTHER SHAPE CONSTRICTED TUBE undecorated, (green stone (jasper); 13 mm length, 7 mm diameter): *Beikthano; Department of Archaeology*. Cross—section is round but central section is constricted.
111. OTHER SHAPE LEECH undecorated, (black onyx; white zonal bands; 20 mm length, 8 mm width): *Kadaw; Department of Archaeology*. Bead has a "leech" shape.
112. OTHER SHAPE OVOID undecorated, (black; glassy material; three natural white bands; 33 mm length): *Tanaung—daing village near Myingyan; collection U Maung Maung Tin*. Bead is an ovoid, without a thread hole.
113. CYLINDRICAL RING undecorated, (brown banded stone (onyx); white band in middle; 5 mm length, 9 mm diameter): *Sanpannagon; collected during field survey of the site*.
114. OTHER SHAPE POINTED TUBE undecorated, (green stone (jade); 25 mm length, 6 mm wide at broader end): *Beinnaka; Department of Archaeology*. There is no thread hole.
115. OTHER SHAPE LENS undecorated, (green stone (jade); 5 mm length, 8 mm diameter): *Halin; Department of Archaeology*. Bead is circular biconvex lens, with curve slighter on one side than the other.

FIGURE 26. FLAT BEADS



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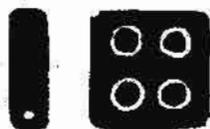
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119



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127

FIGURE 26. FLAT BEADS

116. FLAT with white lines, (black; white line cross with angles bi-sected; 19 mm wide, 19 mm high, 5 mm thick): *Waddi*; recorded during field survey of the site.
117. FLAT with white lines, (black; white constricted square with spot in centre; 18 mm wide, 20 mm high, 5 mm thick): *Srikshetra*; Department of Archaeology. The bead is slightly rectangular; its edges are somewhat curved.
118. FLAT with white lines, (orange; white lines form enclosed cross which does not reach edges; 11 mm wide, 11 mm high, 4 mm thick): *Maingmaw*; recorded during field survey. This pattern was typical at Maingmaw, also being seen on somewhat larger (19 mm square) beads.
119. FLAT with white lines, (black; white lines form two squares enclosed inside each other; 18 mm wide, 19 mm high, 5 mm thick): *Srikshetra*; Department of Archaeology.
120. FLAT with white lines, (black; white lines form double cross which extends to edges; 19 mm wide, 19 mm high, 5 mm thick): *Srikshetra*; Department of Archaeology.
121. FLAT with white lines, (black; white lines form four regularly spaced circles, each about 5 mm diameter; 19 mm wide, 18 mm high, 5 mm thick): *Waddi*; recorded during field survey of the site.
122. FLAT with white lines, (black; white lines form double cross which extends to edges; 16 mm wide, 15 mm high, 4 mm thick): *Waddi*; recorded during field survey of the site.
123. FLAT with white lines, (black; white lines form four pointed star with a white spot in centre; 17 mm wide, 15 mm high): *Maingmaw*; Department of Archaeology. Edges are slightly rounded.
124. FLAT with white lines, (black; white lines form small double cross in centre surrounded by slightly constricted white square; 18 mm wide, 16 mm high, 4 mm thick): *Waddi*; recorded during field survey of the site.
125. FLAT with white lines, (black; two straight white lines flanked by two zig-zag lines extend length of bead; 18 mm length, 8 mm high, 5 mm thick): *Srikshetra*; Department of Archaeology.
126. FLAT with white lines, (black; five evenly spaced vertical white lines; 28 mm length, 14 mm high, 5 mm thick): *Waddi*; recorded during field survey of the site.
127. FLAT with white lines, (black; white lines form a cross on both sides, with one cross being enclosed and the other extending to the edge of the bead; 9 mm wide, 10 mm high, 4 mm thick): *Maingmaw*; collection U Maung Maung Tin.

**Royal chronologies and
finger-marked bricks**

Interpreting Pyu material culture: Royal chronologies and finger-marked bricks

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INTERPRETATIONS

Bricks were used to build walls around Pyu and Mon sites in Myanmar and Thailand during the early first millennium AD if not earlier.¹ Many of these bricks have lines on the ends or across the width, patterns made with the fingers while the bricks were still soft. Unlike many other diagnostic Pyu artefacts such as beads and coins, finger-marked bricks are not easily collected or traded. They are cumbersome to transport over great distances, and even when reused today tend to remain in the locality where they were first made.

The massive brick walls of Sriksetra, Beikthano and Halin are one of the principal features used to identify these sites as Pyu, although it is now accepted that their occupation pre-dates the construction of walls. Chinese emissaries in the 9th century AD described the city-wall of the P'iao (Pyu) capital as being faced with glazed bricks, part of a general perception that walls designate an area as urban. It has been suggested that the armies of the Nan-chao did not think the newly founded kingdom of Bagan worthwhile to raid, as it had no fortified city (Htin Aung 1967:31).

<i>Pyu site</i>	<i>Township</i>	<i>Division</i>	<i>Latitude x longitude</i>	<i>Area enclosed by wall (Aung Myint 1998:18)</i>
Tagaung	Thabaikkyin	Mandalay	23.10n x 96.01e	
Halin	Wetlet	Sagaing	22.27n x 95.49e	208 ha [512 acres]
Waddi	Natogyi	Mandalay	21.25n x 95.47e	130 ha [320 acres]
Maingmaw (Pinle)	Myitha	Mandalay	21.17n x 96.12e	222 ha [548 acres]
Bagan (Pagan)	Nyaung Oo	Mandalay	21.10n x 94.52e	104 ha [256 acres]
Beinnaka	Pyawbwe	Mandalay	20.36n x 96.12e	
Beikthano	Taungdwingyi	Magwe	20.00n x 95.23e	291.7 ha [717 acres]
Sriksetra	Pyeh	Bago	18.48n x 95.17e	1477ha [c.30 sq.km]

¹ The Pyu language has yet to be deciphered with the earliest inscription dated to the late 5th century AD. The greatest number of Pyu inscriptions has been recorded at Sriksetra and at Halin but they have been found in other regions, including southern Yakhine (Luce 1985:50). A main text in working out the language has been a four-sided inscription dated to 1113AD, installed at the Myazeidi pagoda in Bagan. The same text, in Pyu, Mon, Burmese and Pali, is inscribed on the four sides of the pillar written (Blagden 1911). Another, possibly the latest, Pyu inscription found at Bagan has been provisionally dated to 1287-98 (Luce 1960:321).

Where there are no brick walls, identifying Pyu site area can be problematic, likewise determining whether the delimited area was a 'city'. This has on occasion led to diagnostic conundrums. For instance, the Pyu status of Beinnaka has been ambiguous in part because outer walls have not been identified. At Beikthano, the walls are similar to those of Sriksetra and Halin, but Pyu inscriptions and Hindu-Buddhist icons are absent, raising questions about the identification of the inhabitants at various points in the site's chronology.

As this suggests, defensive constructions are one attribute used to assess the relative importance of Pyu centres. A temporal sequence for the rulers of these cities has been established using both absolute and relative dates. Absolute dates are limited to Beikthano and Halin. The four dates from Beikthano were obtained from two similar rectangular structures within the city walls, while the four dates from Halin were obtained from one rectangular structure within the city walls and two gates on the south and southeast walls of the site. These dates testify to occupation at Beikthano from the 1st to 4th century AD and at Halin from about the 2nd to 9th century AD.

The radiocarbon dates have also been used in conjunction with relative dating, such as stylistic analysis of structures and motifs, and palaeographic study of inscriptions. These are found principally on stone funerary urns and slabs, silver gilt reliquary caskets, gold plates bearing the Pali canon, votive tablets and images of the Buddha. The inscriptions demonstrate a well-established familiarity with the Theravada canon possibly by the 4th century AD. The study of these inscribed materials has focused on an accurate dynastic chronology and identification of the prevailing religious practice. Some consideration has been given to the relationship between the main identified Pyu centres, and also to external factors, such as political, economic and religious relations with South Asia, Nan-chao and China, and other Southeast Asian polities. While a certain amount of this has been in terms of receipt of trade missions and sacred teachings, the pro-active role of Pyu centres in these arenas is also implied by the extent of the sites, the apparently early existence of elaborated religious hierarchies, and the occurrence in some cases, especially to the east, of similar motifs and artefacts.

In contrast to this network of regional activity, the chronicles interpret Pyu material culture in a more personalised framework of internal relations. Unlike absolute dating and stylistic analysis, this tradition does not lie within a similar context of exact resolution. Chronicles display a very different perception about relevant time, the significance of the king and "the fluctuating fortunes of states competing in a geographically circumscribed theatre" (Shorto 1961:71). The aims and morality of those responsible for establishing these states permeates chronicle accounts. This is the case with both royal chronicles encompassing a number of dynasties and localised accounts. They were often written in situations of shifting power, and in order to ensure continuity of ritual and dynastic traditions, employ a complex vocabulary very different from European traditions of historiography (Aung Thwin 1980, Sao Saimong Mangrai 1976).

As these notes indicate, Pyu material culture has been observed and interpreted from widely varied perspectives. The present investigation of these sources began with questions asked by many others: Did an identical ethno-linguistic group inhabit all the so-called Pyu sites or were the Pyu one of a number of Tibeto-Burman groups occupying Upper Myanmar? When did finger-marking bricks

start being made and why are they so widespread? Which city did the Chinese visit? What clashes and resolutions are reflected in the chronicles? In sifting through the literature on these subjects, the authors changed every few decades, but the answers for the most part remain enigmatic. The sources are diverse and often scattered, but are abundant in contrast to material on the Bronze Age in Myanmar. It may be that answers have remained elusive in a search for "a compendium of all the circumstances that constitute a 'given' context" and a "goal of totalising contexts" (Bal and Bryson 1991: 248). Without abandoning the questions, it is possible to give some idea of the multidimensional 'text' labelled Pyu material culture (Tilley 2000:425). In this context, three types of data are summarised here: relative and absolute dating evidence, chronicle accounts, and the use of finger-marked bricks. Particularly in regards to the last of these, the partial view of Pyu material culture sought here is one of individual agency, a consideration first prompted by the immediate and intimate memory obtained when the middle fingers are placed in the imprints of a finger-marked brick.

FINGER-MARKED BRICKS AND PYU WALLS

Pyu walls were thick, commonly 2-5 metres wide, and were further reinforced with earthen embankments. Chinese emissaries noted that these walls, combined with the enclosed areas of rice fields, ensured the king's ability to withstand a long siege (Htin Aung 1967:11). Not only outer walls were made of brick, but walls within the city, as well as monastic and ritual buildings ranging from stupa-like structures to rectangular temples and halls. On the interior and exterior of some of these buildings and outside city walls, terracotta funerary urns in a variety of shapes have been found, often in conjunction with skeletal remains. The outer walls were once perhaps 5 metres high, making the volume of bricks needed to build a one kilometre section of wall about 319,147 cubic feet (95.744 cubic metres), calculated using an average size brick used at that time (c. 44-50 x 20-26 x 6.3-7.6cm) (Aung Myint 1998b). This is roughly equal to the volume of bricks needed to build ten large memorial halls (c.25 x 15m) such as KKG9 at Beikthano where the walls were some 1.25m (4 ft 3 in) thick (Stargardt 1995:170). To obtain clay for these varied uses, most particularly building the walls, a vast quantity of soil was displaced adjacent to the walls and in natural depressions, making reservoirs in the form of moats and tanks. The remains of these efforts have formed 'Archaeological scars', recognizable shapes and patterns on aerial photographs likened to the process of scar tissue forming over to a deep cut (Aung Myint 1998a,b; Moore and Aung Myint 1981, 1983).

In the central basin of Myanmar, finger-marked bricks are found at virtually all Pyu sites, and have been found at Tagaung, the earliest capital recorded in the Myanmar chronicles (Win Maung 1997). Preliminary survey of sites in India and Nepal recorded finger-marked bricks in Bihar (Varanasi (Sarnath), Kosambi, Rajagriha, Vaishali), Uttar Pradesh (Kusinara, Saravasti) and at Kapilavastu. In a number of cases the finger-marked bricks were kept as relics, and were believed to have protective power (Win Maung (Tampawaddy) 1991). The finger impressions may be on either end or diagonally across the broad face of the brick, and generally were made using one to three fingers of the hand. Some finger-marked bricks from Sriksetra were marked a second time with stamps bearing Pyu numbers or letters (Luce 1985:140). In the southern parts of the country, finger-marked bricks are found at most 'Mon' sites thought to date to the early centuries AD. Many of these are traditionally associated with the formation of Suvannabhumi, for example at lowland habitation sites and upland ritual centres around Mt. Kelasa in present day Bilin Township, Mon State (Moore

2003, forthcoming). The early significance of this southern area is recalled by a delegation headed by the chief monk of Mt. Kelasa's monastic community said to have attended the consecration ceremony of a stupa built by Duttagamani of Sri Lanka in the 2nd century BC (Sao Saimong Mangrai 1976:160, Htin Aung 1967:6). Similar bricks are found at Mon Dvaravati sites in Thailand such as U Thong (San Win 2000). Thus while the use of fingermarked bricks is described here in a Pyu context, finds are associated with the adoption of Theravada practice at sites throughout Myanmar and in Thailand.

Finger-marked bricks, unless re-used, are not found at sites dating beyond the 12th or early 13th century AD (Moore and Aung Myint 1981). Nor are finger-marked bricks found at earlier or contemporaneous bronze-iron using sites of the Samon valley, described briefly below. Nonetheless, the bronze artefacts associated with the Samon sites are increasingly being reported at Pyu locations, for instance Halin and Beinnaka (Moore 2003, Win Maung 2003). In some instances, differences in the Pyu and Samon bronze-iron finds are difficult to distinguish. Beads of semi-precious stone, glass or fossil wood, are often labelled Pyu and are commonly found in association with finger-marked bricks. However, very similar beads are also found at the Samon sites, where ritual goods such as 'mother-goddess' figures indicate animist rather than Hindu-Buddhist practice (Nyunt Han, Win Maung and Moore 2002).

CHINDWIN AND SAMON BRONZE AND IRON USING SITES

A distribution of bronze-using sites is found around the Lower Chindwin region (21.20- 22.30n 94.45-95.30e). The site of Nyaunggan is part of this group, one that spans the Chindwin River and stretches south around its confluence with the Ayeyarwaddy. The Bronze Age cemetery northwest of Monywa has been dated comparatively to c. 1500-1000 BC, the time period given for the establishment of a bronze-working tradition in Southeast Asia.² However, the start of bronze production in this area and the duration of cemetery use are not yet known.

To the east, along the Samon Valley south of Mandalay, bronze-iron cemetery sites are dispersed (19.40-22.00n x 95.30-96.15e)(see Moore and Pauk Pauk 2001; Nyunt Han, Win Maung and Moore 2002; Moore 2003). Absolute dating is not yet available for these and again an initial date for bronze and iron working there has not been formulated. They may fall within a period of fairly rapid change in Southeast Asia, from about c. 700-400BC, during a transition from unstratified agriculturalist economies using stone tools, to ranked metal-using communities (Glover 1999b: 104). The inception of localised iron production in Southeast Asia is generally placed around 500 BC (Glover 1999a: 87, Higham 2002: 158, 166). Also fitting within this timeframe are thermoluminescence dates obtained from both pottery and iron excavated in 1982 at Taungthaman, Amarapura (21.53n x 96.05e) by U Sein Maung Oo. From this site, an iron fishhook found on the chest of a skeleton gave a date of 460 ±200 BC (Stargardt 1990: 15-6,29).

² Attempts to date bone from both Hnaw Kan and Nyaunggan failed to give results due to lack of collagen in the samples. Charcoal was recovered Hnaw Kan, but the results are not available at the time of this writing (Pateau et al.2001: 100; Pateau 2002).

A number Pyu walled sites are found in, and peripheral to, the distribution of bronze-iron using sites in the Samon valley. The site of Taungthaman, and Kyaukse, whose ricefields supplied the 9-13C city of Bagan, are located here as well. Halin and Beikthano are on the north and south margins of the Samon bronze-iron distribution. Further south is Sriksetra, by far the largest of the enclosed Pyu sites. Its dating (4th or 5th to 9th C AD) is based on stylistic analysis although its location near the probable ancient shoreline suggests far earlier occupation. Traditional histories indicate habitation of the area long before the founding of the Pyu city (Moore. 2000: 172). Despite clear links to other Pyu sites such as brick walls, finger-marked bricks, and urns, Sriksetra presents a rather different profile in terms of the range of Pyu objects and the paucity of stone or bronze tools. This may well be dispelled with further research and excavation.

As discussed further below, the Pyu sites have been dated to about 200 BC – 900 AD, with charcoal samples from Beikthano yielding the earliest dates (Aung Thaw 1968, Aung Thwin 1982-3). The sequence of 1000+ years bracketed as 'Pyu' rests on more information than currently available for the Chindwin and Samon sites. Radiocarbon dates are available from Beikthano and Halin; there is palaeographic analysis of a limited number of inscriptions on stone and on gold plates, and stylistic analysis of bricks, beads, pottery, sculpture, monuments and walls. However, many aspects related to the Pyu remain uncertain. These include deciphering the language and, as discussed below, determining whether the Pyu were a distinct ethnic group that entered the central basin or were one of a number of groups already present. Also important is a clearer picture of developments during the early centuries AD. This was a period of expanding trade with both northern and southern parts South Asia and China, and there are indications that the changes indicated at sites such as Chansen in Central Thailand during the third century AD (Bronson 1976), were mirrored at Pyu settlements.

The chronological, cultural and ethnic relationship of the Samon valley bronze-iron cemeteries and the Pyu walled sites of Upper Myanmar remains a matter for future research. Both groups, if indeed they prove to be distinct, settled in the arid zone, where irrigation was needed for wet rice cultivation. Both were capable of working in bronze and in iron. Although bronze and iron metallurgy and the firing of clay for pots and beads was already well established, this technology was used in new ways by the Pyu, most notably brick-making as discussed above, to define territory and erect ritual structures. The catalyst for these changes is traditionally attributed to contact with South Asia.

THE PYU: CHANGES, SITES, AND CHRONOLOGIES

Assessments vary on the manner in which this South Asian influence was incorporated. Where most authors suggest that both technical and ritual change were corollaries to increased urbanism (e.g. Wheatley 1971: 249), others posit that techniques preceded concept, with for example 'pre-Buddhist' funeral buildings constructed at Pyu sites using locally manufactured bricks (Stargardt: 1990, 1994). As both technical and ritual change occurred gradually, artefacts and epigraphy have not provided evidence for clear precedence of technology, especially one in an isolated context. Often new needs prompt adjustment in a number of spheres so that in this case, polities incorporating Hindu-Buddhist norms are identifiable only with the advent of wall construction at sites of the Tibeto-Burma Pyu. These polities may have emerged in part due to agricultural intensification and also increased trade, with an elite merchant class encouraging royal adoption of Buddhist rule. In

this context, new technologies such as brick-making are best understood as part of a wider picture of societal change. That said, the internal chronology of Halin, Beikthano and Sriksetra remains to be clarified. By this is meant not earlier and subsequent habitation, but the succession of brick elements such as walls, gates and buildings that are called 'Pyu'.

The commonly used succession of Pyu capitals places the legendary capital of Tagaung first, followed by Beikthano. The site of Maingmaw has also been mentioned as being earlier than Beikthano, based on the condition of its walls (Than Tun 1979:52). Chronicle accounts suggest that Sriksetra conquered or at least dominated Beikthano. This perhaps influenced conclusions from U Aung Thaw that Beikthano "came to an end in the 4th century", after which Sriksetra existed, until the 8th century when both it and Halin "perished at the same time (Sao Saimong Mangrai 1976: 158). Reference to Halin is found in separate accounts, however, so a presentation in a chronicle context of the relationship of the sites is absent. Halin is often placed chronologically after Sriksetra and Beikthano, although radiocarbon dates and the inclination of its north south wall suggest early occupation contemporaneous with both these sites to the south. These varied sources are discussed further below, the point here being to highlight the manner in which chronicles, Chinese accounts, radiocarbon dates and stylistic analysis have all contributed to and perpetuate the clear-cut sequence of Pyu sites that characterises the literature on the subject.

The sites that are named in chronicle accounts have given these Pyu centres a pre-eminent place in the historiography of the country. While the abundant remains at Beikthano, Sriksetra and Halin also justify this prominence, a hierarchical site distribution is not yet fully mapped out. While Waddi and Beinnaka are identified as Pyu, they are not included in the sequence of capitals. The search for a single centre stems from the Chinese descriptions and later, mainly Bamar, chronicles. The references to the Pyu in both sources were determined not so much by an interest in the history of the Pyu but subsequent economic and political concerns. Nor has the distribution of Pyu artefacts such as finger-marked bricks been fully plotted, with a view to charting the chronological spread of Pyu influence. When constructing a chronology of Pyu sites it is also important to remember that while religious structures have been excavated, this has not generally included a stratification of any depth under such buildings.

The Pyu or 'P'iao' capital is referred to in Chinese records, as discussed below. Some authors contend that the general term used by the Chinese can also be applied to specific sites such as Beikthano (Chen Yi-Sein 1999), but in general the Chinese reference is taken to be to a capital. The distance from the Yunnan prefecture capital Yung-ch'ang is usually given, along with a description of the size of the walled site and the customs of its inhabitants. The 7th century AD account of the monks, Hsüan Tsang (Xuanzang) and I Ching (Ijing) refer to the kingdom of 'Sriksetra', an honorific toponym ('auspicious land') associated with Puri, in Orissa (Wheatley 1983:173) However, there is little evidence for a unified Pyu 'state' with chronicle references to kings more likely being to rulers of independent polities fluctuating in power.

While chronologies thus probably overlapped considerably, the preservation of a sequence and prioritising of the few available radiocarbon dates has tended to result in a series starting with Beikthano (2nd century BC – 5th century AD), followed by Sriksetra (5th – 8th century AD). Halin

(2nd to 9th century AD), commonly thought to be the capital referred to in the 9C AD *Man Shu*, occupies a variable place in arrangements of the three sites. In all cases, both the initial and final dates are open to revision. The terminal date of the 5C AD for Beikthano, for example, is based on the presumption that the site is older than Sriksetra, plus chronicle accounts that Beikthano 'fell' to Sriksetra. This demise has recently been re-iterated, part of a suggestion that Khmer troops occupied Beikthano from 210-225AD, after which the Mon moved in, giving the city the names of Panthwa or Ramaña-pura, Sinicised as Lin-yang. Finally, according to this hypothesis, in the 5th C AD, Pyus from Sriksetra destroyed Beikthano, ending the history of the city (Chen Yi-Sein 1999).

However, even if Beikthano waned in political power after the 5th century AD, Aung Thaw's second period of occupation at Beikthano, Phase II, dates to the 11th century AD. It is difficult to see why the site would merit the construction of a temple in the Bagan period unless it continued to be of religious and political significance. The references to Lin-yang are discussed further below, with the question of change and 'demise' of sites also raised again. First, however, the Chinese accounts of the Pyu are summarised. These are invaluable contemporary records recognising the Pyu, perhaps as both a trading partner and political presence, within a changing political configuration. Even though most of the information was obtained second-hand, the Pyu 'capital' was considered worthy of note over more than six hundred years.

THE 'PYU' IN CHINESE RECORDS

The Pyu are referred to as the 'P'iao' in Chinese texts dated from the 3-9C AD, although they are thought to have called themselves 'Tircul'. Tircul is used, for example, in the 1102 AD palace inscription of Kyanzittha, where Tircul, Bamar and Mon dancing is described (Blagden and Duroiselle 1921). Variants of Tircul are also mentioned by Perso-Arab authors of the 9th and 10th centuries AD. Bordering Nan-chao, these 'kingdoms are at war with China, but the Chinese come out stronger.' (Luce 1985:46)

Early accounts

A long established trade route between China and India passed through what is now Upper Myanmar. The Han dynasty establishment of a prefecture at Yung-ch'ang in Yunnan in 69AD prompted increased mention of these areas although reference to kingdoms precedes mention of the P'iao. The earliest note is in the work of two envoys, K'ang T'ai and Chu Ying, sent to the court of Funan in southern Cambodia, possibly around 240 AD. There they met an emissary from India who gave them information about a number of kingdoms to the west.

Upon their return home, K'ang T'ai in particular included these stories in his report (Briggs 1951:21). Only fragments of these texts survive, and only in versions copied into later works. One passage mentions a kingdom known as Chin-lin located on a large bay over 2000 li west of Funan. Another 2000 li west was the kingdom of Lin-yang, accessible only overland, not by water. The people of this kingdom were said to be Buddhist. These descriptions are characteristic of the Chinese accounts, containing information on the location of areas considered significant, along with trade routes, economic products, the appearance of cities and the habits of the populace. Linking the areas named in the Chinese records with names of archaeological sites continues to pose a challenge to academics, as illustrated by the scholarship on the kingdom of Lin-yang described below.

Chen Yi-Sein, formerly Reader in Chinese at Yangon University, has identified Lin-yang with Beikthano, relying on various linguistic conclusions, some elaborated, about a range of dates and associated placenames. From these, he specifies a Khmer period of 205/210-225AD, followed by a 'Monized' habitation until the 5th century (1999:86-7). Many of these toponymic links and conclusions are very specific and difficult to verify elsewhere. For instance, there is no corroborating evidence for a Khmer presence at Beikthano in chronicles or the archaeological record. An invasion of Beikthano in 205/210 AD during the reign of the Funan king Fan Shi-Man (Sirimara), with Khmer occupation there until 225AD, is not specified in the rather nebulous accounts of the kings of Funan compiled from Chinese sources. Possible architectural support has been given to the later phase of this sequence, however, as it has been suggested that the stupa-monastery grouping (KKG2, 3, 4) of buildings at Beikthano are distinct, and might be attributed to a 'Monized' phase (San Shwe 2002:29).

Htin Aung identifies Lin-yang with Halin and Chin-lin with Thaton, mentioning only that the Funan king died while preparing to invade the latter (1967:7,9). Luce also suggested Thaton as Lin-yang and the presence of Lopburi Khmer from central Thailand, although in other articles adopted a more conservative conclusion that Chin-lin may have been on the Gulf of Martaban or the Gulf of Siam, which would place Lin-yang in either Myanmar or Thailand (Luce 1965:10, Wheatley 1983:167). Even if this early Chinese text is identified with Beikthano, Taw Sein Ko refers to two ancient capitals by this name, one in Magwe, and the other in the Upper Chindwin (Aung Thaw 1968:5). Thus as with much else about the Pyu, more data is needed. What is extremely useful in Chen Yi-Sein's explanation is the implied existence of a number of independent polities, and the picture of competition and warfare between these groups.

Other Chinese texts of about the 4th century AD describe troublesome groups living southwest of Yung-ch'ang. These peoples grew millet, hill-paddy, cotton trees and cinnamon, and produced saltwells, gold, silver, jade, amber, cowrie and tortoise shell. There were rhinoceros and elephant, and monkey hide was used to make armour. The peoples were alleged to be cannibals, who tattooed themselves and used bows and arrows. Further to the southwest, some 3000 li, were "a civilised people, the P'iao, where 'prince and minister, father and son, elder and younger, have each their order of precedence'" (Luce 1960:309). They made their knives and halberds from gold, and produced perfumes, cloves, cowries and a white cloth from the cotton-tree.

Later accounts

Over the next three hundred years, there is little mention of the P'iao. However, in the 7th century, two monks, Hsūan Tsang and I Ching, travelled to India and in both records Sriksetra is mentioned. Neither monk visited the city, and although the P'iao are not specifically cited, they do refer to a capital called Sriksetra, or 'field of glory' located in a country that to the south, "borders on the sea" (Luce 1985: 48).

The later Chinese sources are linked to the fortunes of the kingdom of Nan-chao. As a result of an alliance forged with Tibet in 755AD to defeat the Chinese, the Nan-chao king Ko-lofeng initiated communications with the Pyu. By the end of the century, however, the Tibetan link was broken as Ko-lo-feng's grandson strengthened ties to the Chinese court. An embassy from Nan-chao to the

Chinese court was sent in 800, 802 and 807AD. In 1966-67, five lively bronze figures of two dancers, two musicians and a drummer, averaging 11.5cm high, were found near the Payama stupa outside the northeast wall of Sriksetra. They are thought to represent part of this 9th century delegation of Pyu or Mon performers (Luce 1960:317). The figures were found together with an ornate 27.5cm high bronze bell with two *Srivatsa* motifs commonly seen on both Pyu and Mon silver coins.

Due to these shifting alliances, information about the Pyu capital was included in records of the time such as the *Old Tang History (Chiu-t'ang-shu)* and the *New Tang History (Hsint'ang-shu)*. Another document of this period is the *Man Shu*, compiled by Fan Ch'o after gathering information from Pyu soldiers during the 862AD siege of Hanoi (Luce 1960:318, 1985:77). All the sources contain details about the Pyu capital.

"The king's name is Maharaja. His chief minister is Mahasena. When he goes on a short journey, the king is borne in a litter of golden cord; when he journeys far, he rides an elephant. His wives and concubines are very numerous; the constant number is a hundred persons. The compass of the city-wall is faced with glazed bricks; it is 160 *li* in circumference." (Luce 1960:318)

The *li* varied at different periods, and during T'ang is thought to have been about 360 metres. The *Man Shu*, however, remarks that the time to march around the city was a day, generally taken to be about 50 *li* (Wheatley 1983: 193). The tiered form of the *pyatthat* appears to have been used to mark the four corners of the city gates. Inside the walls were more than a hundred Buddhist assembly halls ('*wats*'), whose form was similar to the palace of the king. Pagodas were roofed with tiles of lead and tin and furnished within with embroidered rugs, gold and silver and cinnabar and gum-lac (Wheatley 1983: 177). The population used a silver coinage, and all lived within the city walls. One source noted that there were several tens of thousands of families, a calculation implying up to a 100,000 people. Also recorded in the *Man Shu* is the respect paid to a white image over 100 feet high:

"In front of the gate of the palace where the king of (this) kingdom dwells, there is a great image seated in the open air, over a hundred feet high, and white as snow.

It is their wont to esteem honesty and decency. The people's nature is friendly and good. They are men of few words. They reverence the Law of the Buddha. Within the city there is absolutely no taking of life. Also there are many astrologers who tell fortunes by the stars.

If two persons go to law with each other, the king at once orders them to burn incense in front of the great image and ponder on their faults: whereupon each of them withdraw. If a disaster should occur, or pestilence, or war, or disturbance, the king also burns incense facing the great image, repents of his transgressions, and takes the blame on himself.

The men mostly wear white *tieh*. The women on top of their heads make a high coiffure, adorned with gold, silver and real pearls. They wear for show blue skirts of *p'o-lo* (silk cotton) and throw about them pieces of gauze-silk. When walking, they always hold fans. Women of noble family will have three persons, of five persons at their side, all holding fans.

When there are persons sent to take letters to the Ho-t'an of the Man borders, they take 'river-pigs,' white *tieh*, and glazed jars for barter or trade." (Luce 1961:90-1)

The 'river pigs' were probably river porpoises, and the *tieh* a silkcotton cloth. The 'white as snow' image is generally dismissed, although today one of the main images venerated on visits to the Shwesandaw pagoda in Pyay is a 6.4m (212ft) image facing the pagoda and backed by a hill. It is said to have been erected in the early 20th century, although locally it is thought to be far older (Khin Myo Chit 1984:53). The *New Tang History* also mentions the image:

"They wear gold-flowered hats and caps of kingfisher feathers strung with various jewels. The king's palace has two bells, one of silver and one of gold; when enemies are at hand they burn incense and strike these bells, thus obtaining omens concerning their fate in the coming battle. There is a great white image, 100 feet high. Those who are engaged in a lawsuit kneel in front of it, think for themselves whether they are right or wrong, and go away..."

The *New Tang History* and the Man Shu make it clear that Nan-chao held the upper hand in these relations with the 'P'iao'. For example, Pyus were conscripted to fight with the Nanchao army in the capture of Hanoi in 863 AD. Fan Ch'o did not visit the Pyu cities but had been sent on a mission to Yunnan the previous year, and later wrote of Pyu exiled to this area:

"In [AD 832] *Man* [sc.Nan-chao] rebels looted and plundered P'iao kingdom [sc. Halin]. They took prisoner over three thousand of their people. They banished them into servitude at Chê-tung [approx. Yunnan Fu], and told them to fend for themselves. At present their children and grandchildren are still there, subsisting on fish, insects, etc. Such is the end of their people" (Luce 1985:66).

Luce goes on to note reference by the Chinese to the P'iao as "one of the tribes of the 'Gold Teeth Comfortership' (1985:66). The 'Gold Teeth' tribes perhaps find authentication in the 1999 finding at Shwegugyi Zeidi south of Halin, of an upper jawbone with eight teeth drilled with a pattern of 102 tiny holes filled with gold foil. The jawbone was from a skeleton found under a large stone slab and an associated pillar about 1.5m long, with gold and silver rings, pottery and iron tools (Hudson 2003:10, Win Maung (Tampawaddy) 1999). As this reference indicates, research on the Pyu bringing together Chinese references, chronicles and artefacts is now ongoing, particularly at Halin, but the identification of the Pyu 'capital' among the 'tribes' at this time is uncertain. Chinese reference to "hills of sand and a desert tract" suggest Halin rather than Sriksetra (Luce 1960: 317).

Halin is cited also in connection with various references to the exact number of gates at Pyu sites. Chronicles record that the number of gates was thirty-two, "a canonically sanctioned multiple of four" (Wheatley 1983: 194). Descriptions of twelve city gates in Chinese texts are taken to imply a rectangular city wall with regular numbers on each face. However, the number of gates at Halin has not been fully explored, and Beikthano so far appears to have four gates on the north face and two on the east and south sides. In addition, there is no reason that a circular wall such as that of Sriksetra cannot have twelve gates, with nine gates there commonly referred to by name, twelve notes on maps today, and twenty-four named by Taw Sein Ko in his early map of the site (1914a:113). The various accounts are worth noting as the same gate configuration would link what are quite different wall and gate forms at the main Pyu enclosed sites.

The figure of thirty-two is also used in the *New T'ang History*, which lists thirty-two important settlements or tribes subject to the Pyu, eighteen dependencies, and eight or nine garrison towns. None of these have been definitively identified, although one such stockade may have been located near Myingan, near the Chindwin-Ayeyarwaddy confluence. Nonetheless, the name of the capital is not given, only the notation that in Pyu tradition it was the city of the Buddha's disciple Sariputra, who came from Rajagaha in Magadha. Elsewhere, however, this has been identified as Yazagyo in the Chindwin valley (Wheatley 1983:194). The sense of site domain and hierarchy implied by the listing of settlements or tribes, dependencies and garrison towns is borne out at Halin in the finding of brick 'fortresses' demarcating a perimeter zone around the walled enclosure. At one of these, the Sha Gwe fortress, some ten miles to the east of Halin (22.27n x 95.58e), finds included finger-marked bricks as well as variously shaped polished stone rings and pottery. Some vessels were painted with red stripes and large black rectangles, while other sharply carinated black pots (c.25cm high) with lids were found with ash and bone inside (Win Maung (Tampawaddy), p.c.04.03).

At the end of the 8th century, a route is described from Yung-ch'ang to the Pyu capital, then going up the Chindwin and on to Manipur. While Luce contended that it made no sense to go as far south as Sriksetra, and that this meant the Pyu capital was at Halin, Wheatley reasons that the trade route between China and India would have not necessarily been the shortest or main route, but would have gone through the capital albeit the somewhat southern location of Sriksetra. He then goes on to note, however, that the *Man Shu* says the capital was seventyfive days journey from Yung-ch'ang, which he estimates as being north of the Chindwin- Ayeyarwaddy confluence (Wheatley 1983:178-9). In all these unresolved hypotheses of capitals and dependencies, it is presumed that only one city is referred to in the Chinese accounts, whereas both Sriksetra and Halin may have had varied relations with Nan-chao. The capture and banishment of some of the populace may have created a power vacuum in which Bagan arose, but later building and donation at Halin and Sriksetra demonstrate continued occupation of both cities. At Beikthano, for instance an 11-13th century AD rectangular structure Kyaung-gyi-gon ('Big monastery mound', KKG21) found in the region of the palace-citadel, also had a modern well indicating continued use of the monastery (Aung Thaw 1968:26, San Shwe 2002:9).

At Halin, the remains of a Bagan period brick monastery (HL19) were also found, just outside the southeast corner of the city wall, an area that more recently has yielded a number of Bronze Age artifacts. Although only a monastery has been excavated at Halin, donations of two slaves, three

bullocks and plots of land to a *Zeidi* are recorded in an inscription dated to 1340AD. An inscription dated to 1768AD records the dedication of an ordination hall by followers of the Sayadaw Gunabhilankara, leader of the Ekamsikas or 'one shoulder' sect. Three inscriptions from Halin were re-copied as part of King Bowdawpaya's epigraphic collection, brought to Amarapura in 1785AD. Inscribed brass bells were donated to Halin in 1798AD, including one given by an attendant of the future King Bagyidaw, referring to amicable relations with surrounding countries. These and other references led Myint Aung to emphasize that Halin should be understood not only in the context of Pyu occupation, but for some thousand years following this period (1978).

ABSOLUTE AND RELATIVE DATING

The finds and references from Halin demonstrate its occupation both before and after the Pyu period. The dating for Halin, Beikthano and Sriksetra, further described below, makes use of both absolute dates and stylistic analysis. Excavations at Beikthano (Aung Thaw 1968, Stargardt 1990, San Shwe 2002) highlighted the massive brick walls demarcating the site, its mortuary custom and variety of ritual structures. In the case of Sriksetra, a wide range of inscribed artefacts has allowed detailed suggestions to be put forward about the chronology of the site, and the ritual affiliation of royal donations and burials. At Halin, excavation of several gates and portions of the fortifications has been complemented by work on a number of stupa-like rectangular structures associated with both urns and inhumation burials.

There is thus a recurring pattern, one long known, of both large scale fortification and extensive burial at all three sites. Burial of venerated monks and possibly royal figures in the area of stupa-like structures may be interpreted within the categories of persons who merit having a stupa raised over their ashes (Stargardt 1990:200). The Pyu continued this tradition, storing the ashes of respected dead persons in urns, collected for eventual deposition in the foundation layer of memorial buildings (San Shwe 1002:17). Despite this common ground, the disparate nature of the material culture suggests independent and competing polities located, in the case of Halin on an overland trade route, and in the case of Beikthano and Sriksetra, vying for control of the lower reaches of the central plain and access to maritime routes. At Beikthano at least, if not the other two sites, the presence of diverse ethnic groups has been suggested as one reason for this diversity.

Beikthano dates and stylistic analysis

Four radiocarbon dates were obtained for Beikthano, all from charcoal. Using these and stylistic analysis, Aung Thaw identified two phases of occupation: Period I from the 1st to 5th century AD and Period II in the 11th century AD Bagan period. As Period II was represented by only one monastery structure (KKG21), the focus of subsequent analysis has been the Period I material.

Two dates were from a large memorial hall (KKG9), south of the citadel-palace, where some forty terracotta urns were found on the interior and exterior of the building. The brick structure consisted of a c. 25 x 14.7m (84 x 49ft) base and walls, with only traces of the wooden pillars and roofing remaining. For KKG9, one date was 1950±90 BP, and the other 1880±95 BP. Two further dates were obtained from KKG11, of similar proportions to KKG9 (c.26.4 x 14.4m (88 x 48ft)), where terracotta urns were also found inside and outside the rectangular building. The dates from KKG11 were 1725±95 BP and 1650±85 BP. From these results, Aung Thaw placed KKG9 in the 1st-2nd century AD and KKG11 to the 3rd to 4th century AD (Aung Thaw 1968:20,23,62).

No Pyu inscriptions were found at Beikthano, leading to a suggestion that the site was occupied by a Tibeto-Burman group preceding the Pyu, and that this group was later displaced by the Pyu (Than Tun 1965:12). This echoes reference by Taw Sein Ko that natives of Taungdwingyi identify with the Tibeto-Burman Kadu, a group that also peopled the ancient capital of Mahamyaing in the Chindwin, while Pyu and then Burman groups settled at Prome (Srikestra) (Aung Thaw 1968:5). Although this suggestion was made many years ago and has not been elaborated, it stands as a reminder of the lack of archaeological evidence for the other Tibeto-Burman groups such as the Chin, Kadu and Thet, recorded in chronicles and whose early presence is supported by linguistic evidence (Luce 1985).

The absence of images recovered from the site is also notable. Without a body of sculpture or epigraphy, Aung Thaw's stylistic analysis was based primarily on the form of buildings and pottery, a brief script on a seal, and motifs. The form of the stupa and pillared halls at Beikthano has been likened to those at Nagarjunakonda, although it has been pointed out that the resemblance is mostly in the form of the monastic building (KKG2) rather than the stupa (KKG3), with this being closer to possibly earlier Taxila buildings. Following the 'Lin-yang' proposal of Chen Yi-Sein described above, with a period of Khmer occupation at Beikthano followed by a Mon phase, San Shwe suggests that the grouping of KKG2, KKG3, and KKG4 was built by Indianised Mons after 225AD (2000:18,28-9).

One focus of study has been buildings with a stupa-style monument on a square base likened to domed structures at Nagarjunakonda and Taxila. At Pyu sites, these have been designated as memorial structures, generally built using semi-circular and mango sprout bricks, and associated with finds of urns and skeletons from both the interior and exterior areas (San Shwe 2002). Aung Thaw cites instances at Nagarjunakonda where remains of monks or priests were enshrined in terracotta water pots within monastic stupas (1968:65), a practice perhaps extended to royalty.

An abundance of burial urns links all Pyu sites, their ubiquity highlighting questions about the interface between this and other burial customs. With the ceremonial rings of the Chindwin Nyaunggan cemetery and bronze 'mother-goddess' figures of the Samon bronze iron sites pointing to a variety of animist and ancestral practices, an integration of at least some aspects of these into the Hindu-Buddhist tradition that was being assimilated, is to be expected. For instance, large pots excavated at the Nyaunggan bronze cemetery indicate that secondary burial of some sort may have been practiced, although full analysis of the excavated pottery has yet to be undertaken. From other areas of the Nyaunggan site, pottery has been recovered that may represent different phases of occupation, some vessels being similar in form and finish to those from Sha Kwe, the 'fortress' site east of Halin described above. As mentioned, some of the Sha Kwe pots were filled with ash, suggesting a transitional occupational period as Pyu culture took root. A subsequent transition from Pyu to Bagan phases, appears to have signalled the abandonment of urn burial although a thin walled terracotta pot c.25cm high, found at Pyeh Son Kon west of Maingmaw, may support later cremation (Win Maung (Tampawaddy) p.c. 04.03). Certainly given the flourishing presence of the Sangha at Bagan, the memorial veneration practices developed by the Pyu could have continued in some form.

The 2nd-3rd century AD clay sealing recovered from the monastery residence (KKG2) was dated from the inscribed Brahmi script, the inscription similar to names inscribed on stone donor slabs found at Amaravati, Andhra. This object has been more precisely described by Stargardt as "the imprint of an intaglio seal" (1990:291), although wider conclusions about the presence of various inscribed materials at Beikthano in the 2nd century AD have been queried (Norman 1992:116).

Spouted sprinkler vessels from Beikthano with a pouch-like bulge on the base of the spout have been compared to examples from a number of South Asian sites such as Rang Mahal, Arikamedu and Brahmapuri. South Asia is again cited in relation to motifs found on uninscribed 'coins' from Beikthano. These are close to those found at a range of early sites in South and Southeast Asia. Find spots include Pyu, Yakhine and Mon sites in Myanmar, with motifs at Beikthano ranging from *srivatsa*, *baddhpitha*, and rising or moving sun, to twin fishes. Although their origin can be traced to South Asia, the depiction of the motifs and their arrangement on the coins differs at Pyu and Mon sites. In addition, the use of these motifs on stamped pottery from Beikthano suggests local production and a possible production origin at this site (Bronson 1968).

Other authors propose Funan production and the presence of early trade routes to explain the distribution of similar silver coins at sites to the east of Beikthano such as U-Thong in Thailand and Oc-éo in southern Vietnam (San Shwe 2002). Given the diversity of coins, the existence of common currency along such a trade route is doubtful, but the concept offers a useful sense of economic fluidity and shared worldview across mainland Southeast Asia at this time. In this configuration of centres, the finds from Sriksetra present a particularly rich glimpse of the synthesis of ritual and royal priorities that shaped the material culture.

Sriksetra dating

The dating for Sriksetra is mainly based on palaeographic analysis of Pyu inscriptions on gold, silver, terracotta and stone objects. These include inscribed terracotta votive tablets, stone urns inscribed with royal names, a gilded silver reliquary casket with inscriptions on the rim and foot, verses from the Theravada canon inscribed on gold leaves, and an inscription on the base of a stone image of the Buddha. These objects suggest a syncretic ritual adherence, one where a prevailing Buddhist practice meshed with local mortuary custom and also incorporated Brahmanic elements in a increasingly elaborated royal ritual. The Sriksetra evidence is considered at length here as it has prompted the most detailed literature, it is the site around which Pyu chronologies most often centre, and it is the Pyu site most strongly linked to Bagan.

TERRACOTTA VOTIVE TABLETS

Terracotta votive tablets from a number of different periods have been recovered from Pyu sites and have also been used to estimate a chronology. Some of these have been stylistically dated based on the depiction of the Buddha or the form of the stupa (Guy 1999). However, a votive tablet discovered at Beikthano, was inscribed with Pyu language and Sanskrit of Northern India and contained royal names such as Satu (Catu), Anuradha and Marn. This has been dated paleographically to the 6-7th century AD (Hla Tun Pru 2003b), and often forms part of the dating sequence for Sriksetra.

Later votive tablets have been useful in setting chronologies as well as they provide support for the continued occupation of Pyu sites. Tablets found at Sriksetra, for instance, are used to place 11th century AD donations of Anawratha. In the early 12th century, Kyanzittha installed a Mon inscription in the Shwesandaw pagoda at Pyay to the west of Sriksetra. At Bagan, a votive tablet inscribed on the reverse with six lines of Pyu was found in the relic chamber of the 1060AD Shwesandaw pagoda of Anawratha (Aniruddha) (Luce 1985:66). Thus the early Bagan kings appear to have maintained ties to the traditions of their Pyu predecessors, particularly the lineage of Sriksetra. The degree to which this heritage can be seen in other artefacts from Bagan remains unclear. One area well worth investigation in this regard is mortuary practice such as the five inscribed royal urns from Sriksetra.

'MEGALITHIC' STONE URNS, THRONES AND BASINS (AND WHITE PEBBLES)

Five stone urns inscribed with names of kings have been recovered from Sriksetra. The urns are thick-walled (some 50cm) rings of stone, one with an inside diameter of 72.5cm. Some of these were set in a layer of white pebbles "abundantly scattered around them", Duroiselle concluding that the presence of such white pebbles in large quantities always indicating an urn (Duroiselle 1913:15, Luce 1985:52-3). At Beikthano, white pebbles were inlaid into moonstones, likened to those at Anuradhapura, found on each side of the doorway between the main entrance hall and the corridor of the monastery structure (KKG2) (Aung Thaw 1968:14). White pebbles were also placed inside urns, one terracotta or copper urn found together with a royal stone urn containing earth, bones, bits of broken silver ornament and white pebbles both inside the vessel and scattered around it (Luce 1985:127).

While the moonstone use of the pebbles may link to Sri Lanka, the use of large burial slabs, and also the association of pebbles with burials may derive from earlier indigenous custom. As mentioned above, stone burial slabs and in some cases pillars, have been recovered from Halin. Megalithic evidence of earlier habitation has been found at a range of sites: in the south part of Bagan, at Htauk Ma Kon, Salingyi Township (21.58n x 95.05e), near Myotha, Ngazun Township close to Myingan (21.25n x 95.23e), and at Kok Ko Kha Hla, Wundwin Township (21.12n x 95.51e). At Myotha, some forty sites with slabs and pillars have been recorded, and at both Htauk Mee Kon and Myotha, upright slabs are part of an arrangement of stone elements marking inhumation burials. Preliminary survey around Myotha noted square structures, some five feet in height, adjacent to upright slabs and a layer of pebble stones. And although the small white pebbles of the Pyu have not been found, concentrations of smooth black pebbles was seen in the burials at Ywa Htin Kon, Pyawbwe Township (20.34n x 95.56e) (Win Maung (Tampawaddy), Hla Gyi Maung Maung, p.c. 04.03).

The 'megalithic' use of stone was not restricted to urns but is seen also in thrones or bases for images, carved basins and steles. Although only a few of these bear inscriptions, their size, style of carving and use has contributed to stylistic definitions of this period. Some of the steles from Sriksetra were found in triads, six at Kyaukka (Settaing) Thein Kyaung south of the railway station. These measured 170-180cm (4-6ft) in height and over 150-180cm (5-6ft) in width. Another large stele, some 245cm (8ft2in) high, 187.5cm (6ft3in) wide, and 37.5cm (1ft3in) thick, was found at the Bebe Zeidi (Taw Sein Ko 1914:120). Most of the steles are carved with images of the Buddha, although some depict Bodhisattvas and a one (circa 1.5m) bears a figure variously identified as a dvarapala and as a *garuda* or *galon* (Aung Thaw 1972: 27, Guy 1999:26).

Another use of massive units of stone at Sriksetra are curved or rectangular thrones and ceremonial stone basins. One arc-shaped throne or image base measures over 60cm in height, and nearly 300cm (10ft) in length. Four basins were found at the 'Beikthano Queen's cemetery' (Peikthano Mibaya Thingyaing), south of Sriksetra. The basins were made of three tall interlocking stone rings 67.5cm (2ft3in) in diameter, one with a total outside height of some 195cm (5ft6in). These were placed at the corners of a 600cm (20ft) bed of brick (Luce 1985: 128-129). A brick platform is seen at Beinnaka, a multi-period Pyu site near Pyinmana, south of Mandalay (Moore 2003), and U Myint Aung reported a brick platform at the burial ground labelled HL8, outside the southern city wall of Halin. Burial pottery was found at this site, as well as charred human bones, and gold ornaments (1970:58). A brick platform was also found between two buildings with stupa-like forms on a square platform (BTO6-7) just north of the citadel-palace at Beikthano (San Shwe 2002:10). This arrangement bears some resemblance to a platform located southeast of the 12th century Khmer temple of Prasat Hin Phimai in Northeast Thailand, which has been linked to pre-Khmer occupation of the site, possibly Dvaravati Buddhist or an earlier culture (Siribhadra and Moore 1992:229).

As the above paragraphs indicate, the use of large pieces of stone and their association with mortuary custom is not restricted to the Pyu. Nonetheless, Sriksetra is the only Pyu site where stone urns have been found. The size of the urns, one some 240cm (8ft) in circumference, suggests inhumation or secondary burial without cremation. However, there are other smaller urns of terracotta or metal, and most of which contained ash and bones. As a group, the Sriksetra urns help to establish a common cultural matrix with other Pyu sites, and within this group the dates on the inscribed Sriksetra stone urns provide a unique set of data with which to establish a chronology.

ROYAL NAMES ON STONE URNS

Although royal names are found on objects such as the terracotta votive tablets mentioned earlier, the Sriksetra urns have been the principal guide to a dynastic line. As might be expected, the names on the urns differ from chronicle accounts, which begin the Sriksetra lineage in 444BC with King Duttabaung in the 101st year after the passing away of the Buddha. This date has been questioned, with archaeological data suggesting that the city was built about the 2nd century BC. However, dates are few, and it is likely that the site was inhabited long before this. Given this rather amorphous timeframe, the dates inscribed on the urns are important markers of points in the chronology of the site. The urn dates, however, do not specify an era. One solution has been to use the 'Burmese' era, starting in 638 AD. Another reading suggests that the Gupta era was employed, the result being a different sequence of names, one placed in the 4th century AD (San Win 2001, cited by Than Tun 1994). A review of this evidence is given here, as the urns give the clearest existing *in situ* confirmation of the sequence of rulers during at least one period of the site's occupation.

Four of the stone urns were unearthed in 1911-12 from a grave some 63m (70yds) south of the stupa but within the precincts of the Payagyi, located outside the northwest sector of the city wall. When two urns were first unearthed, one had previously been rifled. The other contained white pebbles, bone ash, and red earth (Duroiselle 1915:147). The fifth was

found more recently, in 1976 at the Hpaya Htaung. This is a solid square structure some 11.4m (38ft) per side, surmounted by a stupa. It is located inside the city wall, to the north-east of the citadel-palace area (Hla Tun Pru 2003b, San Win 2001).

The Pyu writing on the four initial finds was first deciphered by O. Blagden, and found to give the names of kings of the Vikrama and Varman dynasties (1917). Each urn is inscribed on the upper rim with what was thought to be a name, date and age of death. One, the urn of the relative of Suriyavikrama, also has 8 lines inscribed on the rounded bottom, although Blagden did not publish this inscription. The writing here and on the rims is in Pyu with interlinear Brahmi, stylistically dated to the 7-8th century AD (Luce 1985: 48, 126-7). The names and dates derived from this reading, and the measurements of the stone urns, are given below:

- In 35/AD 673 a relative (?) of Suriyavikrama died
[Urn ht. 71cm (2ft 4 1/2 in), circumference 267.5cm (8ft 11 in)]
- In 50/AD 688 Suriyavikrama himself died, at the age of 64
[Urn ht 95cm (3ft 2in), circumference 210cm (7ft)]
- In 57/AD 695, 2nd month, 24 days, Harivikrama died, aged 41 years, 7 months and 9 days.
[Urn ht 92.5cm (3ft 1in), circumference 182.5cm (6ft 11in)]
- In 80/AD 718, 2nd month, 4th day, Sihavikrama died, aged 44 years, 9 months and 20 days
[Urn with lid ht 62cm (2ft 3/4in), circumference at top 186cm (5ft 2 1/2in); lid ht 212cm (7 3/4in)]

The Hpaya Htaung urn is inscribed with five lines of writing on the outer surface. It is the largest urn, measuring 105cm (3 1/2 ft) high and 260cm (8 2/3ft) in circumference, found close to the Hpaya Htaung Zeidi (HMA31). On the four Payagyi urns, each urn is inscribed with the name of a king and a sequence of numbers read in 1911 as being the date of death followed by the age at death. On the Hpaya Htaung urn, however, there are five lines of writing containing six names, all beginning with the prefix 'Sri' and end with 'Vam'. Although scholars have some differences in how they read the names, all agree that these record a sequence of six royal titles. The first name has been read as 'Devamitra' (Deva Mikra Vam), identified with Vishnu. This is followed by Harivikrama (Hri Vikrama), Sihavikrama (Singha Vikrama), Suriyavikrama (Suuriya Vikrama), Cirihtuuvikrama (Grimhtuu Vikrama), and Adityavikrama ((Aa)ditya Vikrama) or Sri Dhammvikrama.

Taking advantage of the serial order on the Hpaya Htaung urn, it has been suggested that the 1911 reading of the numbers should be changed, to give the age at death followed by the date. In addition, the Burmese era is replaced by the 4th century AD Gupta era, based on palaeographical similarities between the four Payagyi urns, the Hpaya Htaung urn and the 'Buddha's Throne Inscription' described below (San Win 2001). Using this method of conversion, the Payagyi urn inscriptions are translated as:

- On the 9th day of the 7th month in the (Pyu) year 41 (AD 360) King Hri Vikrama died. His age was 57 years, two months and 24 days.

- On the 20th day of the 9th month in the (Pyu) year 44 (AD 363) King Singha Vikrama died. He was 80 years old.
- The beloved wife of King Suuriya Vikrama (the queen) died. She was 35.
- In the (Pyu) year 64 (AD 383) King Suuriya Vikrama died, at age of 50 years and 5 months.

The interpretation of these inscriptions has focused on the dating of this group of rulers and the ritual significance of the suffixes. The 'vikrama' suffix is taken to suggest adherence to Vishnu, a practice going back to the 1st century BC but used most extensively by Guptan kings of the 5-7th century AD (Hla Tun Pru 2003b). Sculpture depicting Vishnu has been found at Srikestra, in Yakhine, in southern Mon regions and to the east in Thailand and Cambodia (Gutman 2002:41). Many of the Vishnu statues are large pieces suggesting elite patronage and a reminder of the association of temporal rule with divine authority (Gutman 1999:36, Guy 1999:18). However, the provenance is not sufficient to reconstruct their original location. For example, Luce notes that a broken stele (ht 1m) depicting a four-armed image of Vishnu standing on an upright Garuda with Lakshmi on his left standing on a lotus was recovered from the garden of the Deputy Commissioner of Prome (Pyay). Two other large sculptures, both broken, of Vishnu were found in the hole of a monitor lizard or iguana near Kalagangon in 1920. One shows Vishnu standing on Garuda (ht 40cm/16in) and the other Vishnu Anantasayin (39x36cm/15 1/2 x 14 1/2in). The lotus stem rising from Vishnu's navel divides unusually into three stems, forming, from left to right, thrones for images of Brahma, Vishnu, and Siva (Luce 1985:148). Another relevant piece of evidence is seen in the use of the conch thought to be the earliest among the Pyu examples of the silver coins (Luce 1985: 62).

'BUDDHA'S THRONE INSCRIPTION'

Another inscription with 'vikrama' and 'varman' is found on the four sides of a headless sandstone image (57cm high), found at Wet-gaung-kan hill at Sriksetra in 1927-28 (Duroiselle 1931). Prince Jayacandravarman, the donor of the statue, refers in the text to his younger brother Harivikrama. The Sanskrit and Pyu inscription mentions the creation of two cities in one day, probably referring to the timing of ceremonies on a similar day of the week or at an auspicious time. In the last verse, it is hoped that friendship between the two cities, based on the common adherence to the Buddhist teachings of their hermit-teacher, will continue to the end of the world.

The Harivikrama in this inscription is taken to be the same ruler as the Harivikrama named on the stone urns described in the previous paragraphs. Since the urns are presumed to be for the rulers of Sriksetra, this second mention of Harivikrama has created a problem in the identification of cities. Sriksetra, the largest of the Pyu walled sites identified to date, is presumed to have been the capital at the end of the 7th century (Wheatley 1983:175). But if Harivikrama was paying tribute to his elder brother at a more powerful site, what were the two rival cities? Luce had no ready solution for this, speculating as to "whether they were big cities like Sriksetra itself or Beikthano *myo* near Taung-dwinyi, or small isolated moated enclosed sites such as are still to be seen outside and inside the walls of Sriksetra, is a mystery." (1960: 312). As the younger, tribute-paying brother, Harivikrama is often thought to have been less powerful, although it has been suggested that he was younger but mightier (Than Tun 1964).

Thus the link of Harivikrama to Sriksetra is generally preserved, with the use of both 'vikrama' and 'varman' suffixes in this inscription frequently cited to support the palaeographic analysis of the stone urn inscriptions. In addition to the Vikrama and Varman rulers suggested by the stone urns, further royal figures are inscribed on other finds from Sriksetra, notably a silver reliquary casket where the 'varman' suffix recurs. The inscription on the upper rim of this casket has been linked to the Theravada texts inscribed on a find of twenty gold plates from the same relic chamber.

Silver Reliquary

An inscribed silver-gilt cylindrical reliquary casket 66cm (26in) high was part of finds in 1926 at the mound of a villager named Khin Ba (Khin Ba Gon) in the village of Kalagangon. Investigation of a number of mounds in this village followed the unearthing of fragments of Hindu sculpture by a villager while digging for bricks in his house compound. One piece was a hand of Vishnu, with later objects excavated at this village including a stele of Vishnu reclining on Ananda, another of Vishnu on his mount Garuda, and a 35cm (14in) high Siva linga.

The results of Duroiselle's excavation at Khin Ba Gon were first published in the 1926-27 report of the Archaeological Survey of India (Duroiselle 1930). The main relic chamber measuring one cubic metre, was found under the remains of a brick stupa. Covering it was a stone slab measuring 190cm (5ft 4in) long by 137.5cm (4ft 7in) wide and 15cm (6in) thick. The slab was carved in relief, depicting a cylindrical stupa topped by a rectangular *harmika*, 5-tiered *chattravali*, and streamers. The sun and moon are seen on the top corners, and niches with images of the five Buddhas of the present era are along the base of the stupa. This has been dated to about the late 5th century (Guy 1999:16). A second, similar slab was found nearby (Luce 1985:136, Pl.27).

The significance of the deposit is shown by the offerings, many gold and silver, found in the relic chamber (Duroiselle 1930, Luce 1985). Among the metal finds were petalled silver lotuses, plates of gold and silver, silver boats, gold and silver butterflies, a tiny silver 'chinlon' ball, 33 small gold and silver bells, and a ball of greyish earth covered with small beads of gold and silver. The four Buddhas of this era are depicted on a hollow cubic silver stupa, found without a top or bottom. There were individual images of the seated Buddha in gold and in silver, two hollow silver stupas some 23cm (9 1/4in) high, and a gold plate with a seated Buddha on a lotus, slightly more than 7.5cm (3in) in diameter. Another seated image of the Buddha is worked in gold 16.25cm (6 1/2in) high, with the 8.12cm (3 1/4in) stand being silver. Fragments of a green glass image of the Buddha were found, the head being some 5cm (2in) high. There were a number of stone beads in the Khin Ba trove, including jadeite elephants and a chalcedony tortoise (Duroiselle 1930:179, Luce 1985:136-39).

Other embossed silver plates, up to 18.65cm (7 1/2in) high, depict guardian figures, one hand on hip, the other holding a large pendant. They are shown singly, with full face and body, legs covered with close-fitting patterned trousers. The thick hair curls form a nimbus-like shape behind the head of one figure. The repoussé images of dvarapala have a similar "robust physique and posture" to a 'warrior-ruler' and attendants depicted on a 1.5m high stele found within the city walls in the 1970's (Guy 1997:90). The standards held by these two guardians bear a *cakra* or wheel, and a *garuda*, the mount of Vishnu. The association of both these symbols with Vishnu is linked to other evidence of Vaishnava affiliations among the first rulers of Sriksetra mentioned earlier.

In the centre of the chamber was the hollow reliquary casket with a flat cover supporting the trunk of a *Bodhi* tree. The branches and leaves of the tree were found on the floor of the relic chamber. On the sides of the casket are images in high relief of the four Buddhas of this *bhadrakalpa* or era, a convention seen in a range of other structures such as the Shwedagon, the Ananda at Bagan, and at Nga-hsu Hpaya, Amarapura. On the silver casket, each image of the Buddha is flanked by smaller figures of disciples (Kassapa, Moggallana, Sariputta, Ananda). The order of the images of the Buddha is unusual: Konagamana, Kakusandha, Kassapa, Gotama (Luce 1985:137). A 'spiky' nimbus surrounds the heads of the images of the Buddha. On both sides of the nimbus are rearing *makara* forming a throne back, similar to that seen on the reverse of a large stele depicting a 'hero-warrior' (Guy 1999:19,1997:88).

The names of the Buddhas are inscribed on the upper rim of the casket and those of the disciples and the donors, Sri Prabhu Varman and Sri Prabhu Devi, on the lower rim. The use of the suffix 'varman' is thought to signify Pallava influence, and was a convention adopted in a number of rulers in Champa, Funan, and Cambodia from the 5-6th century onwards. The upper inscription is in Pali and Sanskrit, and the lower in Pali and Sanskrit. Finot dated these to the late 5th or 6th century AD (Luce 1985: 137). Recent scholarship suggests that two texts describing the wisdom of the Buddha that are missing from the gold manuscript leaves found with the casket, were inscribed in abbreviated form between the names of the Buddhas of this era on the upper rim of the casket (Stargardt 1995b: 207).

Gold leaves

Analysis of text has also been the focus of study on gold plates. Two sets of gold plate manuscripts have been found in the region of Sriksetra, both inscribed with extracts from all three books of the Pali canon. Although long dated to the 7th century AD, more recent work suggests a late 5th century date. While sculpture recovered from Sriksetra indicates a mixture of Theravada, Mahayanist and Hindu images, the gold plate texts are knowledgeable selections from the Theravada canon.

Two gold plates were found at Lebow village, Maunggan, 11.5km (7 miles) south of the walled site at Sriksetra. Each was inscribed with three lines of Pali. The writing on these plates was edited by U Tun Nyein (1898) and later by Finot (1912, 1913). The text was identified as the "Ye Dhamma" and other verses, and dated to the 6th century. A single gold plate was found at the village of Kyundawzu, within the walls of Sriksetra, in 1929. This was inscribed with two lines of Pali, the text from one of the dialogues of the Buddha being the same as one of the eight excerpts found on the twenty gold plates found with the Khin Ba Gon treasure in 1926-7.

The Maunggan and Kyundawzu plates have been used more recently to re-assess the Khin Ba Gon plates (Stargardt 1995b). Also used in this study were two inscribed stones found on a terrace of the Bawbawgyi stupa identified by Finot (1912) as Pali texts from the *Abhidhamma Vibhanga*, dated to the 6th century (Stargardt 1995b: 201). That Buddhist practice seems well established by this time is shown both by the use of texts from the *Abhidhamma*, and also two inscribed stones found at the Shwedaga gates of Srikestra with lines from the protective *Paritta Suttas* such as the *Mingala Sutta*, the *Mora Sutta* and the *Ratana Sutta* (Sao Saimong Mangrai 1976:160).

Twenty numbered gold leaves were recovered from Khin Ba Gon trove, most inscribed with three lines of text in of Pali. The inscribed texts are eight excerpts from all three main canonical texts, including the chain of causation, praises of the Buddha, and qualities of Enlightenment. No *Jataka* stories or commentaries were found. U Lu Pe Win, then Superintendent of the Archaeological Survey of Burma, first published the texts in the Report of the Superintendent of Archaeology for the year 1938-39. The script is similar to those of 5th century AD Pallava Copper Plate Grants, leading to a provisional mid-to-late 5th century date. As explained above, the texts inscribed on the gold plates may link to the inscription on the upper rim of the silver reliquary casket from the same relic chamber (Stargardt 1995b: 204,210). The leaves (16.5x3.1cm each) were contained within two gold covers. The covers and leaves each had two holes, through which a thick gold wire passed to bind up the manuscript. When found, the wire was fastened to the covers with sealing wax and small glass beads (Luce 1985:139).

Sriksetra object inscribed with royal names: summary

As described above, four types of artefacts inscribed with royal names have been found at Sriksetra: a terracotta votive tablet, five stone urns, a large gilded silver reliquary casket, and the "Buddha's Throne Inscription" image. Only the stone urns have calendar dates, and the era used continues to be a subject of debate. All the inscribed objects were found at Sriksetra, but in different locations and contexts. As generally provenanced and paleographically similar references to rulers of Sriksetra, they have been considered as a group. However, the resulting dynastic sequences vary, one focusing on ritual sects of rulers and another on their temporal context.

In one, put forward by Hla Tun Pru, the writing has been used to assign a rough chronology starting with the silver 'varman' casket in the 5-6th century, the votive tablet of the 6-7th century, the 'varman + vikrama' image of the Buddha in the 7th century, and the four 'vikrama' Payagyi urns in the 7-8th centuries AD. This covers roughly two hundred years, and places the Saivite 'varman' sequence first, followed by the Vishnu 'vikrama' group. Two large sculptures from Sriksetra dated stylistically to the 8th century have been cited in support of this general trend: one depicting Vishnu standing on *garuda* (ht c.1m) and another of Vishnu reclining on the serpent Ananta (Hla Tun Pru 2003b, Luce 1985:148, Ray 1932).

In an alternative sequence proposed by San Win (2001), the purpose is not analysis of the suffixes but verifying Harivikrama as founder of Sriksetra and the Vikrama dynasty. With the stone urns dated to the late 4th century AD in this proposal, and the sequence of rulers reordered, the ritual implication somewhat altered. Here, the 4th century Vaishnava 'vikrama' kings on the stone urns could be seen as preceding the 5-6th century Saivite 'varmans' on the reliquary casket, seemingly donors of the gold Pali texts and possibly rulers of the city at this time (Guy 1997:93). In either case, the references to 'varman' are in a Buddhist context, e.g. the silver reliquary casket bears images of the Four Buddhas of this era, and the reference to the twin cities is on the base of an image of the Buddha. The earlier dating of the stone urns, by some three hundred years, is based on the additional evidence provided by the 1993 finding of the Hpaya Htaung urn and the use of the Gupta (+319 years) rather than the Burmese (+638 years) era for the dates on the urns. This gives a far firmer foundation for the founding of Sriksetra by Harivikrama, bringing together all the urns and the 'Buddha's Throne Inscription'.

If this hypothesis is accepted, however, the previous 7th century attribution of the 'Buddha's Throne Inscription' is either pushed back to the 5th century or refers to another Harivikrama, which weakens the argument. However, the 5th century AD date for the Khin Ba Gon set of twenty gold plates also implies a re-dating of sculptural material found in the trove. Much of this, like the 'Buddha's Throne Inscription' image, falls within a body of material variably dated from about the fifth to eighth century. In the absence of many firm dates within this period, the dating of such often must rest on previous scholarship, as illustrated by the following:

"It [the Buddha's Throne' image] bears an undated bilingual inscription in Sanskrit and Pyu which can be linked by the common appearance of the name 'Harivikrama' to an inscribed stone funerary urn, dated AD695. Accepting that this is the same person as that named on the bilingual inscription, then the sculpture can be accepted as late seventh century. This date stands as a solitary landmark in the chronology of Pyu sculpture" (Guy 1997:91).

An earlier date of the 2nd century AD for the Vikrama dynasty, based on the Sakra (Saka) era, was put forward by Htin Aung (1970:9) and re-iterated by Sai Saimong Mangrai (1976:159). In any case, if the use of the Gupta era is accepted for the stone urns much of the chronology of the Pyu must be reconsidered. The re-dating of the stone urns means that the epigraphically supported chronology of Sriksetra is extended from its previous 5-8th century AD to the 4-8th century AD. This predates the earliest known Mon inscription found in the Dvaravati site of Nakhon Pathom in Central Thailand and an unedited inscription dedicated to Sri Paramesvara at Kawgun cave in southern Myanmar (Luce 1974:130-31). It also predates the earliest Sanskrit inscriptions of Yakhine, which date to the 6th to 8th centuries.

Although not raised in the articles cited above, the location of the Hpaya Htaung urn near to the citadel-palace area is in contrast to the four urns found at the Payagyi outside the wall. This lack of distinction between 'inside' and 'outside' is seen again in the abundance of structures outside the southern sector of the Sriksetra wall, a pattern continued at Bagan. It is probable that a certain number of the vaulted structures at Sriksetra are best attributed to a late Pyu or Bagan period (Guy 1999:17). However, the finding of the dated stone urns at stupas both inside and outside the wall suggests that even if this feature was rebuilt over time, that its gates were only closed in times of military offensive or siege, and that like Bagan the political domain of the Pyu reached far beyond the brick walls. The size of these fortifications in this context become more an assertion of power than evidence of a need to retreat behind walls. Like the finding of brick fortress sites demarcating a perimeter around Halin mentioned earlier, a comparable defensive role has been proposed for Thegon (18.32n x 95.58e) to the south of Sriksetra. In this sense, the walled area, large as it was, was within a defensive perimeter of guard-sites indicating the type of dispersed yet obligated population implied by Chinese accounts of the Pyu.

Again, although not raised by San Win, his hypothesis replaces the ascendancy of Siva over Vishnu with a ritual environment where royal Brahmanic attributions and a certain amount of veneration was accorded to Hindu deities within a predominantly Theravada and Mahayana practice. This is echoed in the mixture of deities, including representation of both Siva and Vishnu, and in the chron-

icle account of the founding of Sriksetra summarised below. This syncretic tradition continued at Bagan, well illustrated by the biographical inscriptions of Kyanzitha and the continued presence of Vishnu, but in a subordinate position to the Buddha, in the early 12th century (Ray 1932:21).

Halin dating

Indications of a varied ritual tradition are also present in the finds from Halin, notably with a range of artefacts suggesting animistic practice. For instance, a number of objects diagnostic of bronze-iron sites in the Samon valley south of Mandalay have been recovered at Halin. These include blue glass rings, fragments of a bronze 'mother goddess', bronze *kye doke* and floral 'coffin' ornaments. They have been found within the Pyu period wall, and also have been particularly abundant around villages southeast of the brick perimeter. Other finds include a number of bronze axes and highly polished stone rings typical of Chindwin sites, described above and typed against the Bronze Age site of Nyaunggan, Budalin Township, Sagaing Division (22.24n x 95.04e) (Moore and Pauk Pauk 2001). From the same areas at Halin, Pyu beads, including carnelian 'tiger' beads, painted pottery, and broad petal-shaped iron swords set in finely decorated bronze hilts have also been found (Win Maung 2002, Moore 2003).

The Halin association of bronze weapons with an earlier period and bronze prestige goods with a later phase tallies with an apparent transition from stone to bronze to iron, where materials initially used for weapons subsequently become material for prestige or ritual goods. Thus the traces of terracotta ringstones recovered from Stone Age sites such as Shwezayan, are replaced by stone rings at Bronze Age sites such as Nyaunggan and glass rings at Samon Bronze-iron sites. Likewise while the weapons from Nyaunggan graves are made of bronze, those from the Samon are iron, with bronze prestige goods including *kye doke* (packets), floral ornaments, and 'mother-goddess' figures (Win Maung (Tampawaddy), p.c., 15.04.03).

Inscriptions and sculpture

At present, it is unclear how such a rhythmic transition between weaponry and ritual goods correlates to epigraphic mention of rulers, although presumably the royal figures mentioned in inscriptions exerted a major influence over the ritual life of the city's immediate and peripheral inhabitants. Several Pyu inscriptions from Halin include royal names, although dates are not given. These are found on stone slabs, not urns as at Sriksetra, although there are some links in the use of motifs. For example, at the top of one slab, a sun and crescent moon were carved, similar to motifs seen on the relic chamber slab from Sriksetra. The Pyu inscription, with no interlinear Brahmi, as was often the case, refers to Queen Candradevi. This was found near the large Nagayon tank, southeast of the city wall, near the spot where in 1904, Taw Sein Ko recovered a slab marking the interment of the bones of a King Ruha. Queen Candradevi is possibly mentioned again on another fragment reportedly found within the city walls of Halin and a large stele (ht 210cm/7ft, width 132cm/4ft5in, thickness 21cm/8 1/2in) found in the northeast part of the site names a King Sri Trivigrama (Luce 1985:66, 149).

Another example is seen with two large fragments over a metre high unearthed in 1929 to the southeast of the city wall near the find spot of the inscription mentioning King Ruha (Aung Mye

1972:12). At the top of this slab just below the broken edge, can be seen the feet and right hand of a figure of a Bodhisattva or Mettaya (Maitreya, the future Buddha). Below are three rows of 53 devotees in a posture of veneration, some with head turned upwards, others facing forward. Some figures have long ears, others earrings and many wear necklaces. Some wear peaked caps, others have coiled hair, and a few wear coronets. They are ordered in tiers but the arrangement is not rigid, and those in the front row are seated informally, reminiscent of a group portrait (Luce 1985:150). Although the sculpture is broken, this arrangement of figures, the expressiveness and detail of the carving, the size of the stele, and the posture of the upper image all make it significant. In addition, an eight-line Pyu inscription (without any interlinear Brahmi) was carved on the middle of the stele, underneath the large image. This mentions another royal figure, Sri Jatrajiku, perhaps the name of a queen.

Radiocarbon dates

Radiocarbon dates were obtained from three sites at Halin: (HL9) (HL10) and (HL17). One was from an assembly hall (HL9) measuring 11.4 x 36m (38 x 120ft) near the palace-citadel. The charcoal sample for this date was taken 1.07 metres below ground level, from posts in the hall that had been destroyed by fire. The date (NZ894) obtained was 1370 ± 59 bp, calibrated to 540-780 AD. The second sample was from charcoal as well, taken from a gateway (HL10) in the south wall, 377m from the southeast corner. The date (NZ895) was 1810 ± 60 bp, calibrated to 60-390 AD. The third sample was from another gateway (HL17), also on the southeast part of the wall, close to the southeast corner. Both gates were curved and some 5.1m (17ft) in width. The date (NZ896) from HL17 was 1740 ± 60 bp, calibrated to 120-430 AD. A group of about 40 skeletons was excavated from the southeast gate (HL17) (Myint Aung 1970:57).

A fourth date, possibly from this burial, was from a bone rather than charcoal sample. This was submitted to the laboratory in 1967 but not published by Myint Aung, having been obtained from a collective burial 86cm below ground level. It gave a date (NZ898) of 1440 ± 85 bp, calibrated to 420-870 AD. All dates were recently recalculated by the Rafter Radiocarbon Laboratory, New Zealand (Hudson, forthcoming). These dates range from a possible late 1st century AD to the 9th century, in line with U Myint Aung's previous conclusion that the dates demonstrated occupation at Halin during the 2nd to 9th century AD (1970:62). The earlier centuries in this spread are supplemented by pottery design, building plans and inscriptions. For instance, rouletted wares found at Halin are thought to be similar to those at Arikamedu and dated to the 2nd century AD while the similarity of the plans of structural remains to those at Nagarjunakonda indicates a 3rd to 4th century AD date. Finally, palaeographic dating of writing on potsherds and a stone seal is placed around the 4th to 9th century AD (Myint Aung 1970).

CHRONICLES

The memory of Pyu culture has long been preserved in Myanmar chronicles and epigraphy, and in the case of Beikthano, Halin and Sriksetra that memory adds further support to the epigraphic and artefactual record. The chronicles have been rewritten over the centuries, incorporating many principles and traditions, particularly Buddhist ones, which have affected the choice of material and the form used to record events. As with the Chinese sources, chronicle accounts tend to refer to groups that were important as allies, or presented a threat. This does not discount their archaeologi-

cal value but does mean assessing them in the context of the chronicle tradition and using them in conjunction with other sources. And whatever the outcome of archaeological efforts to verify the chronicles calendrically, they preserved the memory of ancient cultures centuries before archaeology was considered an academic discipline (Aung Thwin 1980:173). Pyu sites are mentioned in many but not all of the standard chronicles that bring together traditions of various dynasties and also in a range of local histories or *thamaing*. These have been summarised by Tet Htoot (1963) and aspects reviewed by Htin Aung (1967, 1970) and Lieberman (1986). Pe Maung Tin and Luce note that while the founding of Sriksetra is detailed that Tagaung is already established in chronicle descriptions (1960:xviii).

Halin, but again neither Srikestra nor Beikthano, is cited in the *Jambudipa Uchon Kyan*. This source dates to at least the mid-17th century and lists the towns bordering Halin. These include Nyaungthamya, tentatively identified as a village on the east bank of the Chindwin. To the north was Mokhsogyon-pho-ma, the male-female 'pho-ma' of the suffix suggesting a plural or pair. As the ancient name of Shwebo, located northwest of Halin, was Mokhsobo, a relationship between the cities may be indicated (Myint Aung 1978, Hla Tun Pru 2003a). In an early Inwa chronicle, the *Zabu Koncha*, the main point of interest is the indication of the Pyu at some twenty different sites spread north and south of the Chindwin-Ayeyarwaddy confluence. It is notable in this account that Halin, the first settlement cited, falls three times. The first fall is to Yakhine, the second to peoples of Lower Myanmar, and the third to the Dawei (Tavoy), also in the south. Tagaung is also settled three times, and Inwa (Ava) is twice mentioned as a Pyu site (Win Maung (Tampawaddy), pers. comm.1998).

Preservation of town names in chronicles sources such as these has guided investigation of sites not previously identified with Pyu remains. The numerous and widespread placenames also are a reminder of the geographical spread of Pyu finds, well beyond the limits of the main sites. For instance, investigation of towns west of Halin led to finds in Ayadaw township, near the Mu River. These ranged from silver coins to a gold cubical 'dice' engraved with a bull, lion, elephant and *garuda* on the four faces. Likewise, examination of the southern areas bordering Halin led to finds of a silver bowl with a Pyu inscription on the rim, and a gold armlet shaped as a dragon, and funerary urns, all from Myinmu Township near the Ayeyarwaddy-Chindwin confluence (Myint Aung 1978).

As mentioned earlier, more intensive archaeological investigation has been carried out at Srikestra, Beikthano and Halin as they are cited in the principal standard chronicles. Monasteries and trustees of many sacred sites and increasingly academics at regional colleges have preserved and often transcribed early manuscripts recording the foundation and history of settlements, many of which date to this period. Of the Pyu sites, the focus in the royal chronicles is Sriksetra. The founding of the city is recorded in a number of accounts, including the *Glass Palace Chronicle (Hman Naw Yazawin)*. This source, compiled for King Bagyidaw from 1829-32, drew mainly on U Kala's 18th century chronicle (Tet Htoot 1963: 53). It was translated in part by Pe Maung Tin and G.H. Luce in 1923, and reprinted in 1960. The *Taungdwingyi Thamaing*, compiled in the 19th century, has one chapter on Beikthano or 'Peikthano', Vishnu. This records the triumph of Sriksetra over Beikthano, a memory preserved in a hillock at Sriksetra whose name translates as the 'Cemetery of the Queen of Beikthano'. This separation in the chronicle tradition is further emphasised in Luce's summary of excavations at Beikthano:

"But apart from elaborate brick buildings with moonstone entrances, urns with ashes, ironwork, and a few coins and beads, there is little to connect the site with Sriksetra: no megaliths, no Vishnu temples or images, no Buddhism, and meagre evidence of Indian culture. At Sriksetra, on the other hand, almost every mound excavated provides evidence of Buddhism or Vaishnavism" (1985:50).

Sriksetra

The chronicles commemorate the early history of the Sriksetra in political and sacred contexts, linking it to the ancient capital of Tagaung. According to the *Glass Palace Chronicle*, the Buddha foretold the founding of Sriksetra during a visit to a mountain top site on the riverbank opposite Sriksetra, Phoe Oo Taung ['mole mountain']. This account involves three revered sites in the area: Sriksetra, Phoe Oo Taung, and just south of this, Shwebonthamuni Zeidi, thus placing the ancient city in a wider geographical domain. The history related that in the time of the Buddha, two moles were living on the 270m (900ft) mountain, moles later reborn as King Duttabaung of Sriksetra and Queen Panthwa of Beikthano. The Buddha, on a trip to the Phoe Oo Taung, prophesied five events that would occur when the new city was founded: the sea-courses would dry up around the foundations of Tharehkittara (Sriksetra), the volcanic cone of Mt.Popa would rise to the southeast of Bagan, the Samon and Samyeit Rivers would arise, a great lake would appear, and there would be a great earthquake (Luce and Pe Maung Tin 1960:7). The landscape is at the heart of this prophecy of the Buddha, a record of manmade and natural change, and a reminder of unanswered questions of territorial control at this time. A second theme recorded by the chronicle is that of the formation of the Sasana, the Buddhist monastic community, at Sriksetra. Given the need for a flourishing Sangha to the build of the city, monastic groups may well have existed earlier at Shwebontha and Phoe Oo Taung, accounting for their preservation in official accounts (Moore 2000).

Also related in the *Glass Palace Chronicle* is the marking out of the circular site of Sriksetra by Sakka (Indra, Thagyamin) in 544BC, the year of the Buddha's bodily demise. Holding the tail of the Naga King, a circular perimeter of 3 *yojana* was marked out, the remains of which measure 8 1/2 miles in circumference. A *yojana* or *yuzana* is a measurement of Indian origin, varying from 4 1/2 to 9 or 12 miles. Even the smaller calculation is larger than the remains, although the Sriksetra walls encompass a larger area than any of the other known Pyu sites. The city had moats, ditches, barbicans, thirty-two main gates and thirty-two smaller ones and four-cornered towers. Many of these necessary elements of the city are in multiples of four, ensuring cosmological correctness for the site. Some of these, such as gates, may have been symbolic, depicted possibly by false doors or niches in the wall. (Wheatley 1983:176). This convention later became incorporated into the seven features necessary to consecrate a site as a new royal city: wall with gates, moat, pagoda library, monastery, ordination hall, and rest places (Moore 1993:335)

The founding of the Sriksetra is also preserved in the biographical inscriptions of the Bagan King Kyanzittha. One of these, written in Old Mon, was installed in 1093AD at the Shwesandaw pagoda in Pyay. One of the small Zeidi at the Shwesandaw is said to have been built by King Duttabaung. Like the founding of Sriksetra, the origin of the Shwesandaw dates to the time of the Gotama Buddha. Its story is similar to that of the Shwedagon, with two merchant brothers travelling to receive the teachings of the Buddha and returning with golden or sacred hairs, the 'shwe-san' in the name

of the pagoda. Unlike the merchants bringing the hairs of the Buddha to the Shwedagon by ox-cart, the Shwesandaw relics were brought by boat, perhaps recalling a former shoreline closer to Pyay than at present.

The 11th century AD inscription records another prophecy given by the Buddha Gotama to Bisnu [Vishnu], Kyanzittha in one of his previous lifetimes. This foretells that Kyanzittha will be reborn as Duttabaung and found Sriksetra, following which he will be reborn as a king of Bagan. Luce's interpretative gloss on the participants present at the founding is given below:

“the hermit Bisnu (Vishnu, of whom Kyanzittha claims to be an avatar) shall join ‘my son Gavampati [‘Lord of cattle’, patron saint of the Mons], Indra [King of the gods], Visvakarma [the celestial architect], and Katakarma [‘Doer of the Deed’], king of the Nagas [representing the ancient Earth-cults]...”

The panoply of auspicious figures present upon the occasion situates the king in relation to a host of different powerful forces. Ray notes that the Naga is also cited in Mon records as having helped to found Sriksetra (1932:17). The significant point here is the legitimising of Kyanzittha's lineage in part through the ancient city of Sriksetra but not including other Pyu cities. As noted above and seen again below, the chronicle traditions surrounding Beikthano and Halin are also each very different. The story of Beikthano is preserved in relation to Sriksetra, linking them both back to Tagaung. This site (23.10n x 96.01e), located north of Halin, is recorded in Chronicles as the most ancient of the cities in Upper Myanmar. As indication of its great antiquity, its founding is placed not in the time of the Buddha Gotama, but that of previous Buddhas, and its rulers established the lineage of the later kings as Sakiyans of the Sun dynasty (Luce and Pe Maung Tin 1960:1,6). Its Buddhist and dynastic origins are thus established, a legacy carried forward primarily by Srikestra. However, as seen in the history of Beikthano below, this third city was also played a role in both religious and political arenas.

Beikthano

The *Taungdwingyi Thamaing* does not recount the founding of Beikthano, but rather its subjugation by Sriksetra. The episode centres on King Duttabaung and Princess Panthwa, descendants of Mahathambawa and Sulathambawa from an earlier ruler of Tagaung. The *Glass Palace Chronicle* also traces Queen Panthwa's lineage to Tagaung. Here, her father, heir to the kingdom of Tagaung in the fortieth year after the Buddha's *Parinirvana* killed a great boar threatening the kingdom. The heir became a hermit near to the later site of Srikestra, at Yatheit-myo or ‘hermit city’, a name often given to Sriksetra. A young doe living here gave birth to a daughter named Bedayi, after happening to lick up the hermit's urine left in a cup in the rocks (Luce and Pe Maung Tin 1960:8,13).

At around this time, two blind princes were born to the chief Queen of Tagaung. The two sons were fathered by the queen's lover, a Naga prince (Khin Myo Chit 1985:57). They were banished from Tagaung to float down the Ayeyarwaddy and eventually regain their sight with the help of an ogress, Candamukhi. The brothers meet Bedayi and her father on their journey, bringing the two stories together. The elder brother marries Bedayi, and then dies, although Bedayi bears his child. She is given to the younger prince, and bears a son, Duttabaung. In the *Taungdwingyi Thamaing*.

the ogress gives birth to a girl, taking her to live on the sacred Mt. Popa near Bagan where a hermit cares her. In the *Glass Palace Chronicle*, the ogress builds a village around Mt. Popa and lives there her son Peitthano, who had been fathered by one of the princes (Luce and Pe Maung Tin 1960:14). Indra (Thagyarmin or Sakka) learns that the girl had been the sister of Vishnu in a previous life, and requests that Vishnu build her a city. This city is then called Panthwa ('request') or Vishnu (Chen Yi-Sein 1999:76). King Duttabaung hears of the Beikthano's wealth but fails to take the city due to Princess Panthwa's magic drum that she had received from Sakka. When beaten, the drum made the waters of the Yan Pe stream to the south of Beikthano rise, drowning any invading troops.

King Duttabaung, ruling at Sriksetra, had a third, divine eye and is identified by some with the Hindu deity Siva. Beikthano, on the other hand, takes its name from Vishnu. Thus, the chronicle account is often taken to record the ascendancy of a Saivite kingdom over adherence to Vishnu (Wheatley 1983:180). Chen Yi-Sein instead gives an Indian derivation for Panthwa, as the name of a Dravidian tribe settled in Mon areas around the Gulf of Martaban. This group was later one of the pioneers in a 'Monized' occupation of Beikthano, which also led to the city being called Ramannapura, linked to Mon areas of southern Myanmar (1999:77).

The above paragraphs present several accounts relating to the founding of Beikthano. It is not necessary to resolve a single 'true' version from the sometimes conflicting stories, as the significant point is the multiplicity of accounts and their preservation the memory of ancient capitals as part of a much later historical tradition. The Tagaung dynasty is explicitly incorporated into the story of Duttabaung's mother and father; the lineage of the Queen of Beikthano is less consistent, but always intertwined with that of the Srikestra rulers. In all of these, links are made between territorial control, royal patronage of Hindu or Buddhist sects and supernatural events. The stories of Tagaung, Srikestra and Beikthano are intimately related, with Srikestra eventually dominating but not necessarily bringing an end to Beikthano.

Conclusions about the relationship of these sites grounded in the sources such as Chinese records, inscriptions and excavated objects are equally mixed, although in several instances Beikthano's material culture is similarly distinguished from that of Srikestra, and considered closer to that of Halin. This was mentioned earlier in citing a hypothesis that the inhabitants of Beikthano may have been a different Tibeto-Burman group than the Pyu of Srikestra (Than Tun 1965). Analysis of a funerary structure (HL20) excavated at Halin in 1995, while noting similarities to both Beikthano and Srikestra in burial custom and funerary urn shape, suggests a closer cultural affinity between Beikthano and Halin (Hla Tun Pru 2002). In giving names to the generalised references in Chinese records, Halin is often identified as a garrison town, with Sriksetra the capital of the Pyu kingdom. Although this in theory should signal communication and interchange between the two cities and similarities in material culture, such parallels have not been drawn. The brief chronicle history of Halin cited below credits its founding to an Indian prince and its demise to a fire breaking out during rebellion and royal conflicts, none of it relating to other known Pyu sites.

Halin

There is one reference to Halin in the *Glass Palace Chronicle*, but in the time of King Naratheinhka in the late 12th century AD. This mentions a messenger of the king crossing the Chindwin, and then

making "straight for Hanlin", although a description of Halin is not given (Luce and Pe Maung Tin 1960:136). The founding of Halin is recorded in the Halin Chronicle in verse compiled by Aung Hpyo (Sithu Kyaw Htin) in the late 18th century. It records the founding of the city by King Karabaw well before the time of the Buddha Gotama. Karabaw attempted to dam the Ayeyarwaddy to the east of Halin. This failed, and he constructed the Nagayon tank to the southeast of the city wall. His reign was followed by 799 kings, ending with the reign of the brothers Pyu Min and Pyone Min. Although on harmonious terms at first, they eventually quarrelled and Pyu Min took the life of his brother. The populace rebelled and killed the king. A fire broke out, burning down the city, and ending the city of Halin (Myint Aung 1970:56).

CONCLUSION

The conflagration at Halin has been cited repeatedly to explain the charred wooden pillars that provided material for radiocarbon dating. As described, this apparent resolution of the site's history, and the situating of it within a primarily Pyu context is belied by evidence of successive occupation: Bronze Age *kye doke*, Pyu brick walls and royal inscriptions, the equerry of a Bagan king, and Konbaung monastic and royal donations. Recalling the absence of Halin in the Tagaung-Srikestra-Bagan chronicle sequence, these successive occupations demonstrate the site's significance in a proliferation of contexts yet to be fully reconstructed. "The world we know is not this ultimately simple configuration where events are reduced to accentuate their essential traits, their final meaning or their initial and final value. On the contrary, it is a profusion of entangled events." (Foucault 1977) These events include settlement and ritual use of land as well as agricultural areas and specialised manufacturing zones inside and outside the city walls.

Little is known about the institutions which regulated Pyu society or the agricultural and political domain outside the walled area. Facets of the material culture have been recorded and re-iterated, creating a sense of temporal and geographical positioning at the expense of an awareness of the "multiple transformations and relationships between different aspects of material culture and between material culture and society... Such an analysis is undeniably difficult, but it does at least have the merit of trying to capture the sheer complexity of what we are trying to understand." (Tilley 2000:421) In this context, therefore, Pyu material culture neither simply mirrors that society nor serves as a window through which we can scrutinize it.

Comparison of the remains of walls at the Pyu centres of Beikthano (Vishnu), Sriksetra and Halin show a similar approach to territorial demarcation. The massive walls and gates, and offer a visible indicator of a centrally organized social hierarchy capable of mustering labour to construct and maintain fortifications. Given the number of buildings associated with urn burials and their probable association with a growing monastic community, the nature and relationship of an early *Sangha* and Pyu kingship is a theme perhaps offers a paradigm within which these sites may be understood. While they are often discussed as a sequence of capitals of a single kingdom, there is little to support this scenario. As suggested above in discussing the epigraphic and chronicle records of the Pyu, the differences in many ways outweigh the similarities between Sriksetra, Beikthano and Halin. Each seems to have followed its own development trajectory, with Sriksetra and Halin most likely profiting from respective control of seaward and overland trade.

In addition, the material culture of Pyu sites is distinct from that of Dvaravati sites in Central and Northeast Thailand. While the two areas were clearly in communication and share a number of traits from walled enclosure, stylistic features of images of the Buddha, silver coins and beads, the building forms and mortuary practice of the Pyu is not seen at Dvaravati sites. These contrasts are further highlighted in the context of the growing body of data on occupation of 'Pyu' areas by other cultures, either contemporaneously or prior to the building of the brick walls by which Pyu cities are most commonly identified. This premise of 'same but different' underlies the discussion above of Chinese sources, relative and absolute dating and chronicle accounts. As documentation on the Pyu increases, the conflation of a politically and linguistically distinct domain with a start and finish, can hopefully be replaced with use 'Pyu' in a cultural sense, similar to that which has evolved in regards to the preference of Dvaravati over 'Mon' for the art of first millennium AD central and Northeast Thailand (Woodward 2003:54).

While much of the discussion above is within a framework of the Pyu period, reference has also been made to the growing body of new information on pre-Bagan habitation of Upper Myanmar. Prior to the 1998 excavation of the Bronze Age cemetery near Nyaunggan, Budalin township, comparative study of Pyu artefacts looked outside the country for contemporary material from South Asia and areas to the east linked to the 'Dvaravati' cultures of present day Thailand. Analysis of the Pyu period remained within the paradigm defined by Myanmar chronicles and later scholarship that approached the early history within an ethno-linguistic framework prioritising textual sources. While attention was given to population groups other than the Pyu (e.g. Luce 1985), defining their presence archaeologically was not feasible, leaving the Pyu in isolation as the sole or dominant root with which to define the emergence of Bagan. The information now available is different, offering an opportunity for new interpretations and for defining new contexts. At the same time, "If meanings are contextual, how do we know what the relevant context in the past was?" (Hodder 2000:90). The answer of course is that we cannot fully reconstruct past attitudes, we can only construct a present meaning from the accumulated body of data. The point here is that there is new data, and that the context is shifting. All these aspects illustrate the increasing need to re-contextualise Pyu centres. The existing framework has to be flexible enough to embrace the range of materials described in the preceding paragraphs. It further highlights the need to be aware of the types of evidence previously used (and not used) to define 'Pyu' culture.

Despite the implications of stability and structure implied by a Pyu 'city' or 'kingdom', it is probable that relations were persistently fluid, "not state as institution, but as 'part of a discourse of contested political claims, as an aspect of social relations, rather than as a structure in and of itself'..." (Day 1996:386). As mentioned, existing chronologies present a sequence of capitals for a Pyu kingdom. As yet, there is no sense of how and when different elements, particularly royal and monastic ones, were introduced into the society. The population densities were centres of authority, protection, teaching and sustenance but the degree of competition and movement of individuals between nodes is not yet clear. Bonds to place, of birth and livelihood, balanced the sense of boundary implied by brick walls, with steady mobility between the two contexts. In a prehistoric paradigm, this means considering the movement of peoples between villages and the flow of traders and religious figures across the landscape. In this way we do not lose a spatial referencing that accommodates cities, their rulers, priests and monks, and the makers of finger-marked bricks.

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the Mon-Pyu dichotomy

The Early Buddhist Archaeology of Myanmar: Tagaung, Thagara, and the Mon-Pyu dichotomy

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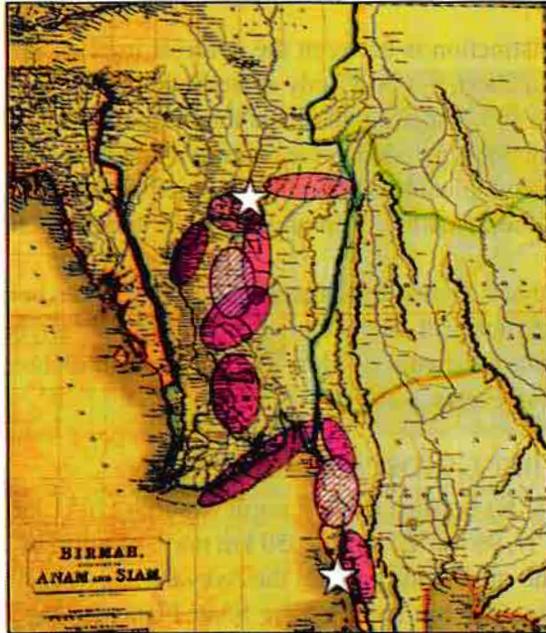


Figure 1: Map showing areas of distinct local cultures in the first millennium AD. Tagaung and Thagara are starred in areas at the far north and peninsular south (After Moore 2007, p.8)

LOCAL GEOGRAPHIES: NORTH, SOUTH AND PENINSULAR ²

The commonly cited 19th century AD *Glass Palace Chronicle* is primarily a narrative of Anya or Upper (*Ah-htet*) Myanmar Buddhist places. These start with Tagaung and then Sriksetra (Thareh-kittara), leading to the rise of a complex state at Bagan (Arimaddana). This does not mean that every element of the landscape bespoke canonical Buddhism. Quite the contrary, for then as now, an eclectic range of structures and objects that we today label Buddhist and Animist, shaped and articulated man's relationship to the lived in world. Lower Myanmar is absent from the chronicles' 'upper-centric' royal legitimating narrative. However, without the ballast of the south (*Auk-Myanmar*) and the Tanintharyi peninsula, Upper Myanmar sites such as Tagaung would have been far more vulnerable to political competition between Yunnan, Tibet and Beijing. For example, expansion of the Han dynasty (200 BC – 200 AD) included incursions against the 'southern barbarians', with mention a Tibeto-Burman speaking people called the Pyu (P'iao or Tircul) living beyond the frontier.³

From the southern provinces, links to the maritime trade routes brought other competition and powerful new state-forming ideas. First millennium AD Buddhist sites such Thagara at Dawei, like Tagaung, however, have no Pyu inscriptions. Nonetheless each has unique artefacts that highlight active trading profiles. The fruits of maritime contributions not only distinguish the southern coast and peninsula from the Upper Myanmar polities, they were a necessary part of the formation of the whole. Although a north centre-south periphery operation of power generally characterises the early historic periods of Myanmar, the south provided an essential ecological and territorial complement to the land wealth at the heart of the *Ah-htet* lineage of place in royal chronicles.

The central point of this distinction is between the controls implicit in 'centre' versus the mutual participation of dialogue. In short, a 'north' only exists if there is a 'south'. The similarity and differences, between Tagaung and Thagara underlines the inseparability of material culture from the local ecology. As only Tagaung is included in the country's traditional lineage of state, their artefact parallels also highlight the convoluted power relations implied the selections of sites (and gaps) in the chronicle renditions of the transition from prehistoric to historic periods.

A brief summary of the author's view of landscape alteration is given below to support not only my comment above on the inclusion and absence of sites with similar artefacts, but also my appeal in the end of this paper to replace the current Mon-Pyu north-south dichotomy with a more complex lineage of place illustrated in Figure 1 above.

ECOLOGY AND BUDDHIST LANDSCAPE ALTERATION

Myanmar (28° 31' to 9° 58' N) is twice as long north to south (2051 km) as it is east to west (936 km), with Tagaung (23°05'N, 96°01' E) *circa* 1050 km north of north of Thagara (14°04' N, 98°11' E). From north to south, the mountains parallel the Ayeyarwaddy (1130 km), Chindwin (644 km) and the Thanlwin (Salween, 241 km south of the Shan Plateau). The Thanlwin continues south along the peninsula, matched on the west by the Sittaung (322 km).

As with the rest of mainland Southeast Asia, seasonal wind changes bring dry and cool weather to Myanmar from the northeast in October to April, but from May to September, southwest winds carry eighty percent of the annual precipitation. Within Upper Myanmar, the most dominant ecological factor is aridity. This increases as one moves north, so that for the sites of Thagara Sriksetra, Beikthano and Halin at approximately 16°, 18°, 20° and 22° N respectively, there is on average 5000mm, 1250 mm, 870 mm and 750 mm rainfall per annum.

By *circa* 10,000-2000 bp many of the major river valleys of Myanmar appear to have been settled and by the undated Neolithic (*circa* 3500 BC?), sites have been documented adjacent to streams (*chaung*), seasonal lakes (*in-gyi*) and ponds (*in-aing*). With the appearance of bronze in the valleys of the Chindwin (*circa* 1500-700BC) and bronze-iron in the Samon (*circa* 700BC- 400AD), settlements continue to be located near water sources such as these and varied ore deposits. From the Neolithic to Bronze-iron eras, settlements adapted to the local ecology but there is no major terrain modification. This changed, however, with the advent of a Buddhist elite, integrated into or imposed upon earlier kinship groups. These new communities triggered landscape alteration seen

in the construction of walled sites, increased resource exploitation and production specialisation, and widening trade networks. Thus while spaces continued to structure societies, the imprint of man on the landscape provides a significant record of the ritual, social and political transition from circa 200 BC - 900 AD.

Tagaung



Figure 2 a,b,c left to right: Sketch map showing wall area of Tagaung, anthropomorphic stamp on Pot 11 (courtesy Win Maung (Tempawaddy)), Burial at site TG31 (courtesy Chit San Win)

Setting

Tagaung is a triple-walled site on the east bank of the Ayeyarwaddy that chronicles place seven hundred years before the birth of the Buddha Gotama (circa 1300 BC). Evidence of probable Neolithic and Bronze Age habitation has been documented from surface finds including a range of stone tools and socketed bronze implements up to 18 cm in length from the village of Kyan Hnyat, 30 km south of Tagaung.⁴ The Second Tagaung Dynasty is placed in to the early Han period of expansion noted earlier with social memory of the likely instability of these times perhaps retained in the story of Maung Pauk Kyaing (Thado Naganaing), a commoner who becomes king after killing a serpent (*naga*).⁵ As described below, both chronicle eras are compatible with artefacts from the site.

To the north and northwest of Tagaung is copper, gold-rich river sand and iron along the Meza and jade mines along the Uru.⁶ Along the Ayeyarwaddy, gold-washing was common in recent years, with silver mines were to the east at Bawdwin and Yadanatheingyi at Namtu around Mogok, and copper and more gold found along the edge of the Shan Plateau.⁷ These resources bolstered the trading advantages of the walled site's riverside location. East of the walled area, varied eco-zones support crops ranging from edible oils to rice and coriander (See sketch map of Tagaung, Figure 2a above). Winter rice or *mayin* is grown on the edges of shallow pools on the shelf between the

Ayeyarwaddy and *Indaing* forest on Thaung Hwet Taung, a range southeast of Tagaung. Pheasants, partridge, toucans, pelicans, Saurus cranes and fish live around and in seasonal lakes or *in-gyi* and tall swamp grass areas. Tigers, elephants, banteng (*Saing*), gaur and deer were once common, with wild elephants from the upland areas around Mogok held at Hsin Hnyat, 3.5km south of Tagaung, and timber at Kyan Hnyat, 30 km south of the walled zone.⁸

Areas east of the walled area of Tagaung and sites to the south along the Ayeyarwaddy thus offered ports, upland resources and a strategic site in relation to Yunnan. This last aspect prompted the construction of a number of Bagan period structures, with excavations up to 1997 yielding only Bagan period evidence.⁹ However, in 1997-2006, a number of pre-Bagan objects were unearthed at Tagaung and Hsin Hnyat, including votive tablets, stamped pottery, roof tiles and end-pieces.¹⁰ In addition to the urn noted above within Wall 1, another from TG 24 within Wall 2 contained stone and terracotta beads, iron rings and spearheads.¹¹ Also within Wall 2 was a rescue operation at site TG 31 that brought to light urns, stamped pottery, finger-marked bricks and a range of other objects.¹² The TG31 pottery, with twenty-five of the 80+ pots from the site having distinct stamped motifs, is of particular note as the shape and the decoration is different from pots from Pyu sites such as Beikthano, and Sriksetra.

The Tagaung pots are round bottom bowls, urns and water vessels. Many of the urns are eggshaped vessels without stamps but Vessel 11, which contained the bones of an entire human skeleton, is baluster-shaped with 3 rows of 66 anthropomorphic stamped motifs on the shoulder (See Figure 2b and 2c above).¹³ Ranging from 10 to 40 cm in height, the Tagaung urns are similar in size to Pyu vessels, and likewise appear grouped, possibly by lineage.¹⁴ Apart from size and clusters, however, Tagaung pottery is very different from Sriksetra, Beikthano and Halin examples. Nor do Tagaung pots fit within a Pyu urn typology of bowls, globular, betel box and pots with high narrow necks.¹⁵ A few Beikthano and Sriksetra urns are footed but most have rounded or flat bottoms. In contrast, there is a short flared foot on a minor but consistent percentage of Tagaung pottery. In addition, most urns from Srisektra and Beikthano are fluted with flat lids and a central stem, while the Tagaung lids are rounded with knob-like stems.¹⁶ Although Sriksetra, Halin, Beikthano and Maing-maw urns may have horizontal lines of geometric patterns or bosses, only a few are stamped with a single row of motifs such as *Kalasa*, *Srivatsa* and *Bhaddapitha*.¹⁷ Tagaung vessels have one to three rows of round stamped motifs, 0.6 to 0.75 cm across, on the widest part of the vessel shoulder such as a bull, stamped 20 times on Vessel 1 from Hsin Hnyat. Motifs are encircled by radiating lines, not the single lines of Pyu vessels, creating a sun-like burst akin to vessels ranging from Hastinapura's early centuries AD chronology to much later pottery from Bagan.¹⁸ In short, the Tagaung motifs are not like Beikthano and Halin, with only a few similarities in some of the floral designs. Although inhumation burials have been found with urns at Halin and Beikthano, none have yet been recorded at Tagaung. Sriksetra, Beikthano and Halin urns have ash, bones, silver coins, a few gold pieces and beads. In contrast, Tagaung urns include grave goods of iron, silver, gold, bronze, copper, shell, bone, terracotta, semi-precious stone and glass. Some of these, such as bracelets, rings, lids, swords, brackets and rivets are rare or not seen in Pyu urns.¹⁹ In addition to the unique Tagaung urns, crescent and round roof tile end-pieces from Hsin Hnyat (SNK1) are distinctive (See Figures 3a and 3b below).²⁰ Similar roof tiles and end pieces dated to the 1st to the 3rd century A.D. have been recorded at Trakieu and Go Cam in central Vietnam and likened to early first millennium AD

Chinese styles of the Tsin and Han. Some Go Cam round end-pieces bear faces, dated to the 3rd century AD in relation to raids against 'southern barbarians', an outgrowth of persistent flux between Chinese and local rule in central Vietnam after the fall of the Tsin in 206 BC.²¹

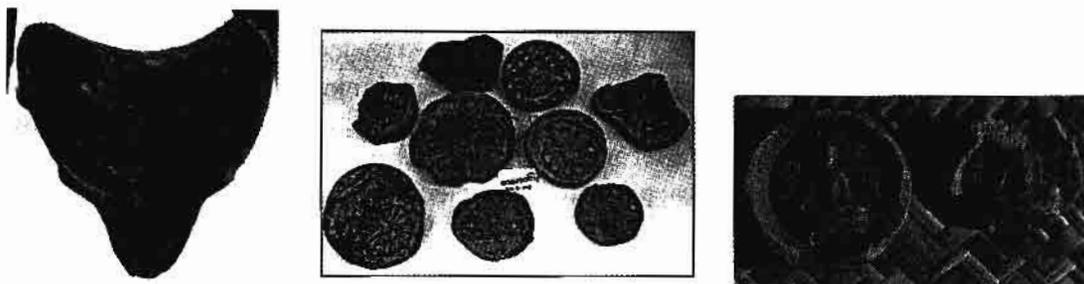


Figure 3 a, b, c (left to right): Tagaung Crescent and round roof-tile eaves (courtesy Chit San Win); Tagaung votive tablets

A final Tagaung find no known parallels at Pyu sites is a horde of fifty small (4-6 cm in diameter) round votive tablets recovered in 2003 (Type 2 tablet shown in Figure 3c above). The tablets were found under a deposit of Bagan period tablets 1.5 meters below ground level. All bear a single figure of the Buddha in *Bhumisparsa* mudra, and have been classified according to the surrounding motifs.²² One tablet of Type 2 was recorded in earlier excavations and dated to the late Bagan period. With the larger sample, scholars continue to debate their dating.²³ In fact, there is not a great stylistic distinction between the debated 'early Bagan' versus 'late Pyu' labeling for the votive tablets. With style put in to rigid Pyu, Mon, and Bagan ethno-linguistic and political categories, however, the individuality of different sites is often lost. This issue is raised again in the following description of Thagara located more than a thousand kilometers south of Tagaung.

THAGARA

Despite legends of a visit by the Buddha to 432 BC, Dawei chronicles put the founding of Thagara a thousand years later, in the middle of the eighth century AD (116 ME). Dawei chronicles include the sage Gawinanda, a tale of a prince Maung Nwa (Mr. Bull) who becomes a *Yatheit*. He eventually fathers two children, born of a Ngakoma fish *nat*. The children, Shin Zaw and Shin Zan, enshrine Sacred Hairs (*Hsandaw*) at Thagara and Shin Dhat-weh, and Shin Zan is crowned king of Thagara.²⁴ The Gawinanda legend clearly draws on a variety of sources, but as with the *naga* tale cited earlier for Tagung, may carry memory of the transition from ancestral to Buddhist culture during the first millennium AD.



Figure 4 a, b, c (left to right): Thagara walled site (Google Earth); Thagara, Sarnath (5th CE) and Dvaravati (6-8th CE) faces of images of the Buddha

Setting

Thagara is an oval-shaped walled site located 11.6 km north of Dawei, at the same latitude as Bangkok. The site had river access on the east via a stream, the Padat Chaung, on the south of the walled site and sea access via a mountain pass to Nabulei Chaung, some 20km west.²⁵ There are up to four walls at Thagara: two outer rounded ones (1600 x 1100m) enclosing the mound and two inner quadrangular walls (745x640m).²⁶ There has been only one preliminary survey and excavation of the site by the Department of Archaeology in 2001.²⁷ The Kayat Pyin cultivation area on the east of Thagara has yielded a number of artefacts, including beads, glazed pots and bronzes. The southeast wall has a short snout-like extension, capped with a 150m long angular earth and brick construction (See Figure 4a above). Water ponding in the dry season indicates that this was once the course of the Padat Chaung providing portage to the Dawei River.

Artefacts

The beads, pottery and sculpture of Thagara illustrate the site's local production and trade networks. Beads include finished and unfinished pieces, round and oval spheres, tubes, biconical shapes and flat ovals *circa* 2mm to 2.3 cm. They are made of green and blue glass, carnelian, and other semi-precious stones. The tubular beads are opaque with a dull surface, deep red or terracotta, yellow brown, milk white, cream, sky blue and dark blue in colour.²⁸

In rice fields southeast of the walled site is the Myo Ko Kon cemetery where numerous terracotta urns have been unearthed at about 8-10 cm below surface level.²⁹ The pots are (15-50 cm in diameter and 11 cm in height), with the elongated neck *circa* 4 cm, marked with horizontal bands. Some of the urns are incised on the shoulder with twelve down-turned fig-leaf motifs similar to pots found at Twante (Khabin).³⁰ The rounded bottom, long neck and vertical designs resemble sun-dried and low-fired pots made today in the Ohlo-byin quarter of Dawei used in the April water festival. The pots, found in groups of three within a bed of black soil or ash, contain small beads, ash and bones. Unlike Pyu urns from Upper Myanmar sites with many beads and silver coins, the Thagara urns have only one to five small blue, deep violet or red glass beads, 1mm thick and 2mm in diameter.³¹

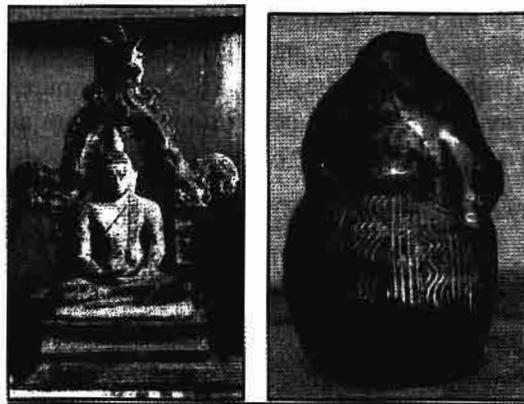


Figure 5 a, b (left to right): Sri Lanka Polonnaruwa style image of the Buddha (Aung NweCollection) and Pot with mammal (Than Swe (Dawei) Collection)

While the terracotta urns described above point to local production, glazed pots underline the peninsula's long trading history with Thailand, including a line of six Tak princes who ruled Dawei during the 10th century AD. One glazed vessel, possibly linked to Tak production of a somewhat later period, is a globular flat-bottomed vessel made of red clay, with a pale greenish yellow glaze (18 cm height, 8.5 cm diameter). The vessel is ovoid with the body of a small mammal draped over the top (See Figure 5b above).³² The bronzes from Kayat Pyin are mostly sculptures and at least one, an image of the Buddha (13 cm) seated in *pralambanâsana* is a local production. The image is may have a high percentage of lead, or copper, with its style similar although somewhat cruder than sixth to ninth-century Dvaravati pieces.³³ Another image from Kayat Pyin shows links to 10th to 13th century images from Sri Lanka and in the style of the throne, possibly Java (See Figure 5a above).³⁴

Another 'Pyu' trait at Dawei are the stupa and Makara votive tablets found at walled site of Mokti. Similar tablets have been recorded at Sriksetra and in Rakhine.³⁵ Two larger tablets (12.5- 14 x 10 cm) also from Mokti show a central image of the Buddha seated on a double lotus throne. The right hand is in *Bhumisparsa* mudra with a small bowl held in the left hand. Four bulbous stupas flank the image, two on either side. The head is framed by a narrow arch seen in a few tablets from Sriksetra.³⁶ The stupa tablets may have reached Dawei overland, for similar tablets are found at Yarang in Pattani province. At Yarang, they were linked to finds of a number of *stupikas* with one tablet inscribed in Sanskrit in Pallava script and dated to the 7th century.³⁷ Given the varied locations where the tablets are documented, they may have moved in both east and west across the peninsula and from south to north along the peninsula.

CONCLUSION : CEREMONY, STATE AND PLACE

Although future evidence may alter this hypothesis, the closest stylistic links to the Tagaung roof tile end-pieces are in China and central Vietnam. As illustrated Tagaung's small round votive tablets, these ties shift to South Asia with the advent of Buddhist rule. Links to 6th to 9th century AD Dvaravati cultures of Central Thailand, 10th to 13th century AD Polonnaruva in Sri Lanka and maritime polities in Sumatra and Java, are highlighted by the Thagara local and imported images of the Buddha, beads, urns and pots described above. Given the complexity and political oscillation implied by these varied styles, framing Tagaung and Thagara within categories of Pyu or Mon alone is at odds with the evidence. The contrasts and commonalities are too many for a simple separation.³⁸

In privileging one ethno-linguistic group such as Mon or Pyu in the formation of state, the deep-rooted changes needed to forge the first Buddhist geography of the country have been greatly neglected and overshadowed. As we are at the outset of documenting when and what happened, the depth of conceptual change in the spiritual beliefs of the populace remains conjectural. However, what is now clear is the centrality of a specific location within the cultural domain of a society.

This paper suggests that the role of 'place' and the implied land control offers a new approach for understanding the ancestral to Buddhist transition.³⁹ The relationship of Pyu and Mon is commonly interpreted geographically as most Pyu inscriptions are found in Upper Myanmar and Mon inscriptions in Lower Myanmar. The Mon-Pyu dichotomy, however, confines ancient territorial control within a modern, ethnic-bound concept of nation.⁴⁰ The Pyu came to be seen not only the founders

of the first city but the first nation. In Myanmar, dynastic lines are not ones of family but of city and place, with separate ceremonies for taking possession of the royal city and the palace.⁴¹ The importance of these did not derive simply from their antiquity. Instead, like the site where successive Buddhas attained Enlightenment (*Bodhimanda*) the place is of permanent significance as a 'victory ground.'⁴² As new Buddhist communities merged with or replaced prehistoric kinship allegiances, the varied human demography, while providing one catalyst for change, nonetheless remained immovably embedded in specific locations from Tagaung to Thagara.

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NOTE

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- 2 The upper, lower and peninsula regions are defined here as: (1) areas north of about 18° N near Pyay (Prome) in the present administrative areas of Magway, Mandalay, Sagaing Divisions and the western edge of the Shan State plateau; (2) those from *circa* 16-18° N bordering the Gulf of Muttama (Martaban) in the present day administrative areas of Ayeyarwaddy and Bago Divisions and the Mon and Karen States; (3) the southern peninsula of Tanintharyi (Tennaserim Division) from *circa* 10-15° N bordering the Andaman Sea on the west and the Thailand border on the east.
- 3 The meaning given to 'P'iao' varied from 'rebel' in early Tsin Dynasty texts to 'cavalry' in later T'ang accounts (Aung Thwin 2005, p. 14)
- 4 Collection U Tin Win Oo, Kyan Hynat, Chit San Win 2005, Moore 2007, Figure p.127
- 5 A currently venerated and repaired shrine within the original habitation area enclosed by Wall 1 (19 hectares) perpetuates this tale. In the Tagaung version of this common scenario of the union of a local chthonic spirit with an outsider, the hero is local and the chthonic spirit is from the teak and ruby mine area of Mogok to the east of Tagaung. In 1997, an urn with bones and ash was found in front of the *Naga* shrine. The round-bottom pot (22 cm high, 17.5 cm wide) contained a bronze ring (2.4 cm diameter), 5 bronze bells (1 cm diameter) and 8 terracotta spindle whorls (2.5 cm diameter). There were also numerous beads, 4 tooth-shaped iron pieces and an iron ring (1.7 cm diameter). Other urns with similar contents have been documented since 1997 at Hsin Hnyat and at TG31 within Wall 2 (62 hectares, called Anya Bagan). The outer enclosing Wall 3 (204 hectares) is south of Wall 1. In the author's view, the *naga* tale may reflect Tagaung domination of Mogok area (or the reverse), with Mogok being a significant source of not only gems, but timber, elephants and routes to China. For details on the *naga* shrine, the urns and chronicle history see Brown 1926, p.111-112; Chit San Win 2005: Win Maung (Tampawaddy) map, 47, Pot no 3; Maung Tin and Luce 1921, p. 32; Htin Aung 1959, p.87-92, Pe Maung Tin and Luce 1960, p. 6.
- 6 Hudson 2004: 57, Figure 5
- 7 San Win 1997, Win Maung (Tampawaddy), pers.comm. August 2006
- 8 San Win, pers.comm. August 2006, George 1981, p.13-14, 51
- 9 Department of Archaeology excavations in 1967-1968, 1992-1993 and 1997-1999 of mounds

named TG1-21 all contained brick structures and artifacts dated to the Bagan era seemingly invalidating chronicle histories (Moore and Nyunt Han 2007). The few dateable Tagaung pieces like images of the Buddha and votive tablets were consequently used in a circular argument to attribute other surface finds to the Bagan period. Than Tun notes for instance that as excavations at Tagaung yielded evidence mostly of the 12th century AD, that all pottery found at Tagaung dates to the same period (Than Tun 2003, p.10).

- 10 The Hsin Nynat work focused on uncovering a brick platform (SNK1), a building (SNK3) and a linear feature (SNK2) (Chit San Win 2004, Pandita Nanda (Tagaung) et al. 2006).
- 11 Moore and Nyunt Han 2007
- 12 The excavations, to 1.8 meters, would thus have been circa 2.5 to 3 meters below virgin ground level. These defined four levels, the lowest underlain by a brick 'floor' with finger-marked bricks (Author's discussion with villagers 08.06, Chit San Win 2005, pp.71, 98-102; Moore 2007).
- 13 Vessel 11 (38 cm high) from TG31 is stamped with a 2.5 cm diameter motif of a four-armed crowned figure with flanking bull and elephant. The figure has prominent eyes, knees flexed and feet touching in a near triangle shape. Urn contents, in addition to the bones and ash included one 1.5 cm bronze shell-like bell, 12 terracotta 'beads' (2 – 2.4 cm diameter), beads of quartz, carnelian and black stones and bronzes such as a plain ring (2.4 cm) and another of coiled wires (5.6 cm diameter), an iron object (8.7 cm wide) (Chit San Win 2005, p.75).
- 14 Chit San Win and Win Maung (Tampawaddy) Pers.comm. 12.06. Stargardt noted clustering of urns Beikthano (KKG9 and KK11), comparing this to bronze drum burial clusters in Thailand, Malaysia and Indonesia, and likening the shape and decoration to Heger I and Karen bronze drums. The hypotheses are worth bearing in mind given the Tagaung links to Yunnan discussed here (Stargardt 1994, p. 133, 1990).
- 15 Hla Tun Pru 2003
- 16 Tagaung vessels are also different from flat bottom possible urns documented by Win Maung (Tampawaddy) at Shagwe, a fortress of Halin (Hudson 2004, pp. 138,170, Figure 97, Moore 2007).
- 17 Aung Thaw 1968, Figures 41, 45, 71; Myint Aung 2003. Four sherds with human figures have been recorded: one dancing, another seated and three wearing crowns (Aung Thaw et al. 1993, p.57, 90; Hla Tun Pru 2003, p.85)
- 18 There has been little work on Bagan pottery, primarily surface finds assumed to be contemporary with the monuments rather than earlier phases of structures. For Hastinapura motifs see Lal 1954: Plate XXXI nos 3,7. Plate XXXII no 16. For Bagan motifs see Than Tun 2003, p.10-11, Figures 12, 13.
- 19 Hla Tun Pru 2003, p.79, Hudson 2004, p.145; Moore and Nyunt Han 2007
- 20 Crescent-shaped end-pieces were 15 to 20 cm high, 21 to 26 cm wide and 1 to 1.5 cm thick. A central vertical band divides the crescent, each section with a tri-lobed festoon and dotted border (Chit San Win 2004, p.165-166). Round end-pieces were 1 to 4.5 cm thick, 13 to 20 cm diameter with a rim 1 to 3 cm wide. The wide rim 'frames' them in the same manner as votive tablets (Guy 2002, p.24). The round pieces have 10-15 thin sun-like rays or radial lines, in some cases tipped with circular raised dots arrayed around a central spot. While two round end-pieces have been recovered from Sriksetra, these are closer to a lotus pattern. This is also seen in round end-pieces from Linzhang, Hebei province, dated to the Northern Dynasty (286-

- 589 AD) (Yang 2004, p.96d).
- 21 See Southworth 2004, p.214. This seemingly was also the case in the western Yunnan, annexed during the reign of the sixth Han Emperor, Wu Ti (140-86 BC). Tribute missions from Myanmar at this time brought pearls, vitreous objects and rare stones, although those bearing gifts may have changed during this period as earlier groups in Yunnan dispersed towards the west and south (Taw Sein Ko 1913, p.16- 17). In 225 AD, the Wei general Chu-ko-liang is said to have used bronze drums to frighten 'savages' by placing them in torrents to strike like military watch-drums at regular intervals (Hudson 2004:31, KyawZin N.D.)
 - 22 (Type 1) Oval halo, takeh or throne back and up to eight surrounding stupas; (Type 2) Filled with the medicinal *gamon*, an aromatic tuber of the ginger (*Kaempferia*) family; (Type 3) Two small stupas and enclosing lines, the outer marked by *beindu* dots (Aung Thaw et al. 1993, p.187, Figure 2a, 205; Moore 2007, Figure p. 192; Mya 1960 (1), p. 50, Pl. 67; Pandita Nanda (Tagaung) 2006).
 - 23 Based on the crossed *Vajrasana* leg position with both feet facing upwards, some prefer an 'early Bagan' or 'late Pyu' label. Others note the difficulty of identifying *asana* given the small size and erosion to the tablets, so focus on the closeness of the feet to the torso, the rounded abdomen and absence of a triangular face that suggest 4th to 5th century AD Gupta rather than 11th to 12th century AD Bagan or Pala influences. (Win Maung (Tampawaddy), pers.comm. 23.12.2006)
 - 24 Moore and Than Swe 2006; Than Swe 1996, p.53
 - 25 Traditional accounts state that the 'original' Dawei peoples lived thousands of years ago at the egress of this stream. The word 'Dawei' refers to the city, the region and the local dialect, a highly intonated variant of Tibeto-Burman of unknown antiquity. Words found in Bagan inscriptions account for ten per cent of the vocabulary, with sixty-five per cent being independent Dawei (Aye Sandi 1999).
 - 26 Moore and Aung Myint 1991, Map 11; Survey 09.05, 04.06
 - 27 Two brick structures were unearthed, both with underlying levels not yet excavated: SGR1 (8 x 6.4m) oriented to the northeast and SGR2, a (10m) rectangular building with an entry on the east, front hall and four small cells in a row at the back (Moore 2007, Figure p.221). The structure, due to the small size of the bricks and the layout has been attributed to the late sixteenth-century AD and has been rebuilt repeatedly, indicated by a different alignment of the entry hall, the presence of finger-marked bricks and two habitation layers in the 3.5m stratigraphy.
 - 28 Moore 2007, Figures pp.223
 - 29 Moore and Aung Myint 1991, p.93
 - 30 Luce 1969 Volume 1, p.20; Moore 2007, Figure p.220
 - 31 Moore 2007, Figures pp.138, 220-221
 - 32 Than Swe 1996
 - 33 The same posture is seen in an image of the Buddha (13 cm) from Beikthano and another from Twante (Luce 1985 Vol.2, p.76(b); Moore 2007, p.164)
 - 34 The image (7.5 cm) is seated on a finely made throne (11 cm) in the *Dhyani* mudra, bears a flame or *sirispatha Ushnisha*, and has small flat hair curls. The throne has inward facing *Makararas* on the sides and a Kirtimukha at the apex. The image of the Buddha is close to those of the Polonnaruva period (993-1235 AD), in the folding of the *sanghati* and the flame *Ushnisha*. Similar thrones with images are seen in Rakhine, where they are attributed to the Late Polon-

naruva (Gutman 2001, p. 156-7; Listopad 2003, pp.106-8).

- 35 Examples of the *Makara*-throne tablet from Mokti (8.7 x 6.9 cm) depict the Buddha seated on a double elephant with *Makaras* flanking the throne. A rampant feline and a stupa flank the image on either side. Similar *Makara* figures are seen flanking the Buddhas on a large gilded silver reliquary casket from Sriksetra. For similar examples see Dupont 1950, Plate 497, Gutman 2001, p.57; Luce 1985 Plate 61a; Mya 1966, Plates 19-15, 22, 60b.
- 36 The reverse of the paired stupa tablets is impressed with a leaf pattern, particularly deep on the central stem. Again, there are parallel tablets from Sriksetra (Luce 1985 Vol.2: 61(a); Mya 1966: figure 60)
- 37 Pattaratorn has tentatively connected the tablet-stupika combination to the Caitayakanikaya, an offshoot of the Mahayanist Mahasanghikasnikaya (Pattaratorn 2000, p.183).
- 38 There is clear recognition of otherness, **although not necessarily ethnic** as has been suggested for various spirit legends of Upper Myanmar (Michio 2000)
- 39 To re-iterate, 'place' or abode is defined here as **chthonic beliefs** seen in prehistoric ancestral and later Buddhist custody of a site
- 40 On nation, see Taylor 1987, p. 3. **The process by which a few 'Pyu' inscriptions have been interpreted as representing the birth of a 'Pyu nation' was long ago detected and warned against by Blagden [emphasis added]:The evidence at present available seems to indicate that the nation which spoke the language of our text was a forerunner of the Tibeto-Burman movement into the southern parts of the Irrawaddy valley...The name 'Pyu' has merely been attached to it as a convenient label, not improbable in view of Burmese traditional history, but by no means to be accepted as final (Blagden 1919: 61).**
- 41 Miksic notes that in the *Glass Palace Chronicle*, **that kings were listed by capital rather than dynasty, and that many were usurpers to the throne (2007, p.440).**
- 42 Myanmar *Aungmeh*, Pali *Jayabhum*i, Tun Aung Chain. 2000, p.124

**II. Archaeology of the Shan Plateau,
the Bronze to Buddhist Transition**

Archaeology of the Shan Plateau, the Bronze to Buddhist Transition

ELIZABETH MOORE

The archaeology of the Shan Plateau highlights the role of local knowledge in the shifting religious and social frameworks of the first millennium CE. Artefacts from four river regions (Shweli, Myit Ngeh, Inle and Thanlwin) are compared to illustrate the complex networks that underpinned and prompted the transition from Bronze–Iron chiefdoms to Buddhist kingdoms. New data from discoveries of recent decades are used to widen discussion from sites to regional and trans-regional comparison and begin to bridge the traditional separation of prehistoric and Buddhist archaeology.

INTRODUCTION

The roots of Shan Buddhism in Myanmar (Burma) lie in the rich but little documented Bronze Age and Iron Age cultures of the present Shan States.¹ Is 'Shan Buddhism' therefore the product of a large single ethnic group?² The prehistoric and early Buddhist archaeology on the Shan Plateau suggests not, for its artefacts and exchange networks are quite removed from ethnicity. While a sense of reciprocity and the permeable borders of localised 'spheres of influence' are often buried under nationally shaped vocabularies, artefacts from the Shweli (Mao), Myit Ngeh, Zawgyi-Belu and Thanlwin (Salween) valleys verify the first millennium CE presence of diverse religious communities across and beyond the Shan Plateau. The archaeological evidence for these settlements includes stone, bronze and particularly terracotta artefacts, from pottery to roof tiles and the bricks of site walls and religious structures.

The monks, practitioners and laypeople of these communities relied on the land, with cultivation of rice and garden produce in and around the earthen and brick ramparts of sites such as Tagaung, Bodhithat and Keng Tung.³ Walls were not necessarily demarcations of 'inside' and 'outside'; dissemination was literal and virtual, one where politically grounded religious domains spread easily through and beyond the sharply defined edge implied by walls of temples and cities. Given the abundance of ritual architecture along the outside of the walls, communities and borders appear to have been active in a world where 'being a border' was at the heart of things, neither 'this nor that' but a dynamic reached in the vacillations of the margins (Balibar 1998, 218). Social memory of such processes may lie within the allusions of chronicles such as those cited and footnoted below. To presume a single interpretation in such cases is incorrect, for when the discourse emerged

from language and practices such as these, discussion of 'inside' and 'outside' is put within judgements founded outside those used to define that being judged as 'correct'.⁴

ARCHAEOLOGY AND REGIONAL GEOGRAPHY

Prehistoric excavations by the Department of Archaeology, Ministry of Culture, have increased in Myanmar over the past decade. A notable shift, highly relevant for future work on the Shan Plateau, in emphasis is on finds of Bronze–Iron Age (*circa* 600 BCE–400 CE) artefact finds at early Buddhist walled sites (*circa* 200–900 CE). (Figure 1) At Waddi, for instance, an early Buddhist walled site midway between Mandalay and Bagan, prehistoric iron and pottery was recorded in late 2008 excavations (Kyemon 2008).⁵ Such reports are significant for widening out an earlier separation of prehistoric archaeology from the lineage of Buddhist kingdoms with its implied distancing of 'primitive' and civilised cultures. Particularly given the many surface or near-surface finds and paucity of associated absolute dates, chronological and cultural attribution for sites and artefacts is often ambiguous or at times misleading.

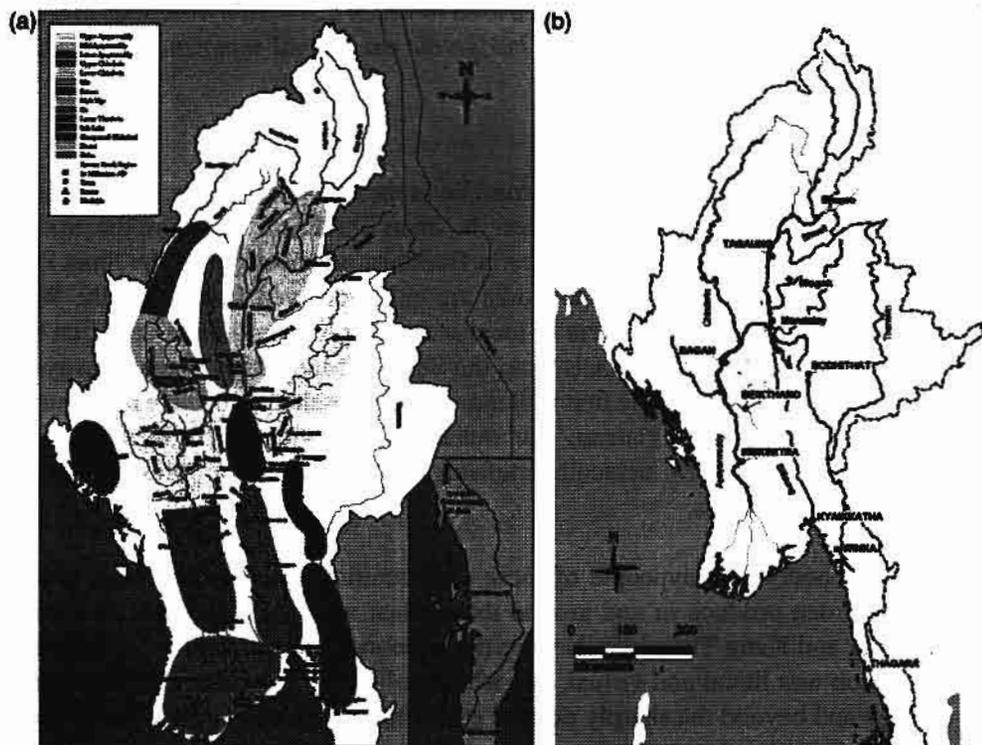


fig : 1
Maps of Myanmar with principal river valley cultures (after Win Maung (Tampawaddy) in Moore, 2007)

One such discovery is an upper jawbone found in 1999 where the remaining teeth have been drilled with 102 tiny holes and filled with gold foil. The jawbone was from a skeleton found under a large stone slab and an associated pillar about 1.5 metres long, with gold and silver rings, pottery and iron tools. While these artefacts suggest an early centuries CE dating, the associated material did not yield an absolute date and similar pieces have not been found outside the Samon Bronze–Iron region. Chinese records of Nan-chao mention that it was the custom of lowland peoples on the southwest border of Nan-chao territory to tattoo different parts of the body and to cap their teeth with precious metals or lacquer (Backus 1981, 82). Chinese records note the *Chin-ch'ih* or 'gold teeth' from the T'ang dynasty onwards, but there is also reference in a fourteenth-century CE Yuan History to the P'iao as 'one of the tribes of the 'Gold Teeth Comfortership' (Hudson 2004, 138; Luce 1985, 15, 66; Sai Aung Tun 2008, 4–5). The artefacts associated with the teeth are probably early first millennium CE Bronze–Iron Age rather than Buddhist but, given the use of the term in later periods, relative dating remains imprecise. In addition, the Chinese notes of the 'barbarian' groups to the southwest survive often only in fragments and are second-hand or third-hand accounts with possible re-iteration over centuries.

For the Shan Plateau, however, chance finds are not widely reported, and full systematic survey and excavation has yet to be undertaken. The few recorded artefacts of the Shan Plateau are clustered along the river and stream valleys of trading routes active today (Moore and Win Maung 2007; Sai Aung Tun 2008, xvii). The watercourses often stretch far beyond present borders linking sites within central Myanmar and related cultures in South Asia, Yunnan and Thailand. The four brief regional descriptions below focus on localised contexts to give physical reality to the cultural diversity of the often ambiguous Bronze–Iron to Buddhist transition of the first millennium CE. The profiles begin with the Shweli and upland-valley exchange of timber and elephants from Mong Mit and Mogok down to the ancient city of Tagaung on the Ayeyarwaddy. Recent excavations at Tagaung yielded distinct urns, roof finials and large finger-marked bricks typical of first-millennium CE sites associated with Tibeto–Burman Pyu (P'iao), Mon and Rakhine (Arakan) groups in different parts of Myanmar. The second region is the Myit Ngeh (Dhotawaddy) linking Muse to Mandalay and the short course of the Samon flowing into the Ayeyarwaddy. Relevant finds in this area include bronze drum-cowrie containers of the Dian cultural sphere of Yunnan dated to the early centuries CE and other objects akin to finds at Bronze–Iron cemeteries of Samon cultures (Calo 2007). Artefacts from the third region, the Zawgyi–Belu of Inle, also parallel Bronze–Iron and early Buddhist cultures of the Samon and wider Ayeyarwaddy basin. The fourth region is far to the east, past the Thanlwin (Salween) to the walled site of Keng Tung and a very different archaeology and topography linked to northern Thailand. The four river regions thus map out diverse and—in the Shweli, Myit Ngeh and Inle—overlapping but localised cultures that prepared the ground for the equally varied Buddhist polities of the later first millennium CE (Figure 2).

The Thanlwin is the largest of the four valleys but its ribbon-like drainage basin makes it one of the least useful for transport and cultivation.⁶ In contrast, the Shweli, draining down into the wide plain of the Ayeyarwaddy (Irrawaddy), has long been associated with early migration. The watershed between the Taping, Shweli and Thanlwin forming the border with China is extensive, with indication of its strength seen in recent construction of the 600-megawatt Shweli hydel-power plant in Namhkam Township.⁷ Further south, fertile areas are notable along the Zawgyi flowing down

from Pindaya to the Ayeyarwaddy and the Belu watering the alluvial zones south of Inle Lake.⁸ Other basins scattered around the Shan Plateau suggest additional lakes, some of which may have dried up only in historical periods (Chhibber 1933, 48-50).

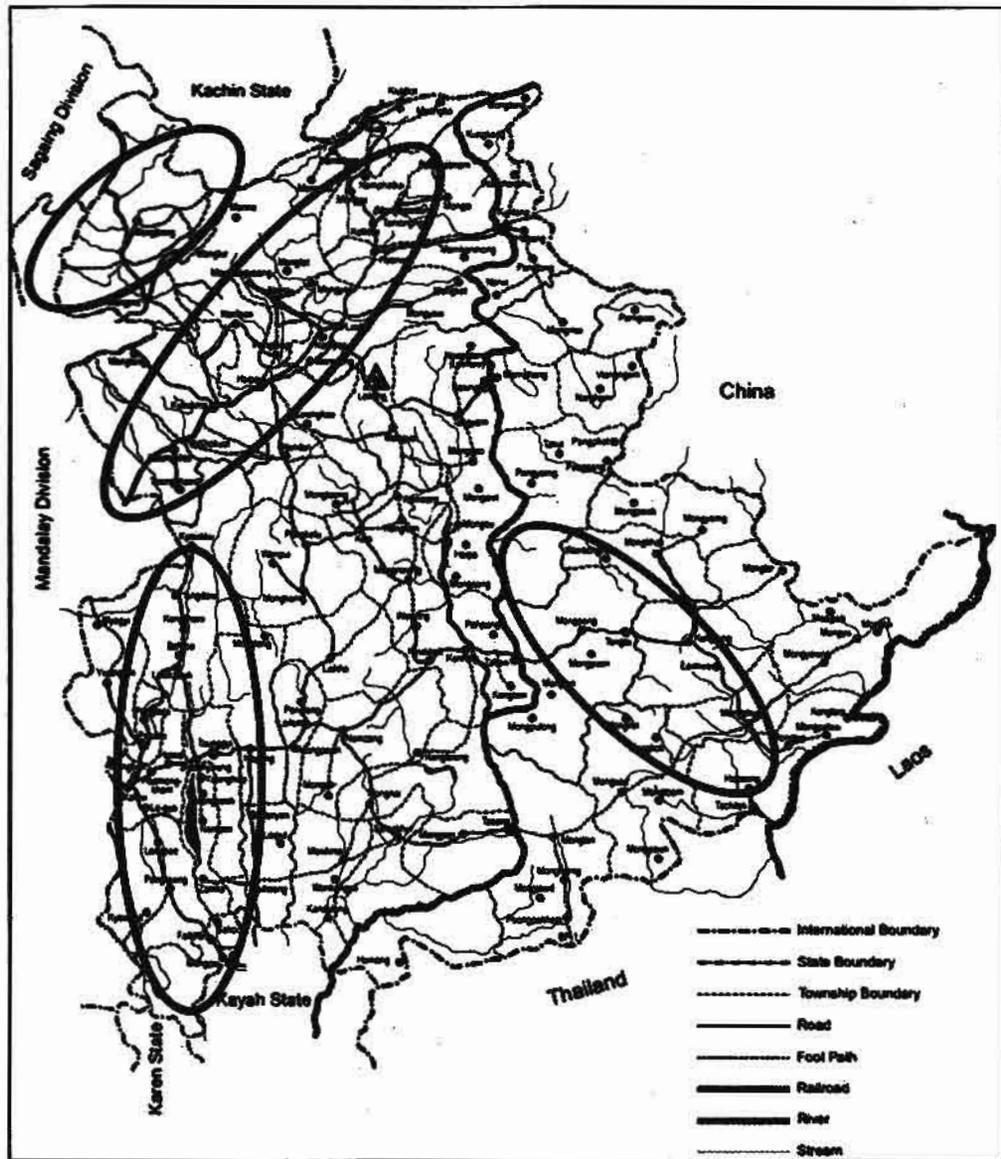


fig : 2
Map of Shan Plateau showing Shweli, Myit Ngeh, Inle and Keng Tung regions

The complex interaction of artefacts and river valley cultures evident in the choice and scope of elements in this paper is quite separate from the more commonly presented confrontational relationship of ethnic groups and regions found in many accounts. Such views in many cases assume a near 'epistemological-centric' perspective whereby the Shan knowledge and beliefs are superior to those of the Bamar, or *vice versa* (Aung Thwin 2008, 214).⁹ The archaeological data, by contrast, underlines an exchange network that made the most of difference, a context not unaware of ethnicity but informed more significantly by natural, strategic and spiritual aspects of the landscape. The arrival of the T'ai Shan to this landscape is unresolved, although migration is presumed to have been from the basins of the Yellow and Yangtze rivers to north along rivers such as the Shweli (Sai Aung Tun 2008, 4).¹⁰ In the Shan States and southern Kachin State, there were probably, as they are today, a mixture of T'ai, Mon-Khmer and Tibeto-Burman peoples.¹¹ It is not this ethnic variety that best frames the archaeological material, however, but rather an 'ecological opportunism' seen in the adaptation to the disparate locales where artefacts are recorded.¹²

SHWELI (MONG MIT) AND TAGAUNG

Tagaung well illustrates this adaptation in its interchange with the Shan Plateau. Located east of the Ayeyarwaddy, Tagaung trade relied on the timber, elephants and ores of the upland Mogok area. Also to the east are silver mines, at Bawdwin and Yadanatheingyi, Namtu, with copper and gold along the western edge of the plateau.¹³ In the early-nineteenth-century CE *Glass Palace Chronicle*, Tagaung initiates a long line of Buddhist capitals. It is followed by Sri Ksetra (fifth to eighth century CE), Bagan (ninth to thirteenth century CE), Pinnya, Inwa, Amarapura (thirteenth to nineteenth century CE) and finally Mandalay (1857–85 CE) (Pe Maung Tin and Luce 1922 [1960]). Although the founding of Tagaung is credited to the arrival of Abhiraja 700 years before the birth of the Buddha, the 'hero' of Tagaung is the ninth ruler of the Second Tagaung Dynasty, Maung Pauk Kyaing, a commoner who becomes king.¹⁴

Until recently, archaeological work at Tagaung yielded only ninth century to thirteenth century CE Bagan period material, but 1997–2006 excavations unearthed a number of earlier objects, including urns and decorated roof-tile finials (Figure 4).¹⁵ Similar roof-tile finials dated to the second to sixth centuries CE have been found at Sriksetra and around Inle Lake. They have also been recorded at Linzhang, Hebei province and at Trakieu and Go Cam in central Vietnam.¹⁶ While the roof-tile finials link Tagaung to areas far to the east, other significant finds are paralleled on the west. For example, in Tagaung pit TG31, a layer of finger-marked bricks was unearthed nearly two metres underneath ground level below urn burials, possibly in familial clusters. Discovery of the finger-marked bricks generated a series of useful publications documenting the site where the bricks were seen as linking Tagaung to the Tibeto-Burman Pyu peoples and thus validating chronicle accounts of Tagaung as the first capital of Myanmar (Figure 3). The finger-marked bricks die out at Bagan and thus are significant chronological markers in the country's rich but little-dated first-millennium CE archaeological record. In fact, however, similar finger-marked bricks have been found at sites in the southern Mon States and in western Rakhine, leaving little reason to identify them with any particular group.

As illustrated by the roof-tile finials and finger-marked bricks, some Tagaung artefacts relate to Tibeto-Burman (Pyu-Bamar-Bagan) lineages of the Ayeyarwaddy and others to Sinitic spheres of Yunnan and beyond. The Pyu are by far the most problematic of the language groups associated with these spheres. One reason for this lack of new evidence is that the definition of Pyu derives from a negligible corpus of inscribed objects using various undated scripts that are often illegible (Myanmar Language Commission 1993, vi; Tha Myat 1963). In addition, the absolute dating of 'Pyu culture' rests on less than 10 problematic radiocarbon results from Beikthano and Halin, two of the eight major walled sites. Despite these shortcomings, the pre-eminent position and robust sustenance of the chronicle tradition in Myanmar has enshrined the Pyu. The result is a drawing in of what were many Tibeto-Burman, and probably Austro-Asiatic and Austronesian groups, into a single Pyu cultural type to form the root from which nation and state flowered. The effect, seen in the Tagaung finger-marked brick finds employed to champion the Pyu origins of Tagaung, is not a simple nationalism but stems from local understanding and appreciation of the language of the chronicles (for example, Chit San Win 2004, 2005). Which type of history is accurate—one whose memory pierces through allusion to bring the past into the present or the progressive line of tempo-

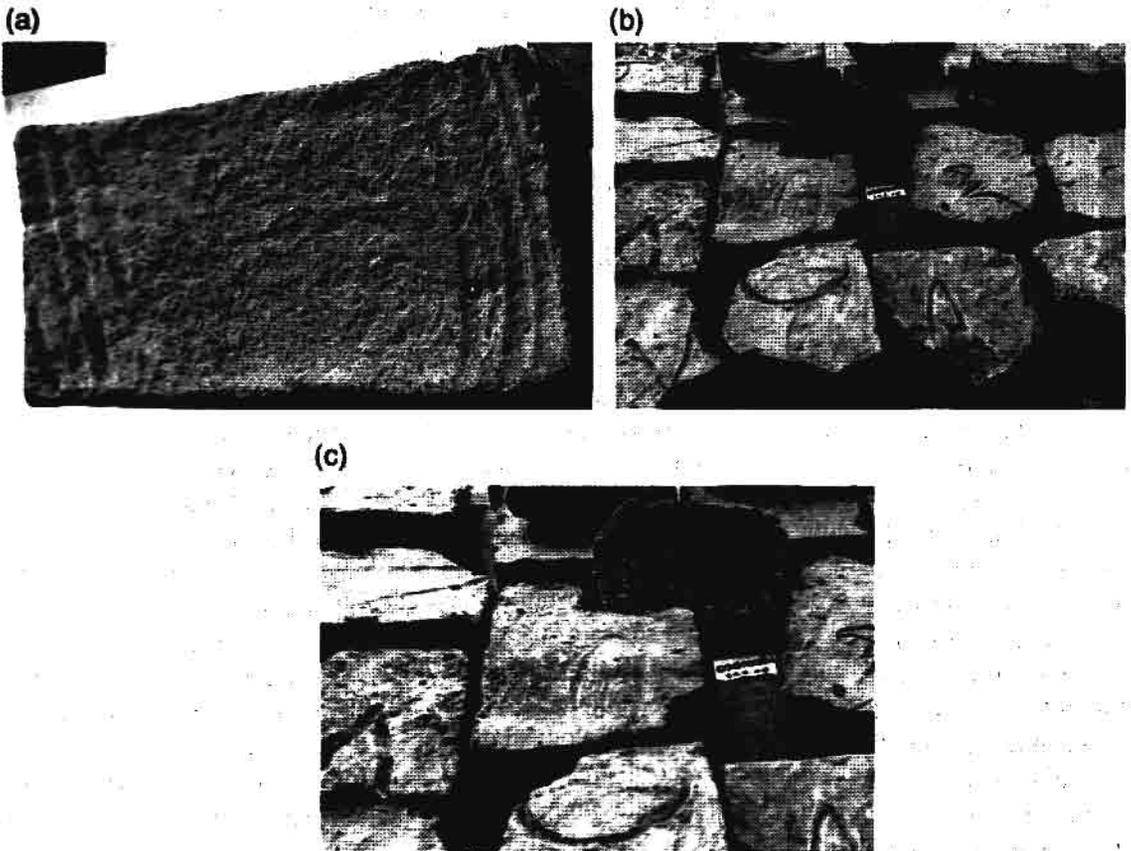


fig : 3
Tagaung finger-marked brick sections (courtesy of Chit San Win)

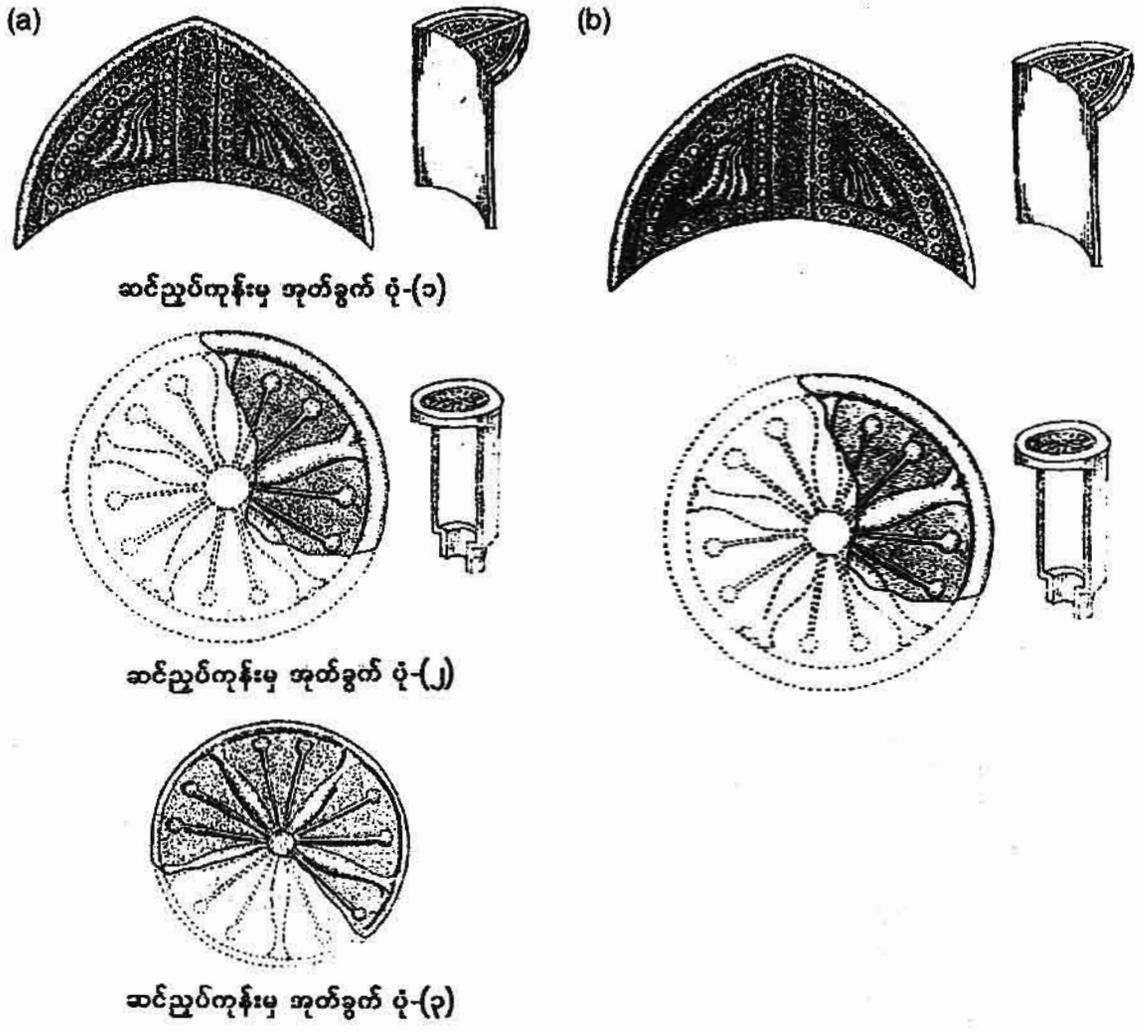


fig : 4
 Tagaung roof-tile finials (after drawing by Win Maung (Tampawaddy))

ral events? As is literally the case in the architecture of the eleventh-century CE Aniruddha palace at Bagan, conviction of the basic validity of Tagaung chronicles often taken as fable can also be understood in light of prior knowledge of that tradition (Aung Thwin 2008). The timber and elephants upon which Tagaung's prosperity relied, rather expectedly fall silent within royal chronicles, and the Maung Pauk Kyaing legend is invisible in Tagaung's archaeological ties to Yunnan. Despite the silence at one level, however, along with the adage 'Myanmar starts from Tagaung', Maung Pauk Kyaing is the most often cited element of the ancient site, with children and adults familiar with his tale. Similarly, and undoubtedly equally complex from an indigenous perspective, national biases affect interpretation of the Dian bronzes discussed below.¹⁷

MYIT NGEH (LASHIO)

The Myit Ngeh flows southwest across the western Shan Plateau, emptying into the Ayeyarwaddy adjacent to the mouth of the Zawgyi south of Mandalay. Myit Ngeh sites, in a similar pattern to Mogok–Tagaung, are paired by ones of the Ayeyarwaddy basin. Late Palaeolithic (*circa* 12,000–6000 bp) sites include Badahlin (21.06°N, 96.18°E) and material from Weiponla, Kayin State, where seasonal plateau edge occupation is balanced by lowland sites. Within historic times is the re-establishment of older settlements such as Mekeyya on the Kyaukse plain by sons of the rulers of the fourteenth-century CE city of Myinsaing (Win Maung 2007, 24–25). On a popular level, tales of Queen Sawmunla (Saw Mon Hla) describe the reliance of Kyaukse irrigation systems on the various branches of the Myit Ngeh River (Michio 2000, 2 and 8).

Significant finds in the past five years that link this region to Yunnan in the early centuries CE include a number of bronze drum-cowrie containers of Heger I type dated to the early centuries CE. The bronzes appear to have preceded or have been traded in the same period, therefore, that saw the beginnings of Buddhist monasteries in the region. The drum-cowrie containers, however, fall within a non-Buddhist Dian sphere reaching to Lanna and beyond to the Dian local adaptation goods akin to Dong Son production in northern Vietnam. Many of these bronze containers are vividly decorated on the tympanum with a central star, warriors with feathered headdresses, birds and bands of geometric motifs. The mushroom-shaped mantle also bears the feather-headdress men, bulls, vernacular houses and rice barns on stilts. The Dian drum-shaped bronzes are in many cases cowrie shell containers, with the best cowries probably coming from the Andaman Sea and traded north along the Ayeyarwaddy to Yunnan (Calo' 2007, 75) (Figure 6). Ties between Myanmar and Lanna are further seen in the similarity of a drum-cowrie container acquired in Chieng Mai with one found a number of years ago in the relic chamber of the Shwezigon pagoda (now in the Bagan Museum). The two pieces are a rare Heger I type with a star and geometric motifs but without the elaborate headdresses noted earlier (Bernet Kempers 1988; Calo' 2007, 75; Heekeren 1970).

Other drum-cowrie containers from the Myit Ngeh include a controversial Wanjiaba pre-Heger I type found at Sin Bo between Myitkyina and Bhamo in Kachin State. Several additional fragments have been recorded by Win Maung (Tampawaddy) from four drums northeast of Mandalay. One was found at a Bronze–Iron burial site by Yetagon Taung in the Shan foothills east of Mandalay. Two drum fragments bear vivid bird designs, an egret in one case and in the other a plump bird perched on the hindquarters of a spotted bull. This last motif is mainly seen on Heger I drums in the Dian sphere although sometimes on drumshaped cowrie containers. Another Heger I drum (height 40.5 cm, width 51 cm) classified as a Dong Son type A and today kept in Sagaing bears a boat on the upper mantle and 'feather-men' and a rice barn on the tympanum (Moore 2007, courtesy of U Win Maung (Tampawaddy) (Figure 5).

The Myit Ngeh drum-cowrie containers highlight early links to Yunnan, Vietnam and Thailand. Other Myit Ngeh artefacts underline trade routes west to the Ayeyarwaddy basin and the rich bronze Bronze–Iron cemetery sites of the Samon cultures. Some of the Samon finds also connect to Yunnan, particularly bronzes such as Dian-type musical instruments, while others are local, from 'mother-goddess' figures to small bronze packets (*kye doke*) pointing to ancestral cults, wet

rice cultivation and animal husbandry. Local resources included an array of semi-precious stones and small copper deposits along the edge of the Shan Plateau adjacent to the Zawgyi-Belu region described below.¹⁸ Recent surveys of streams north of the Zawgyi east of Myinsaing have also yielded small bronze deposits with tin, copper, lead, silver and zinc associated with the Bawdwin rhyolite tuffs of the Shweli to the north (Chhibber 1933, 85; 1934, 2-3; Ivanhoe Exploration Ltd, map courtesy of A. Mitchell 2003). Prehistoric exploitation of Shan ores is evident in the preponderance of bronze tools recorded by Morris in the 1930s from this area (Morris 1935, 1938). Full systematic survey of early metallurgy of the Shan States has not yet been carried out, although, as noted throughout this paper, ores are varied and widely distributed.



fig : 5
Heger I bronze kept in Sagaing (courtesy of Win Maung (Tampawaddy))



fig : 6
Cowrie shells from Bronze–Iron Samon culture cemetery (courtesy of T. Tan)

ZAWGYI-BELU (INLE)

The short Zawgyi (Mekkeya) rises near Pindaya and drains down to join the Ayeyarwaddy 25 kilometres (km) south of Mandalay. The Zawgyi copper finds noted above are close to two ancient walled sites, the circular Maingmaw and the rhombus-shaped Bodhithat (Aung Myint 1998, 212–213). The lake supports a variety of habitation niches and ancient remains, indication of its long prosperity. On the west bank, for instance, is the temple complex of Shwe Indein with its many tiered *stūpas* and custom of double rice cropping despite an often poor second yield (Figure 7). Other crops around the lake include sugar cane, groundnuts and betel, with wheat having been introduced by the British. Although villages around the lake such as Nam Pan are noted for silk weaving, raw silk is generally from other regions (Scott and Hardiman 1901, 385–386). Bodhithat (Bawrithat) to the northeast of Nyaungshwe is one of a number of sites north of the lake (Aung Myint 1998, 207–214). Quartz beads and silver coins have been documented at this site, and in recent years yielded a number of terracotta roof tile finials similar to those noted above at Tagaung have been found.¹⁹ Finally, at Bodhithat, and also at Kaung-daing on the northwest shore of the lake, fingermarked bricks have been identified (Figure 8). Given that one of the names for Bodhithat is Tayoke-myo (Chinese city), should the bricks be labelled Inle, Pyu, Shan or Chinese? Additional sites with quartz beads and silver coins include Ramawadi south of the lake and Nam Belu and Paung on the Belu (Bilu) Chaung further south. The landscape just south of the Belu is ‘a reedy stream hardly definable from the marsh of the surrounding lake area’ (Mi Mi Khaing undated, 18). Flooded areas along the Belu were traditionally baled out, with water confined to a series of channels and then planted with rice.

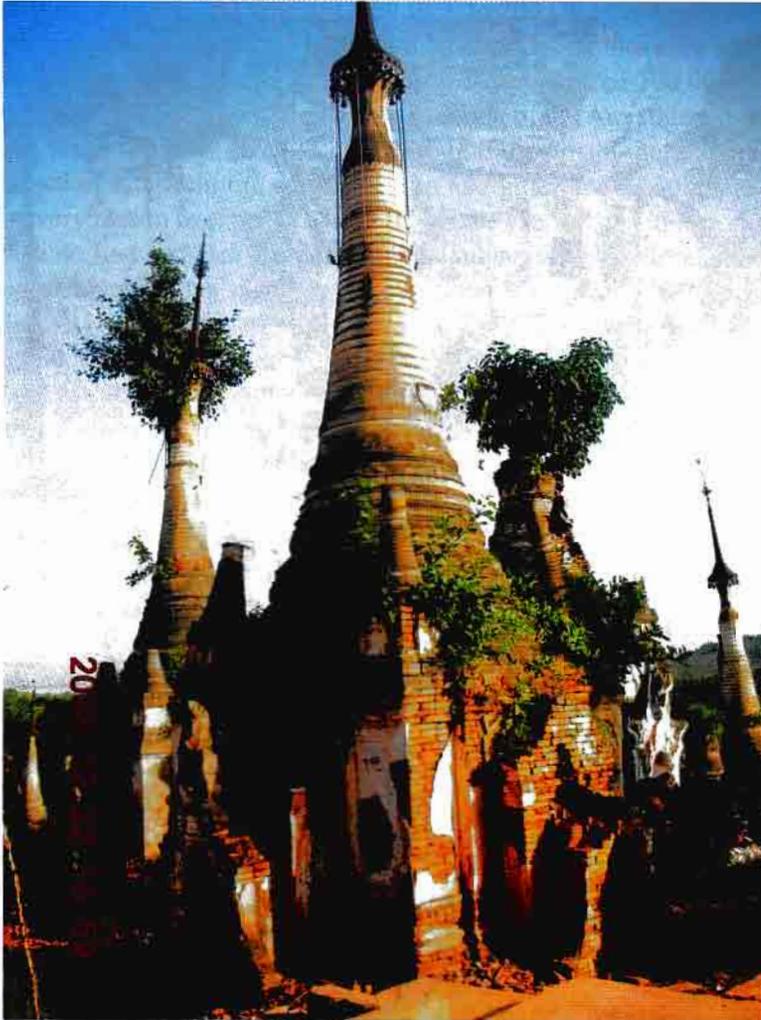


fig : 7
Stupas at Indein, Inle (courtesy of T. Tan)

THANLWIN (KENG TUNG)

In the final region, Keng Tung (Jengtung, Kyaing Tong), however, archaeological data drop sharply and the topography and orientation is to the northeast. Keng Tung is more than 31,000 square kilometres in area, the largest administrative part of the eastern half of the Shan States. While the main crops are rice and sugar cane, cotton, tea and garden produce is or has been traded as well as gold and teak. The primary Keng Tung drainage is into the Mekong with the remainder to the narrow Thanlwin basin on the west. Rivers and parallel roads branch out in all directions from the large Keng Tung Lake and valley (19 km by 11 km). With only a few bridges fording the large streams



fig : 8
Aerial photograph of Bodhithat (after Aung Myint 1998)

and the river to the west, communication today and mostly likely in the prehistoric era was more frequent to the eastern borders with present-day Thailand, Laos and China.

Keng Tung was traditionally founded by Wa Austro-Asiatic peoples, later displaced to surrounding hills by T'ai migrations.²⁰ This population mix recurs in ethnographic accounts that mention village founding posts attributed to Austro-Asiatic and other archaic animist T'ai groups being erected on the founding of settlements and re-planted on election of a new headman (Osiri 2002, 30–31). Much earlier artefacts not attributable to any particular group have been reported with large-scale dam, road and rail projects of recent years—such as the 54-megawatt Kengtawng hydel power plant along the southern border of the Shan States (New Light of Myanmar 2002, 2006). The author has examined, for example, stone tools and other ring-shaped stone implements with central perforations recovered during preliminary survey, finds akin to implements dated to *circa* 22,000 and 12,000 bp found during research and excavation to the east in Mae Hong Song Province at Tham Lod rockshelter, Pang Mapha (Scoocongdej 2006, Figure 3.12, 33).

Nearby at Ban Wang Hi close to Lampang, 200 BCE to 200 CE Iron Age burials with glass, agate and iron artefacts have been unearthed. Stone implements from other sites around Lampang are comparatively dated from gravel beds in the geological strata to *circa* 700,000 years ago.²¹ These data are potentially useful in regards to the geological dating of the Anyathian stone artefacts of the Ayeyarwaddy basin far to the west dated to *circa* 100,000 bp. Given the scattered archaeological finds and the presence of tungsten, tin, antimony iron and gold in the Lanna provinces bordering Myanmar, there is every reason to expect a comparable Late Pleistocene to Iron Age cultural profile as documented at Tham Lod and Ban Wang Hi. Such comparability is supported by a shared ecology and similar legendary accounts spanning the east Shan States and Lanna regions.

At Keng Tung the natural site, resources and the 8-km-long outer moat and brick wall encircling the lake all point to early and continued habitation yet to be fully documented (Figure 9). The rate of change in this region over the last century can be seen in comparing the 1944 Williams-Hunt Collection aerial photographs with current imagery. When the Williams-Hunt cover was flown, the highly visible earthwork hugs the contours of the hill to encircle the settlement. Today, however, only sections of the earthwork are seen on publicly available imagery.²² While the feature has not been excavated, the site form and manmade alterations recall the walls and gates of early Buddhist Lanna sites such as Lampang and the later wall of Chiang Rai.²³

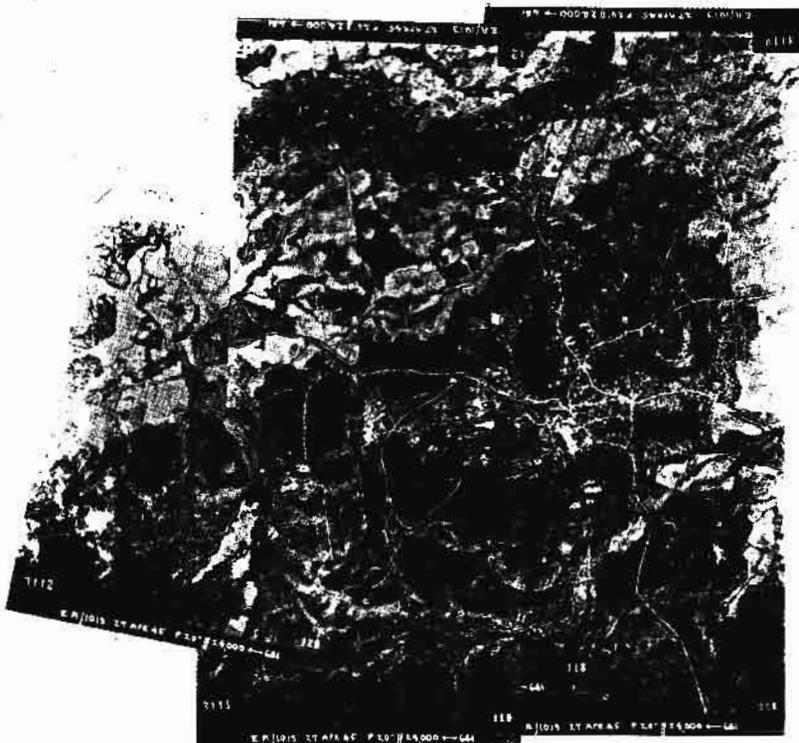


fig : 9

Aerial photograph of Keng Tung from World War II (Williams-Hunt Collection, SOAS, mosaic thanks to Surat Lertlum, Hak Hakanson)

CONCLUSION: BORDERS AND EARLY BUDDHISM

As shown in the examples above, while the west edge of the Shan Plateau with its small metal deposits is linked to Dian-related bronze production, other finds are those of Buddhist cultures of the Ayeyarwaddy basin. Some Inle pieces parallel ones from the Tagaung-Shweli region but the prehistoric bronzes of Tagaung do not (yet) include drum-cowrie containers that connect the Myit Ngeh and Yunnan or the distinctive local 'mother-goddess' figures and kye doke of the Samon cultures. The Inle archaeology, with ties to Yunnan and Samon artefacts, illustrates the complexity of trade networks of the first-millennium CE Bronze–Iron to Buddhist transition. The geography and archaeology of Keng Tung east of the Thanlwin (Salween) River sets out a different sphere, one coupled to the cultures of northern Thailand. Given later interchange of Lanna Buddhists with Sri Lanka and Lower Myanmar Mon sites such as Mawlamyaing (Moulmein) and Thaton, it is reasonable to expect that future exploration particularly of the southern portion of the Inle region where the Belu joins the Thanlwin may yield data on the Bronze–Iron to Buddhist transition. At present, however, apart from a vital uplandlowland exchange that typifies all of the regions surveyed in this article, the northwest Shan Plateau archaeology remains distinct from that of areas east of the Thanlwin. The first known records of Buddhism in Southeast Asia are those of already sophisticated cultures.²⁴ The earlier local evolution of these may one day be available in written texts. However, as highlighted in this paper, we have at hand the rich chronicle record with its indigenous perspectives of the past. There is also the archaeological landscape with empirical evidence of complex networks underpinning the transition from Bronze–Iron to Buddhist polities. In the conversion from ancestral to Buddhist rule, South Asian texts did not arrive as an intact corpus, but were gradually drawn into and probably written in relation to local lineages and practices. The traces of the early monasteries at archaeological sites evoke memory of the communities who developed and disseminated a local canon. And while the few absolute dates from walled sites in the Ayeyarwaddy basin have imprecise contexts and are often given over-broad readings, by the early to middle first millennium CE the artefacts and architecture display Hindu–Buddhist forms and iconography. As probably was the case in perceptions of texts, local names and canonical excerpts inscribed on stone, metal and terracotta artefacts point to local custom and beliefs. Stone slabs engraved with protective Buddhist verses, for instance, were placed near large iron nails rammed in the earth at the gates of city walls Sriksetra and other sites. Later surviving chronicles, in their re-iterated allusions, describe a prehistoric to Buddhist past kept alive in the changing social and physical landscape.

These were not 'border' elaborations to Buddhist practice but central in developing new local contexts. Likewise, the administrative margins of the Shan States are not the limits of Shan Buddhism just as the geographical basins did not delimit all rice-based communities. Keng Tung's rivers flow into those of northern Thailand and the Shweli watershed spreads into Yunnan and the Kachin State. The same model recurs in the Buddhist topography, where for instance the Kaung Muu Lon pagoda on the Malika River is of Shan origin.²⁵ This is not to dispute political fluctuations—Bayinnaung's encouragement of Shan–Bamar intermarriage falls easily within tribute networks where gifting includes military conscripts as well as silver and golden trees (Conway 2006, 37). While ethnicity does not help to define the margins of prehistoric and early Buddhist archaeology on the Shan Plateau, the empirical factors that do are often relegated to a subaltern position. The evidence presented here, from walled sites to roof tiles, bronzes and stone

rings, fills the porous borders of disparate geographic and cultural zones across the Shan Plateau. We need not look beyond to trace out the roots of Shan Buddhism, but rather more closely within to the very tangible factors that gave rise to the many local Buddhist cultures seen today.

NOTES

1. 'Shan Buddhism' is addressed here within the context of the Union of Myanmar. While some reference is made to areas in Thailand, the wider questions of T'ai ethnicity are beyond the present scope. Within Myanmar, the Shan States are the largest of the 14 states and divisions in the Union of Myanmar as seen in the following list of areas (square kilometres): Shan, 155,800; Rakhine, 36,780; Mon, 12,155; Kayin, 30,383; Kayah, 11,670; Kachin, 89,041; Chin, 36,018; Ayeyarwaddy, 35,138; Bago, 39,404; Magway, 44,819; Mandalay, 37,023; Sagaing, 93,527; Tanintharyi, 43,328; and Yangon, 10,170 (Administrative Divisions undated).
2. Sai Aung Tun (2008, 1) notes the Shan as the largest of the country's ethnic groups, living in different regions of the country but concentrated on the Shan Plateau.
3. Tagaung, 23°30'N, 96°0'E; 96°0'E; Bodhithat (Bawrithat), 20°44'N, 96°54'E; Keng Tung, 21°18'N, 99°3'E.
4. And, as Aung Thwin notes, 'our arrogance in presuming they are not' (2008, 214).
5. Waddi (Natogyi) 21°25'N, 95°39'E..
6. Dobby (1950 [1967], 155) attributes this to capture of tributaries by the parallel courses of the Ayeyarwaddy on the west and the Mekong on the east.
7. The Taping, Shweli and Thanlwin are known as the Ta Ying Chiang, Lung Chuan Chiang and Nu on the Chinese side of the border (FAO Treaties undated; New Light of Myanmar 2006).
8. The lake is approximately 22 km long and 6 km wide (Scott and Hardiman 1901, 385).
9. An example is seen in discussions of ethnic 'otherness' and Burmese royal dominance suggested for various nat traditions of the Shan (Michio 2000, 2 and 8).
10. Southward migration of Shan to and along the Shweli (Mao) is thought to have prompted founding of the Mung-Mao (Mong Mao Long) kingdom. Milne translates Shan records to 1274 years after the Buddha's final demise, about 730 CE (1910). Sai Aung Tun also notes the possible existence of Mong Mao in the seventh century but its ascendancy after the destruction of an independent Nan-chao in 1253 CE (2008, 10-14).
11. Often included are Shan, Bamar, Kachin, Danu, Intha, Taungthu, Palaung, Pa-O, Wa and many others. Sai Aung Tun describes the Keng Tung population as Hkun, Lu, Tai Long, Yun, Ngio, Tai Nu, Lem, Laotian, Wa, La, Tai Loi, Kaw, Mu-Hso (La Hu), Ako, Li Saw, En, Hsen Hsum, Pyen, Palaung, Kwi (La Hu Chi), Kang, Yao, Hsem, Miao, Mang Tam, Sawa (son) and Thai (undated online resource).
12. Glover's term places the evidence within wider debates about the date when Austro-Asiatic language-speaking groups dispersed from China to Southeast Asia. Glover and Bellwood maintain that Austro-Asiatic-speaking peoples were dispersed on the mainland by the Neolithic and that the start of wet rice farming arose from ecological opportunism by groups such as the Hmong-Mien; Higham, however, puts movements from southern China bringing wet rice farming to the second or third millennium BCE (Glover and Bellwood 2004, 11; Higham 2002, 110; 2004, 51).

13. See San Win (1997); also from Win Maung (Tampawaddy), personal communication, August 2006.
14. The story of Maung Pauk Kyaing is recounted in Brown (1926, 111–112), Maung Tin and Luce (1922, 32), Htin Aung (1959, 87–92), and Pe Maung Tin and Luce (1923 [1960], 6). The final Tagaung capital is placed further up the Shweli, with the city of Kant Kaw Taung (Kan Thida, Maingmaw Thupa-hu-min) ruled by Queen Naga Sein. Forty-two rulers of this line, in the Momeik yazawin, are recorded as being of Kyaing Hon (Pandita Nanda, Win Maung, and Chit San Win 2006, 23). While the various Shan and Bamar versions revolve around the union of a Naga and a human, Tagaung's records the union of the queen with a male Naga while the Mao legend centres on Hkun-ai who marries a dragon princess. The male child born from her egg is raised by the father following the return of the princess to 'dragon country' and he eventually marries the daughter of a Ngai-Lao Shan king of Yunnan. He reigns as Hkun-Tung, succeeded by his son Hkun-lu. The last of this line is his son Hkun-lai, ruling up to 951 CE and subjection of Nan-chao to China, although in earlier periods the Ngai-Lao kingdom of Tali may have been subject to the Mao-Shans. Other versions involve a blind Chinese princess whose four sons, begotten with a princess and a white tiger, found principalities in the Mao kingdom (Chao Tzang Yawngghwe 1987, 63; Milne 1910, 17–23). A similar episode in the Keng Tung chronicle has the son of the Mangra^y, borne of a bear, father a child with a Naga of the city's lake (Sao Saimong Maingrai 1981, 201–203 and 212–221).
15. The Tagaung finds included crescent-shaped (15–20 cm high, 21–26 cm wide, 1–1.5 cm thick) and round finials (1–4.5 cm thick, 13–20 cm diameter with 1–3 cm wide rim). The round pieces have 10–15 sun-like radial lines around a central spot, each at times tipped with a circular raised dot (Chit San Win 2004; Pandita Nanda, Win Maung, and Chit San Win 2006).
16. For the Hubei examples, see Yang (2004). As noted by Southworth, some of the Go Cam pieces are linked to raids against 'southern barbarians' after the fall of the Tsin in 206 BC. Western Yunnan was annexed somewhat later during the reign of the sixth Han Emperor, Wu Ti (140–86 BC) with tribute missions from Myanmar including pearls, vitreous objects and rare stones. In 225 CE, the Wei general Chu-ko-liang is said to have used bronze drums to frighten 'savages' by placing them in torrents to strike like military watch-drums at regular intervals. This links to explanations that Tagaung (Ta-Gong) is a Shan word meaning 'drum ferry' (Chao Tzang Yawngghwe 1987, 63; Hudson 2004, 31; Kyaw Zin undated; Southworth 2004, 214; Taw Sein Ko 1913, 16–17).
17. Examples cited in Calo' include a bronze drum-type found at Wanjiaba discussed in the text in relation to finds in the Myit Ngeh region. The Wanjiaba drum type is dated by Calo' to the second to first centuries CE but to the sixth to fifth centuries BC by Chinese archaeologists and considered a late derivative type of Dong Son D type by Vietnamese scholars. A related example is the use of radiocarbon dates, again from wood dug out of coffins from cemeteries at Lijiashan, Tianzimiao and Yangfutou, to as early as the sixth to fifth centuries CE. This is used in Chinese literature to give an earlier date to the usual third century BC to early first century CE to the Dian culture of these and other cemeteries such as Shizhaishan. A third comes in Calo's classification of a 'Dian' drum type, from which she notes that a number of Shizhaishan-type drums in China are Dong Son type A and B drums in the Vietnamese classification (Calo' 2007, 18, 51, 74–77 and 96).

18. This fits with laboratory reports that bronzes such as kye doke are almost pure copper, with a bit of tin and other metals. See, for example, Pautreau et al. (2006).
19. Win Maung (Tampawaddy), personal communication, 2004.
20. Acharn Witthi, Chiangmai University, personal communication, April 2008.
21. Lampang, 188N, 998E (Higham 2002, 222–223).
22. The Williams-Hunt Collection is an archive of more than 5000 aerial photographs dating to the 1940s and 1950s, held at the School of Oriental and African Studies. See Moore (2007) and Moore and Surat Lertlum (2005).
23. Chieng Rai, (19°56'N, 99°51'E); see, for example, Osiri (2001).
24. Skilling (1997) provides a concise but detailed summary of usage for inscribed texts recorded in the Chao Phraya and Ayeyarwaddy basins.
25. The Kaung Muu Lon 16km east of Putao (27.3°N 97.4°E) is said to be one the three most auspicious pagodas in Myanmar, along with the Shwezigon at Bagan and the Shwedagon in Yangon (Aung Myo, personal communication, 2007).

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12. Ancient Knowledge and
the use of landscape:
Walled settlements in
Lower Myanmar

Ancient Knowledge and the Use of Landscape Walled Settlements in Lower Myanmar

ELIZABETH MOORE

INTRODUCTION: TEXTS AND SITES

A major challenge to achieving an archaeology of landscape is matching hard material facts with textual sources. This paper attempts to redress the balance between the two in Lower Myanmar studies. The archaeological evidence is favoured, but without losing the unique value of what is conserved in the epigraphic and chronicle tradition. Archaeological artefacts such as laterite walls and finger-marked bricks are difficult to tally with descriptions of cities and places found in inscriptions, chronicles and early Chinese travellers' accounts. Likewise, persons and places *not* mentioned in inscriptions are often deemed not to have existed. Both these approaches, in the self-imposed restrictions placed on their use of the evidence, prejudice investigation from the outset. This has particularly been the case in relation to texts demonstrating integration of monastic groups into early first millennium AD walled sites located in Lower Myanmar. The coastal distribution of these sites and their extraordinary degree of land alteration is unique within the early cultures of Myanmar, but objective study of these remains has been restricted to a few scholars (e.g. Aung Myint 1998 a, San Win 1986, 2002).

The earlier biases that have preconditioned this sphere of study should not be lightly dismissed, for these prejudices have created a range of possibilities from which to start (Johnson and Olsen 2000:111-2). Nonetheless, the approach here differs from previous ones in seeking to correlate the memory of the past embedded in texts to a distribution of walled sites stretching from the area of Kyontu (17.28n x 96.40e) near Bago to Thagara (14.10n x 98.10e) north of Dawei. (*Appendix Map and table*) This means looking at the use of laterite, brick and stone walls to alter the terrain. It also means considering whether these constructions were associated with Mon peoples and how they relate to references to Suvannabhumi and to the Pyu sites in Upper Myanmar. Questions of Suvannabhumi, the Mon and the Pyu, are vital, but the real aim of this paper is to try to settle something more simple. By this is meant acknowledgement of landscape change that appears to have been prompted by the introduction of Buddhist practice, the establishment of the Sangha, and its subsequent royal sustenance. In a manner akin to the preservation of points of major transformation in ancient Cambodia (Ang Choulean 1998:117), these landscape transitions appear to be preserved in the collective memory, recalled in the inscriptions of Kyanzitha and Dhammaceti as well as chronicle sources. It is these accounts that are discussed here, with sites detailed in a companion paper, *Early sites of the peninsular coast* (Moore 2004).

MON AND PYU-BAMAR

The majority of the peninsular walled sites are in the townships of Waw and Bilin in the present Bago Division and Mon State with others as far south as Dawei. Sites include Kyontu, Sittaung, Kyaikkatha, Kaw Htin, the Kelasa-Mya Thabeik (Dokkhalun) mountain, Winka-Ayethema villages and Zothoke-Kyaikhtisaung. South of Zothoke-Kyaikhtisaung is Thaton, the traditional centre of Suvannabhumi and early Theravada teaching. Finger-marked bricks and early votive tablets have also been recorded to the east at Pa-an in Kayin (Karen) State (San Win 1986, 2002, Khin Ma Ma Mu 2000). Similar sites are found in the central part of the peninsula at Hmawbi (Sanpannagon), with Thagara, Shin Mokti and possibly other sites located near Dawei (Tavoy) (Aung Myint 2000b). To the south, around Myeik (Mergui), Tanintharyi (Tenasserim) and the many islands off the coast, early trading settlement is also indicated with mention of minerals such as tin, lead and iron. Although finger-marked bricks have not been found, walls remain from the old port at Tanintharyi, possibly the Tun Sun mentioned in 6th century AD Chinese records. Both Dawei and the Myeik-Tanintharyi areas would have been ports of call on a 'Maritime Silk Route' (Jacq-Hergoualc'h 2002:84). On the east coast of the Malay peninsula, a number of early historic centres are found, such as Chaiya, Nakhon Si Thammarat and Yarang, identified with Panpan, Tambralinga and Langkasuka, respectively. Although somewhat after the period under consideration here, the significance of this whole southern area to the kings of Bagan is clear. For example, a signed votive tablet of Anawratha was recovered in Myeik, and in the 11th C AD, Saw Lu, son of Anawratha, erected an inscription near Maunglaw, some ten miles southeast of Myeik (Luce 1969:26-7). Two tablets from Shin Mokti at Dawei are inscribed by governors of Kyanzitha's reign (1084-113AD).¹

Economic and cultural networks existed not only along the coast, but west across the Bay of Bengal, as well as over and around the peninsula. While this range of relationships has been well documented for later periods (Om Prakash 2002), the patterns also provide a framework for considering the peninsula at an earlier time. Particularly disputed is the nature of interchange with the Pyu and later the Bamar to the north. The similarities between Mon and Pyu-Bamar have led to suggestions that the southern walled sites are appendages of the northern Pyu sites, with Mon speakers present only following later immigration from northern Thailand (Aung Thwin 2002:35,45). Today, many of the walled sites are in Mon-speaking areas. However, Thagara and Shin Mokti at Dawei are well past the town of Ye, the rough southern limit of the present Mon population (Than Swe p.c.08.03).

The notion that the peninsular area was Pyu rather than Mon in the early centuries AD is plausible - although Pyu inscriptions would be expected. More importantly, the proposition highlights a linguistic bias colouring many of the arguments against what has been called the 'Mon paradigm'. Identifying patterns of re-iteration has been central in this questioning the presence of a Mon kingdom prior to the 15th century AD (Aung Thwin 2001, 2002). Many points of the case against the accepted understanding of the Mon role are useful. While these show the way that viewpoints have developed, the argument 'against' self-admittedly remains within a linguistic framework and focused urban definition. In relation to this present paper, for example, it is argued that had there been an early Mon state in Lower Myanmar, that there would be linguistic evidence and monumental remains (Aung Thwin 2002: 38-39). Within these estimations, the identification of walled sites with the Mon

is not dismissed. However, a full account of the archaeological evidence for complex settlements verified through remote sensing, ground survey and excavation is not included. Thus while agreeing with many parts of Aung Thwin's argument, those dealing with the early historical period do not tally with the complex evidence presented here.

One example of simplification at the expense of the peninsular settlements is seen where the Lower Myanmar sites of Winka, Ayetthema and Hsindat-Myindat are described as smaller urban sites close to if not identical with the Pyu (Aung Thwin 2002:35). In fact, Winka and Ayetthema are villages at the foot of Mt. Kelasa in Bilin Township, Mon State. The remains of laterite, brick and stone constructions in these villages are linked to sacred hermitage sites on the mountain. Hsindat-Myindat is a carved laterite wall, part of the Zothoke-Kyaikhtisaung complex, a multiple-walled site located southeast of Kelasa. This was perhaps a centre of teaching and ordination complementing Kelasa in a manner similar to the associations between Thaton and Zingyaik (Gacchagiri) mountain (16.41n x 97.28e) to the south. An array of smaller sites continues to the southeast of Zothoke including Zweekala, Waingpat and Muthin (17.10n x 97.11e), all low lateritic mounds with pagodas, laterite sculptures, and various types of laterite and brick linear constructions. Questioning whether these are 'Mon' or 'a state' is not irrelevant, but tends to funnel out understanding of the material remains into a rigid framework. This structure is the legacy of early linguistic studies, and does not incorporate ancient land alteration and the fluidity of early political domains demonstrated by the variation and the distribution of the walled sites.

Peninsular walled sites mirror the contours of the terrain in a way that is *not* typical of Pyu walled centres such as Beikthano, Halin and Sriksetra. Given the prior archaeological survey of the Pyu sites, the differences from what has been called the laterite (*gawun*) culture (Sar Win 1986) have been overlooked. Pyu walls make use of local incline with the inclusion, for example, of a lower in or seasonal lake a Beikthano and a higher area of lateritic hills at Sriksetra. The main determinant in the form of the peninsular walled sites, however, is laterite. The walls surround lateritic 'islands', making use of local material in relation to local terrain, perhaps remnants of an initial phase of land alteration.

Although evidence is abundant for early habitation of the arid zone of Upper Myanmar, alteration of the terrain is not characteristic of these sites (Moore 2003). The Pyu walls enclose variable lands; they do not emerge from the contours and materials of the terrain as do the peninsular walled sites. But the peninsular sites do share many features with Pyu culture, from the use of finger-marked bricks to similar votive tablets and silver coins. The common artefacts roughly situate both groups prior to Bagan, when bricks grow smaller and are stamped, not fingermarked, and when votive tablets change in shape and style, and when silver coins cease to be used (Moore 2003b).

As recently discussed by this author in relation to the Pyu, we must look beyond ethnic paradigms to accommodate recent research. In regards to Upper Myanmar, this means discussing domains perceived as Pyu within the framework of ritual and technology, such as changes from animism to Buddhist practice, and the presence of bronze and iron mortuary goods (Moore 2003, 2003b). In the case of the peninsular walled sites, it means data on the multiple walled sites, a distribution stretching from Bago to Thaton, south to Dawei and possibly Tanintharyi. Research in this area has been

impeded by the high rainfall, thick vegetation, inaccessibility and few well provenanced artefacts. The two existing radiocarbon dates, from the sixteen and seventeenth century AD, testify to the later importance of these sites but not their founding or development (Myint Aung 1999:53). Given these constraints, the use of remote sensing has been essential in identifying and analysing the form of walled sites located in the coastal areas of Bago Division, Mon State and the northern part of Tanintharyi Division (Aung Myint 1998b, San Win 1986).

EARLY INCORPORATION & GAWAMPATI

Unlike the walled cities of the Pyu, the peninsular sites receive abundant rainfall. Control of water would have been important, especially near the river mouths along the coast, where many of the walled sites are found. The gaps separating the steep walls of the peninsular sites are narrow, more gullies than moats (Aung Myint, p.c, 08.03). Without metal tools, it is difficult to imagine how the lateritic landscape could have been so modified, and how the walls and ravines could have been constructed and maintained. However, this is also a region of abundant iron resources, offering plenty of raw materials favouring local production. At some point, the collective effort needed for the walled constructions became the norm, with the local *gawan* or laterite providing the first durable building material (Nai Pan Hla 1972:50). Remains of these early laterite constructions have been identified at Kyaikkatha, at the foot of Mt. Kelasa, at Zothoke-Kyaikhtisaung and sites to the south.

This was not necessarily a adjustment prompted by new technology but one instigating it, reflecting a changing importance of space in the choice and the form of attention brought to bear upon objects that are of concern (Foucault 1997:368-370). In this case, the absorption of a more highly synthesised royal and religious worldview affected demarcation of domain. It is argued here that memory of these transformations to place are seen in traditional accounts, with the initial absorption of Buddhist teachings recorded in references to the sage Gawampati. The name of this figure is said to derive from 'the living mass of earth' and commonly taken to refer to *gawun* or laterite (Cetana 1997: 32; San Win 2003 p.c).

The origins of Gawampati in Myanmar are found in legends of Zingyaik Mountain, south of Thaton. Gawampati (Canda Kumara) and his brother (Suriya Kumara) are born from *naga* eggs, begotten from the union of a Zingyaik *weiza* and a female *naga*. The children are raised by two hermits of the region, one living on Zingyaik mountain and another on Zweekabin (Bandavagiri) to the east. Gawampati dies at the age of eight, and his brother later becomes King Siharaja of Thaton (Subbindanagara/ Suvannabhumi), Reborn in the time of the Buddha, Gawampati returns to the place of his earlier existence, eventually bringing the Buddha and a company of *arahats* to Zingyaik and Kelasa in the present day Mon State. There they meet his elder brother from a previous life, now known as King Tissadhammasiharaja (Cetana 1997: 24, 30, 37). In all of Gawampati's lives and capacities, the connection to place remains constant as messenger and founder, guardian of sacred or royal constructions. This is seen in the earliest remaining texts, the 12th century AD inscriptions of King Kyanzittha. In the Shwezigon inscription, for example, Gawampati seeks to confirm with the Buddha that he will indeed build the city of Sriksetra together with a sage, the future King Kyanzittha (Taw Sein Ko and Duroiselle 1919:114). Significantly, in an inscription found at Ay-

ethema on Mt. Kelasa, Kyanzittha refers not to the establishment of a sacred structure, but to its renovation:

“...this pagoda...which was in ruins...to build and encase it afresh firmly and fairly, bigger than before...and had it dedicated” (No.V, Duroiselle 1960:146)

The first part of the Ayethema inscription is similar to one found near Bagan. Both mention the future building of Sriksetra and the attendance of Gawampati:

“ O, Ananda, in the year when I shall achieve Nirvana, the sage Bisnu, together with my son Gawampati, and King Indra, and Bissukamma, and Katakarmmanagaraaja, shall build a city call Sri Kset...” (No. III, Duroiselle 1960:141)

This account is also incorporated into the *Glass Palace Chronicle*:

“At that time these Seven Exalted Ones - Gavampati, Rishi, Sakra, Naga, Garuda, Sandi, and Paramesura - met in accordance with the Lord's prophecy and conferred together about the founding of the city..” (Pe Maung Tin and Luce 1960: 14)

In Kyanzittha's inscriptions, Gawampati then repeats the prophecy of the king's future births to Sakka in Tavatimsa. At the consecration of the Letteshe pagoda of Anawrahta, although Gawampati is not present as he was at Sriksetra, an image of the sage is enshrined and lands endowed. At the palace consecration of Kyanzittha, an image of Gawampati is installed next to one of the Buddha. Shorto emphasises Gawampati's multiple roles: the sage receiving the robes of a minister, acting as a guardian, and representing the Sangha (1967:136, Blagden 1938:37-8). There is nonetheless a common reference to place, both sacred and royal. At Sriksetra, Gawampati assists in the marking out of territory; at Bagan he is cited where lands are given, or in the case of the palace where land is being consecrated for the king. A similar role marks the references to him in later inscriptions of the Mon king Dhammaceti.

Among the records of Dhammaceti's pagoda restorations, a 1486 AD inscription from Hpayawya near Bago notes Gawampati's multiple functions. Gawampati is first teacher to king at Thaton. He is then messenger bringing the Buddha Gotama to the king and later conveying the Tooth Relic. This multiplies into thirty-three for the king to consecrate the thirty-three stupas marking the capital and territories of the realm (Shorto 1970:16-21).

Then the Mahathera Gavampati remembered the instructions the Buddha had given him, and while the pyre still burned he took the tooth, which now through the Buddha's vow became thirty-three; those he bore to King Sirimasoka. When the king received them he built thirty-three small stone *cetiya*, and for the term of his life worshipped and revered them...” (Shorto 1970:17)

The importance of place remains a common theme, with links made to tutelary or ancestral spirits (Shorto 1963:576, 1967: 132-5). Gawampati's brief mention elsewhere also relate to place, although

these raise unanswered questions about the derivation of the Mon-Bamar version. He is noted for instance in the *Mahakarmavibhanga*, where he voyages to Suvannabhumi (Levi 1932:62). His name in Sanskrit is seen to have the sense of either a radiant being or a guardian of the cattle of a place (Przyluski 1926: 240). In the *Mahabharata*, Gawampati is one of the names given to Shiva, linked to the bull Nandin (Levy 1957:83). In accounts of the First Buddhist Council, Gawampati's presence is requested to complete the required company of five hundred *arahats*. He is presented as a meditating sage, a bovine pre-Buddhist figure linked to Shiva, possibly a deity of drought and wind, called from his mountainous home in an elevated frontier territory (Przyluski 1926, Luce 1959:63). Upon hearing of the Buddha's departure, however, Gawampati decides upon self-cremation, causing flames to issue from his body. Four fountains spring up and water his ashes, and he departs without residue (Levi 1932:62, Levy 1957: 69, 83, 89).

Although this account is not replicated in the Mon version of Gawampati, what is paralleled is the ability to instigate an uncommon response from natural forces. Gawampati is also similarly linked to the founding years of the Buddha Gotama's practice, and repeatedly triggers extraordinary events. For instance, both children born from the *naga* eggs are fed with milking flowing from the forefingers of the hermit fosterfathers. When Gawampati returns to the place of his former existence to find his previous mother, he knows her present village and knows that she is a young girl of seven years of age. Finding her, he makes an assertion that milk might flow from her breasts. This it does, going from the breasts of the young girl to the mouth of Gawampati (Cetana 1997: 24, 35; Nai Pan Hla 1972:49). As noted above, the other child, Siharaja, follows a royal course. With the assistance of Sakka (Thagyarmin) and his fosterfather, the hermit of Zingyaik, he establishes Thaton (Tin Gyi 1931:13- 14). At one point, Gawampati recalls this heritage, for he notes that in a previous existence he was the younger brother of the king's father, in turn the founder of the second Thaton dynasty (Shorto 1970:18). These episodes display the same coalescing of royal and religious circumstance that marks subsequent phases of the narrative, one to some extent reminiscent of the royal option relinquished by a succession of Buddhas.

In the later existence when Gawampati brings the Buddha Gotama to Suvannabhumi, he enters into the palace of his brother, taking his seat in an appropriate place. This visit of the Buddha is described in both Mon Chronicles and in the inscriptions of Kyanzittha (Tun Aung Chain 2000, Cetana 1997: 31). Upon arrival, the Buddha pauses at Mya Thabeik before arriving at the nearby summit, the Kelasa peak. At his departure, the Buddha gives Sacred Hair relics to six hermits on the mountains of Zingyaik (Gacchagiri), Zweekabin (Bandavagiri), Kelasa (Dokkhalun), Kyaikhtiyoe (Dohkamawt Katun galain), Kusinara (Siripabbata), and Meilon (Nagapabbata) (Cetana 1997:48). Although the king requests a relic, he is told to wait thirty-seven years until the time of the Buddha's demise. At this time, Gawampati arrives with the Tooth Relic that multiplies into thirty-three, as mentioned above.

As with the references to Gawampati connected to the First Buddhist Council, however, he then disappears from the Suvannabhumi record. Gawampati is credited with the establishment of Buddhist teachings. However, it is the 3rd century BC monks Sona and Uttara who establish a school of Buddhist learning and pass away while still in the area, meditating at Kusinara Zeidi near Bilin. Buddhaghosa journeys to Kelasa several hundred years later when he returns from Sri Lanka with

the translation of the sacred texts. Gawampati does not permanently vanish, however, for according to the *Glass Palace Chronicle*, he is present at the founding of Sriksetra, in 443BC. He is also recalled in the epigraphy of Kyanzitha's Mon-influenced reign, where as we have seen, an image of Gawampati is honoured as part of the palace foundation ceremonies. In this context Kyanzitha's inclusion of Gawampati is a significant reminder of the amalgamation of Mon and Pyu strands into the Bamar kingdom at Bagan. However, it is not the usual link that focuses on the Thaton sage Shin Arahan. The Shin Arahan tradition does not commemorate the Pyu Buddhist legacy, its complexity illustrated by the variety of texts inscribed on the gold plates recovered from Sriksetra. Gawampati, however, draws upon both Mon and Pyu, for he is instrumental in the introduction of Buddhist teachings in the Mon lands, is present at the founding of Sriksetra, and much later returns at Bagan.

ROYAL MONASTIC COMMUNITIES

As monastic communities were founded and new elites established, social and ritual needs prompted technical variations in the method and form of constructions. One of these was the incorporation of brick alongside laterite, seen in the large finger-marked bricks found in the walls and buildings of the peninsular sites (Moore and Aung Myint, 1991; Aung Myint 1998; Moore 2003, San Win 1986). Kyaikkatha (17.21n x 96.55e) and Zothoke-Kyaikhtisaung (17.10n x 97.10e) for example, are notable for their multiple inner and outer walls. It is possible that these outer enclosures represent a second phase, one following initial laterite construction. Development would have continued around the sacred centre of Mt. Kelasa with sacred sites on the uplands linked to habitation areas at the foot of the mountain. Finally, along the coast, both to the north and south, sites such as Sittaung and Thagara could have served as ports, and Kaw Htin as a guard post or distribution point, fluctuating in their relationship to Kyaikkatha and later Thaton. The focus of the chronicles shifts inland to Thaton after the visit of the 3rd century BC monks Sona and Uttara. Geographically this meant a shift inland from the port area of Kyaikkatha near the mouth of the Sittaung (Nai Pan Hla 1972:46). Chronicles also consider Buddhaghosa a native of Thaton, and it is to Thaton that he traditionally brings his translation of the texts in about 400 AD.

In various accounts the Thaton area is also referred to as (Skt. country of the Rmen), a term connected to the Mon (Rmen) people and sometimes linked to *Muttama* (Cetana 1997:44). Like Suvannabhumi, its usage remains a matter of debate (Aung Thwin 2002, 2001; Chen Yi-Sein. 1999). While the historicity of many chronicle references is also questioned, Theravada presence at Thaton is generally accepted from about the fifth century AD, with a number of artefacts and inscriptions roughly placed within the second half of the first millennium AD. It is the memory of this Thaton or Sudhamma, 'city of the good law' as the seat of Suvannabhumi that was perpetuated in Dhammaceti's 15th century AD texts (Aung Thaw 1972:34, Luce 1969:21).

"The religion shall stand and shine for five thousand years in..Tharehkittara, Thiripyissaya, ...'So he took it and crossed over and reached the city of Thaton, called Sudhammavati." (Pe Maung Tin and Luce 1960:48).

The line of kings established by Siharaja ruled until the time of King Manuḥa, to whom the Bagan King Anawrahta turned to obtain a full set of the Theravada texts and thus shifting the lega-

cy to Bagan. Shin Arahan, the monk responsible for converting the king to Theravada teachings, is said to have come from Thaton, this connection explaining the continued indication of Gawampati in later Bamar chronicles. The memory of Gawampati and that of Shin Arahan are both preserved in the inscriptions and chronicle records of King Kyanzittha. Like other citations, the episodes are all centred on place and the enshrinement of *htarpanar*:

“In a former life Shin Arahan was a monk, and king Htihaingshin [Kyanzittha] a puppy who followed the monk wheresoever he went. One day the puppy died and the monk in pity gathered the bones and kept them in a heap. At the place where the heap of bones lay a tree had grown, and whenever the tree shook in the breeze the king’s head suffered pain. Though all his masters of magic treated him with medicine he might not be relieved. When Shin Arahan heard of it he preached before the king and told him of what had been of yore; and he took the bones and gave them to the king, who buried them well.” (Pe Maung Tin and Luce 1960: 108)

In this account, the links to particular locales are maintained throughout several existences, one marked by a tree emerging from the heap of bones and in a later time by their transfer to the king. This importance of place, and the synergy of sacred and royal acts is a consistent theme seen again in a tradition that prior to the time of the Buddha Gotama, a sanctified area called Subbindanagara (Thubbeindanagara) is said to have existed in the present day region of Suvannabhumi. Nearby was a royally auspicious ground where victory was ensured if the king trod there before going into battle. However, “the significance of the royal site does not derive from its mere antiquity. Rather, like the *bodhimanda*, the site where successive Buddhas attain Enlightenment, it is of permanent significance because it is a ‘victory ground’ (Myanmar *Aungmyei*, Pali *Jayabhumi*)” (Tun Aung Kyaing 1999:3-4). Suvannabhumi is simultaneously sacred and royal, a context not invented, but re-iterated by Dhammaceti. Here the ancient topography is further detailed, the city being described as half resting on a hill and half on flat land adjacent to the coast (Blagden 1928). This depiction uniquely fits the upland and lowland areas of Kelasa mountain and has been one of the numerous texts cited in relation to Suvannabhumi.

EARLY ACCOUNTS OF SUVANNABHUMI

There has been continuing debate as to the extent and location of Suvannabhumi, ‘golden land’. Opinions have varied from a single city to all of Lower Myanmar, to the Malay peninsula. It is plausible that Suvannabhumi was used in all these contexts, just as *myo* was used to refer to an area of variable size (Aung Thwin 1987:89). Given the identification of Mon peoples with Suvannabhumi has also included Dvaravati areas of Thailand (Nai Pan Hla 1972:45). The term is mentioned in the dialogues of king Milinda and the monk Nagasena. It is also preserved in Sri Lankan texts relating the story of the two merchant brothers who received Sacred Hairs from the Buddha Gotama, traditionally part of the Shwedagon *htarpanar* (Htin Aung 1967:24-6, Nai Pan Hla 1972:46). Dhammaceti’s 15th century Kalyani inscription also refers to the mission of Asokan monks to Suvannabhumi:

"[Of these Theras, he sent] our lord Mahindathera [to establish the religion in the island of Tambapanni [Ceylon] and Sonathera and Uttarathera to establish the religion in] 91.6) the Mon country, [which was also called Suvannabhumi],...At the time when our lords the two monks, namely Sonathera and Uttarathera (arrived?), [a king called Sirimasoka ruled over the country of Suvannabhumi. His capital was situated to] (1.7) the north-west of the Kelasapow pagoda." (Blagden 1938:111).

Chronicle accounts also include reference to the ruins. For example, U Pyinna locates Suvannabhumi at Winka. U Shwe Naw also described Taikkala as being at the foot of Dokhalun Hill, fortified with a natural cliff on the south. Its 900 x 450m fortifications were broken by gates on the east, west and north, and bordered on the north by an earth and rubble wall. According to U Pyinna's account, in the generations following King Sirimasoka, half of the city of Taikkala was lost to the sea, prompting a shift of the court to the area of present day Thaton (Myint Aung 1999:21-2).

While the Taikkala-Suvannabhumi tradition centred on Kelasa is fairly consistent and geographically viable, the name Suvannabhumi has also been linked to the Bago region and to Chin-lin, a placename contained in early Chinese accounts of the area. The Chinese references are fragments only. They mention kingdoms including Chin-lin, located west of Funan. One notes that the king of Funan, Fan Shih-man disappeared and presumably died during an attack on Suvannabhumi (Briggs 1951:21, Myint Aung 1999:20). The Chinese mention of Chin-lin is found together with reference to Lin-yang, with varied opinions about whether to locate this pair of toponyms in present day Thailand or Myanmar (Moore 2003b forthcoming, Htin Aung 1967:7,9, Luce 1965:10, Wheatley 1983: 167, Chen Yi-Sein 1999: 1999:86-7).

While the Kelasa identification cannot be discounted, the vagueness of the Chin-lin reference has frustrated attempts to link it to a precise location. U Pyinna records the founding by King Sirimasoka of towns near Thaton and Kyaikte pagoda (Myint Aung 1999:22). Both of these are Sacred Hair Relic (*Hsandawshin*) pagodas, a distribution of highly venerated sites centred on Kelasa and Zothoke-Kyaikhtisaung. These extend north to Kyakhtiyoe and south to Thaton and Zingyaik (Kyaikhtisaung Sayadaw Nd.). In traditional accounts, as mentioned above, the arrival of the monks Sona and Uttara in the 3rd century BC is linked to the area around Mt. Kelasa (Sao Saimong Mangrai 1976, Myint Aung 1999, New Light of Myanmar 21.11.01, Moore 2003a). The monks subdued a child-eating ogre by replicating an even more fearsome creature, a *manothaya*, a figure with two lion bodies and a man's head. The earliest depiction of the figure is said to be a stone statue on the platform of Kelasa Zeidi. The child-eating ogres from the sea are sometimes linked to the mention of the Pisacas, the earlier occupants also cited in the Kalyani inscription. These traditions do not contradict those surrounding Zingyaik, but introduce another strand of memory linked not to the introduction of Theravada teachings, but the establishment of communities to sustain these.

Scepticism about identifying this region with Suvannabhumi recalls similar debates about Srivijaya, where it has been necessary to define the nature of a coastal state rather than searching for an monumental centre like the Khmer capital at Angkor (Nik Hassan 1990:63). It has also been suggested that the lack of geographical clarity surrounding the location of Suvannabhumi may have arisen due to there being a succession of centres, rather than a single longterm capital (San Weng).

01.03). This hypothesis, one supported by some of the chronicle accounts cited earlier, would make Thaton a later capital. Indeed, it is Kelasa, not Thaton nor Zingyaik that is identified with Taikkala, another term found in early accounts (Aung Thwin 1982-83:18). When considered together, the richness of the Zingyaik-Kelasa narratives in relation to the introduction of Buddhist teachings supports the repeated mention of the region or a number of polities, not a single city. This in turn may shed light on the difficulty of incorporating Chin-lin. In this context, the initial impetus for the construction of the walled sites arose and remained one of changing power. Suvannabhumi need not have been either a centre of political and religious power *or* a region, but plausibly was both, part of a group of changing 'galactic polities'.

RECENT SUSTENANCE

Most all of the sacred structures associated with the peninsular walled sites continue to be venerated today. The relevance of this to the archaeological perspective is two-fold. Firstly, the Suvannabhumi heritage is part of a living tradition. It is a tradition of remembrance and representation, centred on venerated sites and stupas (Trainor 1997). Donations have gone into improvement of roads, hospitals and schools at sites such as Kyaikhtiyoe, Kelasa, Mya Thabeik, Winka (Rajamuni/Yazamuni (a) Rajakumara/Kumarazedi; Shwesayan), Ayetthema (Mya Theindan) and Zothoke-Kyaikhtisaung (Moore 2003a, New Light of Myanmar 2002,2003). Offerings have been made, relics enshrined and consecrations carried out at many sites, all practices embodying themes central within the heritage. These are commemorated by inscriptions drawing upon past texts.

The Shwedagon has also been included within this framework. Ancient Dagon (present Yangon) was Mon with the earliest recorded reconstruction at the Shwedagon being the 1372 AD work of King Banya Oo of Hanthawaddy (Shwedagon Board of Trustees 2001). The works of the Mon King Dhammaceti are recorded in a 1485 AD inscription at the Shwedagon. Dhammaceti, as he did at Kelasa, places his renovation and propagation of the teachings in relation to the arrival of Sona and Uttara. The Zingyaik legend, through Gawampati's brother is drawn into the subsequent establishment of the Sangha:

“Two hundred and thirty-six years after the Parinibbana (Final Release) of the Lord Buddha (308 BC), the monks Sona and Uttara arrived in Suvannabhumi Thaton to propagate the Religion. When the Religion was established and an Order of Monks set up, King Sirimasoka requested the two Elders thus: ‘O Venerable Monks, we have received the Dhamma (Law) and the Sangha (Order). Can you not provide us with the Buddha to worship?’ The two Elders then showed the King the Shwedagon in which the sacred hairs of the Lord Buddha were enshrined. King Sirimasoka cleared the overgrowth and built a pagoda and an enclosing pavilion with a tiered pyramidal roof. From that time onwards the people of the Mon country went to worship there.” (Tun Aung Chain & Thein Hlaing 1996:3)

The present continuation of this custom also brings together Gawampati and the Asokan Theras in laterite images of nine key figures in the Suvannabhumi tradition. These were consecrated several years ago in the U Ba Yi Tazaung on the northeast corner of the Shwedagon platform (Moore 2003a). To bypass present undertakings such as this in the course of reconstituting the past would

ignore changes affecting that context. Meaning is derived from context, and new data highlights different relationships. An essential part of interpretation is an understanding of ongoing development. In this case, it is noting the variations emerging, both for their sustenance of ancient sites and the process of change.

MON AND PYU CENTRES

As discussed in relation to Pyu centres in Upper Myanmar, identification of a single capital often leads to an unrealistic chronology with a vague foundation date and an abrupt demise (Moore 2003). Further, such exercises, grounded as they are in the textual record, prioritise epigraphy at the expense of the remains of the sites. In the context of the southern walled sites, Thaton certainly was a significant and perhaps the most prominent site of Suvannabhumi. The greatest number of inscriptions and richest variety of sculpture found to date derive from Thaton, somewhat similar in that sense to Sriksetra. But just as the material culture of Beikthano and Halin demonstrate unique trajectories within Pyu culture, a series of different developments and perhaps sects existed within the culture of Suvannabhumi.

Both Mon and Pyu sites are commonly identified by the presence of finger-marked bricks, walls, beads carved from semi-precious stones, and silver coins. It can be difficult to distinguish between beads from Pyu and Mon sites although silver coins from the two areas are different. For instance, those from the Mon areas are often heavier and bear a conch. However, it is in the form and material of the walls that the greatest contrast between Mon and Pyu sites can be seen. For instance, the brick walls of Pyu sites are in most cases built directly on the ground.¹

Generally Pyu walls were without foundations and sited on sloping areas to make use of slight inclines. They incorporate streams and seasonal lakes or *in* as part of the perimeter. Given the aridity of the central zone, the provision of adequate water was a major concern, one not present in the southern coastal areas. Moats were created with the digging of earth for the production of bricks and also for wall reinforcements. For instance, at Halin the inner wall was banked up with a rampart of earth and brickbats, with the transfer of dirt for this purpose resulting in a new moat.

Peninsular walls also used brick, but in combination with laterite, an abundant local resource. For example, the Ayethema northern wall, some 8.1m (27ft) high, is earthen, topped with two courses of laterite. However, a cutting of the wall yielded a number of brickbats in the uppermost of three layers, suggesting several construction phases (Myint Aung 1999:23-4). Laterite also affected the overall form of many of the Mon sites, located on remnant lateritic formations that are distinct from the surrounding rice fields. The walls follow the terrain contours, giving them a more undulating shape than Pyu sites (Aung Myint and Moore 1991, Aung Myint 1998a, San Win 1986). This topographically determined form recalls that of moated sites in Northeast Thailand, where the shape of multiple moats and earthworks is derived from the remnant river terraces on which they

¹ There are notable exceptions. For example, at Beikthano the wall on the north and a southern partition wall were constructed on top of a dike of yellow clay.

are located. Exploitation of the iron-rich lateritic soils of these sites has been linked to the inception of localised iron production in the late first millennium BC or the early centuries AD (Moore 1992, 1988, 1989).

This link between site form, resource exploitation and technological change is useful in separating sites from the questions of ethnic identification that colour consideration not only of the peninsular sites but the overall distribution of irregular enclosed sites on the mainland. For example, in Northeast Thailand, enclosed sites are commonly linked to Mon Theravada habitation but inscriptions indicate a changing ritual adherence not tied to a single ethnic group nor to a population speaking a single language. One example comes from inscriptions that refer to the 'Mon' kingdom of Sri Canasa in the region around Nakhon Ratchasima near Prasat Hin Phimai. These 7-10th century AD inscriptions have been found at Bo Ika, Hin Khon and Ayutthaya (Moore 1988:5, 9). They are in both Sanskrit and Khmer, with the earlier inscriptions being donations to Buddhist foundations and the later ones Saivite dedications, so possibly reflecting Khmer hegemony. However, these sectarian and ethnic labels do not explain the composition of the groups that differentiated themselves by means of site enclosure.

A number of language clusters were present across the mainland in the later first millennium AD. The common use of enclosure with massive fortifications is a reflection of contestation between increasingly stratified societies. The synergy between systems of political rule and growing monastic and tutelary hierarchies undoubtedly operated within an existing context of patronage where competition was inherent. Within this framework may be placed the somewhat similar walled forms shared by Pyu, Dvaravati sites in Central and Northeast Thailand, and sites such as Vesali and Dhanyawadi in Rakhine (Arakan) (Woodward 2003, Gutman 2001a, 1977). The distribution of these enclosed sites roughly parallels that of silver coins, extending from Vesali in the west to Oc-éo (Funan) on the east. It has been suggested that this corresponds to a trade route with the production of coins at times centred in Funan and at others at Pyu sites such as Beikthano (San Shwe 2002). Like silver coins, these centres appear to slowly fade in political terms by around the 8th century AD with the rise of more hierarchical kingdoms (Wicks 1992:139). This hypothesis, in being centred on the similarity of coins rather than the different linguistic groups, is a useful model for future investigation of the period.

CONCLUSION

The peninsular walled sites played a pivotal part within this critical era when Buddhist practice was absorbed and more hierarchical kingdoms emerged. As suggested in traditional histories, this may have commenced at Zingyaik with Gawampati, who subsequently brings the Buddha Gotama to the region. At the close of the Buddha's visit, he gives Sacred Hairs to six hermits, their mountain retreats marking out a sacred geography along the coast. This topography is then elaborated in the final appearance of Gawampati bearing the Tooth Relic of the Buddha. When multiplied, these are deposited in stupas erected on the low lateritic mounds found throughout this area, opening up the walled site culture. Laterite water-related and defensive constructions then appear to have been enhanced with the addition of bricks, many of them finger-marked. It is suggested here that these changes in form and construction material correspond to the gradual replacing of accounts of Ga-

wampati by those of the monks Sona and Uttara. Centred on the Kelasa region, this may correlate to the development of walled sites such as Kyaikkatha and Zothoke-Kyaikhtisaung. Finally, again bringing together site elaboration, artefacts and tradition, the focus shifts inland, with the return of Buddhaghosa to Thaton and Kelasa. A number of large pieces of stone worked in relief have been recorded in the Thaton area, and the linear stone constructions of Mya Thabeik on Kelasa may also date to this time,

The memory of this laterite-brick-stone sequence appears to be preserved in a line going from Gawampati, to Sona-Uttara, and to Buddhaghosa. All are staunchly retained in Myanmar traditional accounts despite continued academic debate on their historical veracity. Technical change is implied in the variation of form and location of sites centred on the Zingyaik and Kelasa region. Enclosure of land may have initiated a systematic and expanding exploitation of laterite, one that also facilitated local production of iron. Developments such as these perhaps corresponded to changing attitudes towards demarcation, prompting construction of multiple Walls, at times around both an inner centre and an outer domain as seen at Kyaikkatha and Zothoke-Kyaikhtisaung.

Competition could also foster alliances that fluctuated over time as centres of patronage and teaching shifted. To search for the remains of a central urbanised 'kingdom' of Suvannabumi in peninsular Myanmar between roughly 500 BC to 500 AD implies a clear and fixed hierarchy at odds with the fluid relationships sketched out here. Dupont long ago queried the existence of a Mon State, concluding that the 15 C Dhammaceti had recast the past (Aung Thwin 2001). Although this 'recasting' has been used to argue against the 'Mon polity', the approach bypasses a memory of the past carried by various texts. This is seen most particularly in bestowing a dignity of age. Without long prior existence, these sites would have lacked the stature to bestow honour on the acts of Dhammaceti to purify ordination. Myth and legend are not archaeological data, but in their selection of places and the allusions made, they offer a glimpse of far earlier memories of people and places still alive and highly valued at the time of Dhammaceti.

From the various citations given above, a Sriksetra to Thaton to Bagan route for Gawampati has been identified (Shorto 1970:23). Kyanzitha places himself with Gawampati at the founding of the Pyu centre of Sriksetra but Gawampati's later presence at Bagan comes via the Mon city of Thaton. Despite the close cultural relationship between the Pyu and Mon, they have been separated into monolithic competing entities. Primarily on linguistic grounds and apparent geographical separation, the unrealistic model of a single paramount ruler and state continues to be sought. Such distinctions have remained even in attempts to dispel earlier paradigms, it being suggested for example that the Pyu not the Mon inhabited and probably dominated the peninsular coast (Aung Thwin 2001). Shorto called the acceptance of Gawampati "curious", labelling him the "patron saint" of the Mon and a transformed guardian deity. Gawampati remains a somewhat mysterious mixture of uncertain origin, yet firmly connected to a period of synthesis as Buddhist teachings were absorbed into the tutelary hierarchy (1967:136). He persists in Pyu, Mon and Bamar contexts, and with consistent links to royal and sacred place should not be expunged from an archaeological consideration. If perception of a culture is perpetually constructed in relation to another, there is little space within which to develop a set of criteria for the less known entity. The material presented here purposefully and repeatedly draws upon the memory recorded in chronicles and suggests ways that their meaning may also be preserved in the archaeological 'scars' inscribed on the terrain.

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By the Gold Coast: Svayambhumi?
Lower Myanmar Walled Sites of the
First Millennium A.D. with San Win

The Gold Coast: *Suvannabhumi*? Lower Myanmar Walled Sites of the First Millennium A.D.

ELIZABETH MOORE AND SAN WIN

UPPER AND LOWER MYANMAR

Myanmar (28310 to 9580 N) is closer to South Asia than any other country in Southeast Asia. It is about twice as long north to south (2051 km) as it is east to west (936 km), having borders with Bangladesh, China, Thailand, India, and Laos (Fig. 1). The principal river, the Ayeyarwaddy (Irrawaddy) River, crosses its length from north to south. Indicators of the river's importance are the commonly used terms of "Upper" (Anya) or upstream for areas north of about 18N near Pyay (Prome) and "Lower" or downstream for the delta and peninsula. In use from at least the Bagan period (eleventh to thirteen centuries a.d.), the names are complementary in both concept and physical reality (Aung Thwin 2005 : 317). The geography of Myanmar as a whole is oriented north to south, with mountains paralleling the four main rivers: the Ayeyarwaddy (1130 km), Chindwin (644 km), and the Thanlwin (Salween, 241 km in the valley south of the Shan Plateau). This last river continues into the south, paralleled on the west by the Sittaung (322 km). The peninsula of Lower Myanmar faces the Bay of Bengal and the Indian Ocean, long facilitating interchange with Bangladesh, India, and Sri Lanka. The Ayeyarwaddy rises in the far north above Myitkina at the Mehkha and Malika River junction. It soon opens out into the wide plains of the central basin; west of Mandalay it is joined by the Chindwin. To the south, it branches out to empty into the Gulf of Muttama (Martaban). Several well-used early trade and military routes between India and China passed through Upper Myanmar, including a road west up the Chindwin River through Manipur (Taw Sein Ko 1913 : 329-330).

Within Upper Myanmar, the most dominant ecological factor is aridity. This increases as one moves north, seen in the annual precipitation figures for the first millennium a.d. walled sites of Sriksetra, Beikthano, and Halin. Located approximately 18, 20, and 22 N respectively, these sites average 1250 mm, 870 mm, it is today, but despite good evidence of its importance in Iron Age expansion in northeastern Thailand, we lack comparable documentation in Lower Myanmar (Higham 2002 : 194, 226). However, it is not just the salt water that threatens crops. For example, during August and September, small marine crabs infest the paddy fields. A number of strains of rice are

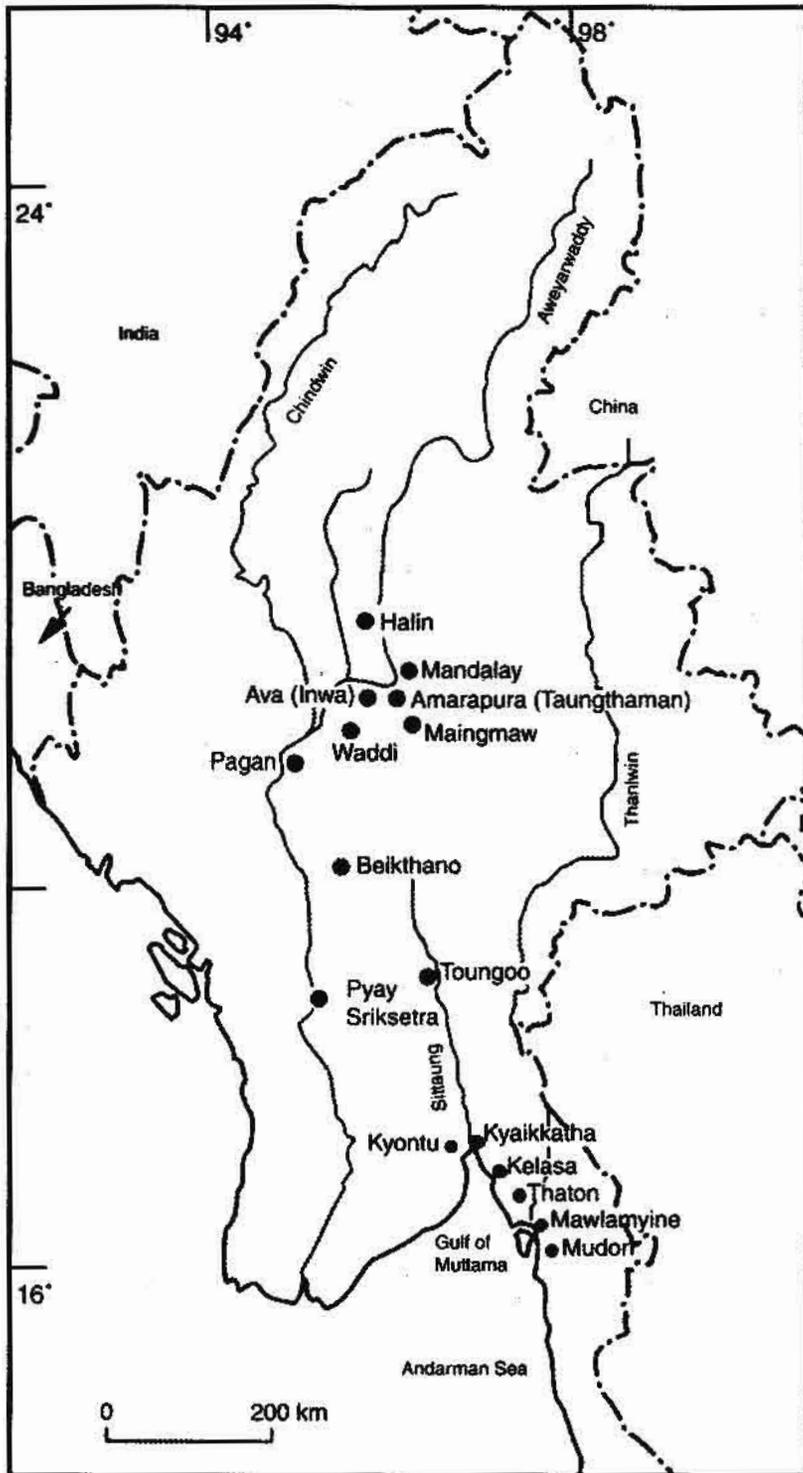


Fig. 1. Map of Myanmar with places referred to in text.

planted, with some varieties able to resist the effects of salt. Dry-season water management includes damming small hill streams, channeling tidal creeks, and using a baling system with bamboo tripod and baler (*khanwe*) attributed to the Karen (Tin Gyi 1931 : 47, 52). Reflecting the multiple purposes of moat construction, the Myanmar distinguish three kinds: water moats (*ye kyone*), dry moats (*chauk kyone*), and mud moats (*nyun kyone*).

Three administrative districts—Bago (Pegu) Division, Mon State, and Tanintharyi (Tennasserim) Division—are found today along the 800 km southern coast. The sites we describe in this essay lie within 100 km of each other in a relatively small area (16.50–17.25N, 96–97.25E) between the Sittaung and Thanlwin Rivers at the northern end of this coast. South of Tanintharyi Division is the border with Thailand, with Malaysia making up the southern part of the c. 1800 km-long peninsula. In general, the eastern side of the peninsula has much wider coastal plains than the western face, although the part we report on here sits within an area of lower land, some 20,000 km² of terrain below 300 m in the pocket of floodplain around the egress of the Thanlwin. The narrowest part of the peninsula, the so-called Isthmus of Kra, falls within Thailand, with a number of first millennium a.d. ports located along this portion of the coast. The concentration of sites has long been used to support the existence of a transpeninsular trade route over the isthmus, although Jacq-Hergoualc'h cites factors such as the sharp relief, difficult to navigate rivers, and dangerous fauna to argue instead in favor of a circumpeninsular route (1997 : 123).

In our view, coastal and overland routes may have reciprocated each other. Within Lower Myanmar, the geography of the immediate coast and inland areas also balanced one another, for while both fall within the same broad type of ecology, each offered its own economic and trading opportunities as well as rhythms of time (Gommans 2002 : 4). Our perception of these sequences stems from the present, and while the environment remains broadly consistent, the course of many rivers (*myit*) and streams (*chaung*) changed, sometimes notably even within the past century. For example, in 1911, the Sittaung cut across a long bend northwest of Kyaikto to make a new channel. This prompted erosion on the eastern Kyaikkatha and Kyaikto area and additional sedimentation on the Bago side (Chhibber 1933 : 32). These changes affected cultivation as well as trade, for Lower Myanmar is not exclusively given over to trade. Nai Pan Hla, while not giving specifics, refers in passing to the Lower Myanmar plain (117,000 km²) being equal in size to the Dvaravati Plain of central Thailand (143,000 km²) (1992 : 9–10). Rice-growing land is seen today around the sites of Kyaikkatha, Kelasa, and Thaton. Kyaikkatha (17°1'N, 96°5'E) and Thaton (16°6'N, 97°2'E) are roughly equidistant from Kelasa (17°4'N, 97°5'E). Together they describe a northwest to southeast line c. 100 km in length facing the northeast coast of the Gulf of Muttama. Streams such as the Kalun north of Kyaikkatha, the Theh Pyuu (“white sand”) south of Winka, and the Ye-poat (*bauk*, “putrid water”) north of Thaton all continue to play important but changing roles in these areas.

LATERITE, WATER, AND SITE RAMPARTS

Lower Myanmar has extensive tracts of laterite, an iron-rich precipitate that can be several centimeters to over a meter in depth. These may be visible at ground level or below the ground surface. Pendleton noted that the placement of the illuvial laterite horizon is conditioned by the upper surface of the groundwater, which needs to be close enough to the ground level for the solution to oxidize. In the formation process, this positioning of the water table is more critical than the rainfall regime (1941 : 202). In the Thaton area, the red-yellow lateritic soils, poor in fertility, are

found as a clay layer some 10 cm below the surface (Tin Gyi 1931 : 52). Soft when dug, laterite hardens upon exposure to form an extremely robust building material. In Bangladesh, lateritic clays are commonly used to make blocks and mortar, with their availability and durability well known (Rahman 2000 : 218–220). In Lower Myanmar, it is possible that ramparts were initially built with laterite blocks and later augmented by clay bricks (Nai Pan Hla 1992 : 50).

Laterite (gawun) was used extensively in Lower Myanmar for stupa foundations and entryway reliefs. Remains of laterite wall and stupa constructions often contain sizeable pieces, seen for instance in the laterite stupa of Kumara/Rajamuni Zeidi in Winka and nearby in blocks some 60 cm in length at Zothoke (Kyaikhtisaung) stupa and the site's Hsindat-Myindat wall remnant (100 m long and c. 2.25 m in height) (Fig. 2). The face of this wall has been carved with large figures of elephants and lions (Aung Thaw 1972: 40; Luce 1985: 161–162, Pl. 70–71; Tin Gyi 1931: 28). The name, meaning “elephant and horses,” may recall carvings on the other wall sectors that once enclosed the now-separate parts of the site, which we describe below. The Zothoke (Kyaikhtisaung) carvings are akin to those found at Dong Si Mahasot and Dong Lakhon, Prachinburi, in central Thailand. There, reliefs on the walls of a tank depicting lions, elephants, and makara (sea monsters) have been dated to c. the sixth century A.D., while a pair of footprints (3.5 m in length) of the Buddha are placed in the eighth century a.d. (Woodward 2003 : 55).

Laterite is thought to have been exploited not only as a building material but for its high iron content. We know little of Iron Age developments in the Mon State; in northeastern Thailand, however, Iron Age artifacts of the first millennium a.d. have been used to support a profile of agricultural intensification, including the advent of plowing and double cropping. Northeastern Thailand is also a laterite-rich region, where it is thought to have been an important element in the

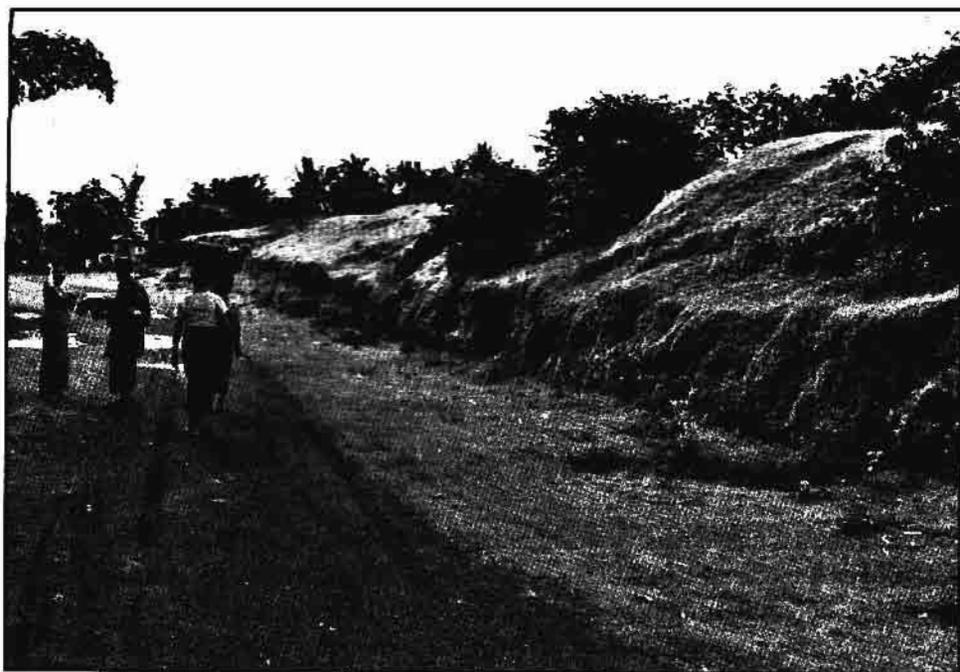


Fig. 2. Hsindat-Myindat wall remnant, southeast sector, Zothoke (Kyaikhtisaung).

increasing availability of iron implements in the early centuries a.d. (Higham and Thosarat 1998 : 135). In a study of iron smelting in Gujarat, no laterite mining was observed, although such mining is considerable in Lower Myanmar north of both Kyaikkatha and Thaton. However, Hegde did note the collection of limonite rocks from the surface of the basal laterite formations and the presence of porous, deep to light red lumps of hematite and limonite (1973 : 417). When roasted, the limonite—lighter red to yellow depending on hydration—expels its water content and increases the iron oxide content, making it more porous and easier to crush, thus rendering it suitable for reduction. In tests on slag obtained from this material, considerable iron was found to have been lost in the slag, which would have been smelted at a minimum reduction temperature of c. 1100 to 1200 C.

The extraction of the metal is thought to have been done directly in a primitive furnace without any fluxing of the ore; although highly wasteful in relation to the total weight of ore smelted, tests of current Gujarat samples showed a very pure iron content. Comparison of these to Iron Age pieces and sites underlines similar production methods (Hegde 1973 : 418–421). At present, there has been no technical analysis done of iron artifacts and slag recovered from Kyaikkatha. However, studies such as these in India and northeastern Thailand encourage us to further investigate early use of the abundant laterite formations for iron production in Lower Myanmar. Also pertinent in light of the low firing seen at the Gujarat sites are iron artifacts excavated from graves at Taungthaman near Mandalay. Tests on these pieces suggested that they were produced at the minimum temperature threshold needed for iron, as they contained a number of impurities that would have been smelted out with higher heat and greater control of the process (Stargardt 1990 : 28).



Fig. 3. Laterite cells at Mu-hsoe-ma-gu, northeast side Kyaikkatha.

Around Kyaikkatha, laterite areas north of the walled site are in active use today. Part of the eastern wall of Kyaikkatha contains a series of laterite cells (Mu-hsoe-ma-gu) associated in local legend with a Khmer princess pining after the local prince who founded the site (Tin Gyi 1931:28) (Fig. 3). To the southeast at Kaw Bein, near Kyaikto, underground networks of tunnels are seen, possibly part of earlier military fortifications. A similar feature, locally called the "Keyhole," is found at the center of the walled site of Zothoke, south of Kelasa Mountain. Other tunnels are found c. 3.2 km north of Kyaikkatha at Natkyizeik, east at Hpaya-tataung, and farther south near Thaton at Mayangon. Trenches such as these could have provided cover for attacking troops and during longer sieges in a manner not unlike later times. For instance, after the British victory at Yangon in 1824 a.d., some 10 km of trenches were documented in areas stretching from Kemmedine to Poojadown (Charney 2004 : 98).

MOATS AND WALLS

The origins of the enclosing ramparts in Lower Myanmar may also be related to laterite. Given the link between laterite formation and the water table, the variable exposure of the formation at ground level would have influenced relative elevation and thus water pooling. The first ramparts in our view were probably natural ones made by lower-lying land around at least parts of slightly elevated terrain (Moore 1988). This can be seen, for example, at Little Zothoke (Kyaikhtisaung), where the walled site occupies an irregular islandlike feature surrounded by an inundated band of rice fields. The function of ramparts in Myanmar may have changed in a way similar to that of Iron Age South Asia (c. 700–350 b.c.) sites such as Kausambi, Varanasi, and Pataliputa. These have earth embankments and moats constructed initially for flood control and later modified for defensive purposes (Phasook Indrawoath 2004 : 133).

Recent chronometric study of moated sites in the Upper Mun basin of northeastern Thailand suggests that many moats there date from the Iron Age but were later filled in. The research also indicated, however, considerable change to the drainage systems, with buried channel features not always expressed in the surface morphology (McGrath and Boyd 2001 : 349–351). Dates from a series of AMS radiocarbon dates on charcoal and shell taken from the earthworks calibrated to between 0 and 600 a.d. were used to support a rising social complexity in this area by 200 a.d. At some sites, however, such as Ban Non Wat, earlier dates of about 200 b.c. to 0 a.d. were obtained. In addition, McGrath and Boyd's study detected older channels covered over by the expansion of the mound. It should be noted that their analysis was of walled sites in the Upper Mun, not the middle terrace areas to the east in Buriram Province. Thus, while significant, it is not clear if the findings are representative of the whole Mun Valley. Yet this is useful in relation to our Lower Myanmar work in the analogous presence in the Upper Mun of many small and rapidly evolving feeder systems (359–360). Welcome also is McGrath and Boyd's call for more closely relating sites to the palaeo-landscape.

KYAIKKATHA

Kyaikkatha was first identified on aerial photographs by Aung Myint in 1976 and verified on the ground in 1981 (Aung Myint 1998 : 104–105) (Fig. 4). The site occupies a unique position at the mouth of the Sittaung, linking it to Upper Myanmar. To the east is the area of Hpaya Tataung (Malawchaung) or "one thousand pagodas." Kyaikkatha is flanked on the north by the walled site

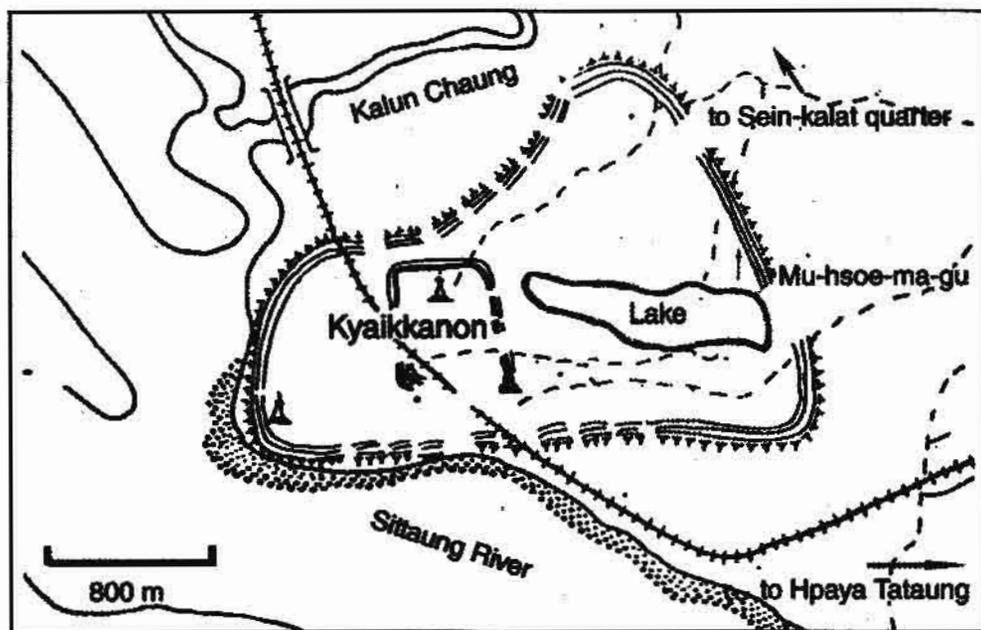


Fig. 4. Plan of Kyaikkatha.

of Sittaung (72 ha, Kyaikkalun Pon Hpaya), one of the 32 *myos* (towns) of the sixteenth century a.d. kingdom of Hanthawaddy. On the southeast is Kaw Htin, protecting the road to Kyaikto, both perhaps having served as sentinel sites for Kyaikkatha. The area within the outermost wall of Kaw Htin is 16 ha, in contrast with the 269 ha enclosed at Kyaikkatha (San Win 1986, 2002).¹ However, both sites have multiple walls and moats enclosing two distinct areas: an inner mound and an outer extension. Thus the number of ramparts does not directly correlate to size, similar to a conclusion reached in a survey of some 60 moated sites in the Central Plain (Mudar 1999). This patterning points to water control rather than defense as a primary function of the man-made constructions, a role borne out by the placement of multiple wall sectors at points of water stress. Kyaikkatha's inner and outer sets of multiple walls are a combination of earth, laterite blocks, and bricks. The outer walls form an irregular lozenge, 2500 m from east to west and 1000–2000 m north to south. This eastern third of the site is broader and higher, enclosing a partly man-made lake, Ye-leh-kyun, c. 250 m wide and 1000 m long. At the center of the site is a natural hill, 750 m across, with a laterite stupa, Kyaikkanon, on the summit. Kyaikkanon hill is surrounded by four to five steep-sided walls separated by moats, each 10–15 m wide. These hug the contours of the natural hill (49.8 m), considerably higher than the Sutaung-pye “wish-fulfilling” pagoda (15 m) just inside the west wall. On the east end of the site just north of the lake is a line of nine undated laterite cells known as Mu-hsoe-ma-gu, noted above. Outside the walls on the northeast is the Seinkalat quarter, where groundnuts and betel are grown on the higher ground. A number of bifacial gray sandstones and granite polished stone tools 3 to 8 cm in length have been recovered from this area. Many others are kept by villagers who value them for medicinal and protective properties.

Kyaikkatha's walls and moats appear to be carefully placed in relation to the local hydrology and topography. For example, the Kalun Stream on the north and smaller watercourses on the south join the site at the juncture where the outer walls are constructed. The walls were massive.

implying considerable labor to construct and maintain them. The five outer walls range from 8 to 21 m in width, with the flanking moats 4 to 17 m wide. The outermost and widest northeastern moat probably reflects efforts to control water flow, as the elevation rises from c. 15 m on the southwest facing the Sittaung River to c. 20 m on the northeast. Just outside the northeast wall, the elevation increases rapidly to c. 50 m, an area of laterite quarries and tunnels of unknown antiquity. Kyaikkatha's embankments on the northeast would have enabled free drainage of lower areas, particularly in times of flood when the lower compartments could act as water basins to reduce inundation levels (Pelzer 1968 : 275). Hence, wall segments may have been built quickly over a short period of time along different parts of what appears on aerial photographs and maps to be a continuous and complete enclosure.

SILVER COINS AND IMAGES OF THE BUDDHA

During the 1981 survey, a horde of silver coins was found at Kyo Bin Kon Kyaung, a monastery to the southeast of Kyaikkatha. These were decorated with conch or Sangkha and Srivatsa motifs and stylistically dated to the fifth century a.d. (Wicks 1992 : 113). The horde continues to provide a useful chronological marker despite the problems posed by portability. One reason for this is that the use of such coins dies out around the end of the eighth century a.d., and some 400 years elapsed before a coinage was introduced at Bagan (139). Similar silver, silver alloy, and occasionally gold coins, found in standard sizes, have been recovered from first millennium a.d. sites in Upper and Lower Myanmar, in central Thailand, and at Oc-éo in the south of Vietnam. The coins have been studied in detail by a number of scholars, with only a few notes on the type found at Kyaikkatha (Gutman 1978; Mitchiner 1990; Wicks 1992).

The design of silver coins was adapted from South Asian pieces—notably of the Andhra region—in the early centuries a.d. and employs a common repertoire of symbols. The four most often seen in Myanmar are the Srivatsa, the Bhaddapitha, the swastika/Rising Sun, and the Sangkha or conch. Of these, the Srivatsa and the Rising Sun are the dominant motifs on the obverse of Upper Myanmar coins; a Lower Myanmar type has instead Sangkha and Srivatsa motifs, the latter with fertility and water associations. These are sometimes dated to the sixth to seventh century a.d., but others are dated to the early centuries a.d. (Gutman 1978 : 12–13, 20; Mitchiner 1990 : 18–19). Sangkha and Srivatsa coins similar to those from Kyaikkatha are seen at sites in central and southern Thailand. For instance, small gold coins from Khlong Thom, Krabi, bear a conch and Srivatsa; one coin of this type, along with 13 gold beads of two types and two gold plates, was recorded from Hpaya Tataung (Malawchaung) during the 2000 excavations at Kyaikkatha (Ngwe Ngwe Soe 2001: Fig. 25; Woodward 2003 : 40). Given the presence of gold mines in the Kyaikkatha region, it is likely that some coins at least may have been produced locally. In some cases, the Lower Myanmar coins are somewhat thicker, smaller, and simpler in design than ones found in Upper Myanmar. For instance, north of Kyaikkatha at Thein Zayat, two thick and slightly curved silver coins (16 mm and 20 mm in diameter) bear a conch on the obverse and an anthropomorphic version of a Srivatsa motif on the reverse (Fig. 5).

Following a survey in 1981, the Department of Archaeology conducted excavations at seven sites within Kyaikkatha. In 1986–1998, five different pits labeled KKT1 to KKT5 were dug; in 2000, units KKT6 and KKT7 were excavated. The Kyaikkatha stratigraphy suggests that many remains are yet to be unearthed, in contrast to cultural deposits in Upper Myanmar that are often virtually at

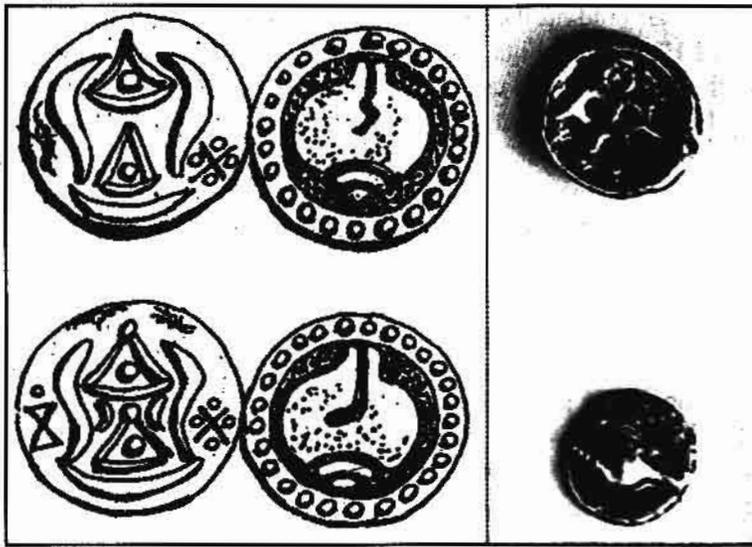


Fig. 5. Kyaikkatha coins (left) and Them Zayat coins (right).

surface level. For example, in the 2000 excavations, six layers were distinguished. The top two were brown humus associated with present habitation (Layer 1, 5 cm thick) and brown soil with no artifacts (Layer 2, 105 cm). The first layer of cultural debris (50 cm) was Layer 3, more than a meter below the ground. This was followed by a further thin layer of habitation debris in yellow soil (Layer 4, 15 cm) and then Layer 5 (30 cm), a black soil without artifacts. At some 2 m below the surface, the basal Layer 6 was identified (Ngwe Ngwe Soe 2001 : 15). All but one of the pits (KKT7) have been refilled.

The structure uncovered at KKT7 is located just west of Kyaikkannon. The building is rectangular, measuring 21.5 m north to south and 40.6 m east to west, with an east entry. The interior contains three large chambers, with a probable platform in the central one, flanked on the north and south by an outer corridor. Along the lower portion of the building's exterior profile, a series of terra-cotta plaques with animal reliefs was found. We return to this type of plaque in discussing Winka; but note the Kyaikkatha examples—not able to be saved in the excavation—as they are the same type as found at Winka, dated to c. the fifth to eighth century a.d. A range of pottery was recovered at KKT7, including a round-bottom water pot (12 cm height) incised with a geometric hatched pattern on the lower portion, several low, wide-mouthed vessels and a number of sherds decorated with incised and impressed linear designs, and others with circular and triangular motifs (Ngwe Ngwe Soe 2001). Surface finds from the compound included blue glass beads, polished stone tools, votive tablets, and a number of grinding stones or mullers akin to those found at Dvaravati sites (Ngwe Ngwe Soe 2001 : 15; Phasook Indrawooth 2004 : 134; San Win 2005: Fig. 8).

At Kyo Bin Kon Kyaung, where the horde of silver coins was found, five bronze images of the Buddha were also recovered, although they are now kept at the Don Lan Kyaung or monastery. The images, ranging in height from 15 to 25 cm, may be dated to about the fourteenth century a.d. Three of the images, standing with right hand in the Abhaya Mudra (gesture of fearlessness), broad

shoulders and a ribbed belt holding the undergarment, recall images from Haripunjaya and late Sukhothai (Woodward 1997 : 123, Figs. 140, 143). In the modeling of the head, strong browline, and nose, as well as the small knobbed ushnisha, the closest parallel to two of the images, however, is an undated seated Buddha found near Muang Di pagoda at Twante (Luce 1985 : 165, Fig. 76d). Also at this monastery is a squat pillarlike stone c. 1 m in height, with a sloping top on which have been carved four large faces in the style of a mukhalinga. The smiling mouths on these recall fourteenth century a.d. Pyinna images of the Buddha, but the carving may be recent as the gold-painted piece is venerated today.

An image of the Buddha was also among finds from Hpaya Tataung, east of Kyaikkatha. The image is made of laterite and although now headless, it measures some 90 cm high. The figure is seated in *pralambana* sana, with the right hand raised to the chest probably in the Vitarka Mudra, with the left hand resting on the knee. The image is comparable to seated images from Dvaravati sites such as Nakhon Pathom in central Thailand; where they are dated to the seventh or eighth century a.d. (Boisselier 1975 : 75–82). Other parallels can be seen with a bronze seated image from Beikthano and a stone image from Lemyathna at Sriksetra, dated by San Shwe to the fifth or sixth century a.d. (2006 : 280, Fig. 26.9). Finally, a distinctive type of votive tablet found at Winka also depicts a seated image (Fig. 6). Generally dated to the seventh century a.d., the tablet (7.6 cm high, 4.5 cm wide) has a square base and arched top, emphasized by three seated meditating figures. The central image, sometimes called a Bodhisattva, is flanked by two attendant figures in a graceful

tribanga posture, with five vessels shown on the foot of the throne. This type of tablet, found at Sriksetra, on the east coast of Thailand, and on the north coast of Java, has been used to note the presence of Mahayanist sects, also probable in Lower Myanmar (Luce 1985: Pl. 58a; Pattaratorn 1994 : 125, Fig. 43; Manguin 2006 : 249, Fig. 23.6).

The majority of artifacts from Kyaikkatha stylistically fall within the fifth to eighth centuries A.D., with the seventh century a.d. evidence being the strongest. This does not, however, mean that this was the first phase of habitation at the site—nor the last. We have noted, for instance, current veneration, fourteenth century a.d. bronze images, and polished stone tools. Below we briefly describe another Kyaikkatha find—finger-marked bricks—as these are used within the country as an index of site habitation prior to the ninth to thirteenth centuries a.d., the heyday of Bagan in Upper Myanmar.



Fig. 6. Votive tablet with seated image and attendant figures from Winka.

FINGER-MARKED BRICKS

Finger-marked bricks have been documented in the walls and structures of Kyaikkatha, as well as surrounding villages (Fig. 7). The bricks are generally large, at Kyaikkatha measuring 37.5–47.5 cm long, 16–21 cm wide, and 8.75–10 cm thick. Laterite blocks from the same site were a comparable length and width but more variable in thickness (7.5–27.5 cm). Not all of the finger-marked bricks are large, with some smaller ones at Kyaikkatha (KKT7) found capping walls (Ngwe Ngwe Soe 2001 : 11, 15). While used to construct railway beds and rebuild roads, unlike beads and silver coins the bricks are not of interest to collectors and usually remain where they were made.

The finger-made impressions may be curvilinear or straight on either end or diagonally across the broad face of the brick and generally were made using one to three fingers of the hand. The patterns are diverse, similar to ones documented in Thailand in the Central Plain and at Phimai in the northeast, where they are dated to approximately the seventh to ninth centuries a.d. (Talbot and Janthed 2001 : 188). Within Lower Myanmar, finger-marked bricks are commonly in the lower levels of walls and structures and mixed with blocks of laterite. Within Upper Myanmar, they are also seen as ubiquitous markers of first millennium a.d. cultures. It is thought that the custom came overland from South Asia, but equally possible is that it arrived by way of the northeastern coast of South Asia. In Bangladesh, straw or rice is mixed with the lateritic soils in ditches dug around a village. This is allowed to soak for a few days and then formed into blocks that—in conjunction with a mortar made from the clay—are used to build walls (Rahman 2000:218). Along the laterite-

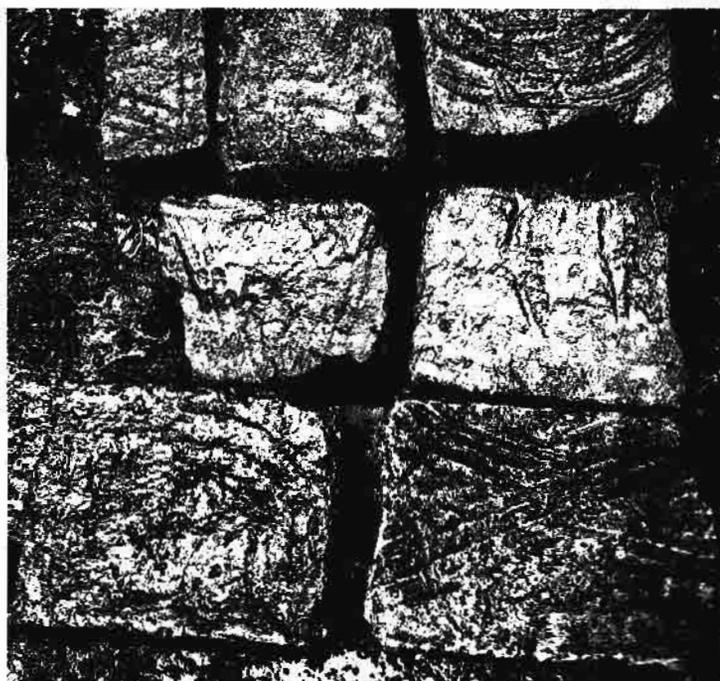


Fig. 7. Finger-marked bricks at Kaw Htin.

rich coast of Lower Myanmar, the rise of brick production may have complemented the use of laterite. The origin of finger marking in South Asia, however, remains unclear. Preliminary survey of Buddhist sites in India and Nepal recorded finger-marked bricks in Bihar (at Kosambi, Rajagriha, and Vaishali), Uttar Pradesh (at Kusinara, Saravasti, and Varanasi [Sarnath]), and at Kapilavastu. In a number of cases, the finger-marked bricks were kept as relics and were believed to have protective power (Win Maung [Tampawaddy] 1991). However, it was not a systematic survey and has not yet been followed up. It does not appear that the markings on the surface of bricks have been remarked upon in a South Asian context. For example, a brick finger marked with three curvilinear lines was included among finds from Dandauli, Saharanpur, in 1935, but it was thickness of the bricks (6–10 cm) that merited comment (Ansari 1938 : 44). Likewise, in a more recent report on Bogra, the discussion is again on other aspects such as the size of the bricks (Rahman 2000 : 221–226).

Kelasa Zothoke and Winka

Finger-marked bricks were also recovered from the stupa on Kelasa Mountain. At present, these are one of the few remnants of its earlier habitation, for the stupa continues to be venerated today. The mountain (at 354 m) is an isolated formation located 20 km west of the Sittaung River. It sits on the western flank of a northwest-to-southwest line of ranges extending down the peninsula. Looking west from the mountain, the coast is visible across a stretch of flat paddy fields and streams. Remains of bolts and cables thought to have been left by ships stranded at villages on the foot suggest that it may have been more accessible to the sea than now (Myint Aung 1999 : 18). However, a comparative study of shoreline change along this part of the peninsula has not to our knowledge been carried out. We are presuming some degree of coastal alteration but question whether the site was ever directly on the shore. A number of small towns are dotted around the base of Kelasa, such as Taung-gyi on the south. However, the main area that has been investigated is on the northwestern side, thought to have been the area called Suvannabhumi in the fifteenth century a.d. inscriptions of King Dhammaceti. According to later Mon chronicles, Suvannabhumi was founded at Thaton and then shifted to Kelasa, where it remained during the reign of ten kings. It then returned to Thaton until relocation to Muttama and the reign of twelve further kings (San Win 1986). A Mon inscription of the eleventh to twelfth century a.d. ruler Kyanzittha from Myatheindan (Kyaik Talan) stupa at Ayetthema and later records of Dhammaceti mention the site of Taikkala (Golamattikanagara) (Aung Thaw 1972 : 40). As a result, Ayetthema was the initial site investigated in the 1975–1976 excavations by Myint Aung. However, as we describe below, the work at Winka proved more fruitful. Thus, if there is any basis for the tradition in the inscriptions, Winka may have been the ancient port, with Ayetthema as a guard post. This is also supported by a series of sandstone and granite walls linking Winka to Mya Thabeik on Kelasa (San Win 2002).

Ayetthema — Located on the northwest and north-northwest, respectively, of Kelasa, Ayetthema and Winka village are small even in comparison to other sites in the area. For instance, the early-twentieth-century population of Ayetthema was 1099, only half the 2637 persons recorded at nearby Zothoke (Tin Gyi 1931 : 110). Ayetthema, north of Winka, is a promontory jutting out from the northwestern side of the mountain. A cutting was made across the north wall of Ayetthema (AYT1), a feature identified on 1958 aerial photographs of the site. It is one of several constructions whose linear outlines are visible on the promontory, thus making our 26 ha measurement of site size

provisional. The wall was finished with laterite blocks, but a stratigraphy of more than 2 m was defined. The upper layer (78 cm) was brickbats, under which was a light sandy soil thought to indicate a moat. There was, however, further brick debris in a southern extension of this, and the third layer (1.6 m) was an earlier brick and earth wall. Among the small artifacts recovered were the heads of two clay animal figures identified as bulls. Two potsherds from AYT1 yielded thermoluminescence dates corresponding to 1499 a.d. and 1662 a.d. (Myint Aung 1999 : 23–24, 53). The results, from Australian National University, demonstrate the continued occupation. However, given the presence of three distinct phases of building for the wall, they are by no means a chronology for the wall or the site. No further excavations have been carried out.

Winka — Following the excavation of the northern Ayetthema wall, Myint Aung shifted work to Winka. Unlike Ayetthema, where excavations were on foothills, the Winka pits were within the village, aligned along Kelasa's lower slope. There are a number of small laterite and brick stupas located along the road stretching north to Ayetthema. Just north of the village, an old stone dam is seen where a major stream empties off the mountain. This is one of several streams watering the rice fields just west of the village. These appear protected from coastal inundation by a linear construction, possibly ancient, but coastal and river change have obliterated clear patterning. Thus our site size of 113 ha, from this linear feature to the base of Kelasa, indicates only the area where brick foundations have been documented. The five structures excavated by Myint Aung, labelled WK1-5, were excavated within the village. WK1 was a 14-room, 20.7 m² masonry building located on a mound in the center of the village. The structure showed no entry, although a platform on the east may have supported a wooden staircase, as the exterior on this side showed some evidence of molding. The bricks were comparable in size to those seen at Bagan (40 18:75 6:25 cm), but four iron nails, a terra-cotta bead with cylindrical grooves, and a spherical carnelian bead suggested an earlier date. Additional spherical carnelian beads were found at WK2 and WK4. A second structure (WK2), 24.6 m southeast of the first, was rectangular (15:85 10:9 m) and oriented north-south, with eight rooms of variable size. The bricks were slightly smaller than those at WK1, but larger bricks were found in the lower layers, laid in a mud mortar. The stratigraphy showed three phases of construction, with structures leveled, the ground filled, and new building taking place at the end of Phase 2. Among the artifacts were two terra-cotta oil lamps, one of red levigated clay, earthen stands, and a flat circular "hopscotch" disc. A carved figure of a seated lion was noted on a laterite slab (45 cm long, 32.5 cm high) (Myint Aung 1999 : 29–30, 43, 46, 50).

WK3 consisted of a laterite wall and a brick platform with receding terraces. A small (6.8 cm diameter), shallow earthenware oil lamp was found in the second layer of this excavated structure. WK4 failed to expose a building of any recognizable plan, although beads, votive tablets, and potsherds were recovered. WK5 was located west of a laterite stupa known as Kumara (Rajamuni) Zeidi in the northern part of Winka village. This has an octagonal plan, each side with a projecting offering platform. The stupa once had a battlement at the junction of the base and dome made of upright slabs with reliefs. The WK5 structure (18:7 16:2 m) unearthed a line of seven rooms along the back wall and five along the front. Although its brick construction was taken to postdate the Kumara stupa, the building's plan and proximity to the stupa suggest a monastery. Other sculptures found nearby included a laterite carving, 45 cm high, of two figures in Anjalimudra (the two handfuls) under horseshoe-shaped arches (Myint Aung 1999 : 50). A previously looted mound (WK6) was excavated in the garden of U Po To in the southern part of Winka village. This exposed a square

laterite and brick base topped by a cylindrical core. It appeared that the original stupa was later encased by a larger structure. Much of the stupa had been destroyed by vandalism, but fragments of 127 votive tablets were recovered, some similar to types found in Kawgun Cave not seen at sites in Upper Myanmar. The tablets varied in size, from 17.2 cm to 10.4 cm in height, depicting the Buddha seated in the Dhyani Mudra (gesture of contemplation). In some cases, the central image of the Buddha is flanked by similar Buddhas and in others by standing attendants, similar to the other Winka votive tablet described earlier. The main image may be framed by an arch or seated under a five-headed naga. Although we have adopted a more conservative dating of the seventh century a.d. for this type of tablet, four of the WK6 examples had Mon inscriptions. These were dated to the sixth century a.d. by Nai Pan Hla based on similarities to tablets from Nakhon Pathom (Myint Aung 1999 : 53).

The pottery from Ayetthema included both gray and red wares, although only red wares were excavated at Winka. Among these were distinctive spouted vessels with a pouchlike bulge on the neck and four red-slipped necks from sprinkler vessels. The flanged rims on the top of these are similar to ones from Beikthano. The spouts and sprinklers also resemble second to third century a.d. pieces from Yeleswaram near Nagarjunakonda and sixth to ninth century a.d. Dvaravati sites such as U Thong and Kok Charoen. Finally, eight roughly finished tools (5.5– 23.3 cm long) made of gabbro, slate, and mica schist were recovered from ground survey during the excavations. Stone tools have also been recovered at Winka, generally bifacial polished axes some 10 cm in length. No radiocarbon dates were obtained, but the pottery, votive tablets, pattern of periodic rebuilding, and plan of WK5 and WK6 all support occupation during the seventh century a.d., as we suggested for Kyaikkatha. This is also indicated by the pieces we describe below: terra-cotta plaques and architectural elements from Winka village.

Winka Terra-Cottas — The largest number of known terra-cotta plaques come from Kyontu (17°28'N, 96°40'E) near Bago, which were photographed in situ in the 1930s (Duroiselle 1938, 1940). They are sometimes seen as influenced by Amaravati styles of the third to fourth centuries a.d. and at others dated to the fifth to sixth centuries a.d. and given a Gupta-influenced attribution (Aung Thwin 2002 : 35; Duroiselle 1940; Guy 1999 : 27; Luce 1985 : 167). As we have seen, similar terra-cottas have been found at Kyaikkatha, with other pieces from Thaton and Winka (San Win 1985 : 199). While none is an exact match, affinities can be seen with carving on pillars at Amaravati and also plaques from Govinda Bhita (Knox 1992: Pl. 6, 11, 14; Ramachandran 1940). The Myanmar plaques are notable for their spirited scenes of celebration and the manner in which the figures fill the beaded roundels into which they are set. On a plaque from Winka now in the Mawlamyine Museum, two lions are depicted, both with full manes and taut, rounded bodies (Fig. 8). One animal is shown frontally and the other in profile, the mouths drawn back and one paw raised. Lions with similar curled manes are seen in laterite at the Pitaka-taik library structure of the Shwezayan at Thaton and on the outer wall of Zothoke (Luce 1985 : 162, Pl. 71 b, c, 166, Pl. 78c, d). Another piece, 50 cm², depicts a peacock. The bird is seen frontally, the tail feathers fanned in an arc behind the head, with wings spread to fill the width of the plaque. The head and breast have been damaged, but the large clawed feet remain.

Other terra-cottas from Winka are equally well made, including several architectural lintel-like pieces of a type not to our knowledge recorded elsewhere. Six sections have been found with the three complete pieces each c. 40 cm in length, 10 cm high, and 15 cm thick



Fig. 8. Terra-cotta plaque with two lions from Winka.

(Fig. 10). Each bears two circles filled with a crosshatch design recalling those on the corners of some of the square plaques. The circles alternate with lozenges filled with bands of beads and lines. Below are triple garlands of pendant flowers. In overall form, although smaller, they resemble Khmer lintels of the seventh century a.d. such as at Sambor Prei Kuk (Boisselier 1966 : 146, Fig. 33a). Both the roundels and the lions recall ones carved on the brick walls of Sambor Prei Kuk (Briggs 1951 : 78, Fig. 13; Roveda n.d.). The lintel designs also bear some resemblance to the circle-lozenge motif on Dharmacakra (Dharma wheels), where Khmer parallels are noted as being varied but characteristic generally only in the Prei Kmeng (c. 635–700 a.d.) and late Sambor styles (c. 600–650 a.d.) (Brown 1996 : 143–148, Figs. 5a, b, c, 58a). To date, no Dharmacakra have been found in Lower Myanmar, although two well-carved laterite circles, each c. 150 cm in diameter and 15 cm thick, are kept at Shan Hpayay in Winka. Each is incised with a circle on the rim and three circles around the center.

Whether the terra-cotta plaques, the “lintel” sections, and the “wheels” are contemporaneous remains conjectural, but placing the range of artifacts within the fifth to ninth centuries a.d. fits with other artifacts recovered from our study area, including votive tablets, stone beads, silver and gold coins, and saddle querns or muller stones (Ngwe Ngwe Soe 2001 : 15; Phasook Indrawooth 2004 : 134; San Win 2005: Fig. 8). The beads, pottery, votive tablets, and stupalike structure (WK6) at Winka, when combined with the terra-cottas and lintel-like piece, leave us with a conservative date of the seventh century a.d. for the majority of the pieces.



Fig. 9. Corner of terra-cotta plaque from Kyontu.

Zothoke — Zothoke is a complex walled site, but as it has a venerated stupa, there has been no excavation or full mapping (Fig. 11). We include it here based on the abundant finger-marked bricks and laterite carved wall mentioned earlier. Two sites are found in this area, commonly called Little Zothoke (Kyaikhtisaung) and Big Zothoke (Ywagyi) (Moore and Aung Myint 1991: Map 12). The walled area once probably enclosed both, reflected in our figure of 182 ha for the area within the outer Little Zothoke (Kyaikhtisaung) wall. The remaining sector, the 2.25 m high Hsindat-Myindat laterite wall, is only the segment 100 m long that we noted earlier. The wall crosses the tip of the mound where it meets the Zothoke Chaung or stream. An earthen rampart backs it on the north side, and a tank is seen in this area today. A double wall with rounded corners surrounds the smaller area, c. 21 ha, of Big Zothoke. An inner rectangular enclosure is seen around a rectangular ordination hall renovated in 2001. Little Zothoke (Kyaikhtisaung) is an irregular site sloping to lower land and a village on the west. As at Kyaikkatha, the greatest number of walls—in places seven—are on the higher northeastern portion of the site. Two stupas, the main octagonal Kyaikhtisaung and the Naungdawgyi, are located on the low interior hill (Luce 1985 : 160–161, Pl. 67–69). The foundation of Kyaikhtisaung is laterite, with some blocks measuring 60 cm long, 45 cm high, and 30 cm wide (Aung Thaw 1972 : 40).

Other sites where finger-marked bricks have been found are located to the southeast, all aligned with Kelasa and Zothoke. These stupas have a variety of laterite constructions and reliefs such as lions and deva. The closest to Zothoke is Manimekhala at Zweekala, with others at Waingpat and Muthin. Southeast of Muthin is Moat-soe-ma-kon (Kakatit), a small oval or footprint-shaped site of c. 12 ha within the outer wall, with up to five earthworks and moats in parts (San Win 2005a:



Fig. 10. Terra-cotta architectural section from Winka.

Fig. 9). Kakatit, like all the Kelasa sites, is a slightly elevated remnant of the underlying laterite formation. Like Kyaikkatha, the earthworks and moats have yet to be dated. As with the others, however, the multiple walls suggest repeated construction, particularly on the higher northeastern side of the mound in order to channel water flow to the lower portions of the periphery. We noted this at Kyaikkatha, where the slope of the site means a drop of some 12 m from the northeastern corner to the southwestern one on the Sittaung. However, the slope is less around the foot of Kelasa Mountain, so at Zothoke, for example, the elevation drops only 7 m from the northeastern high point to the low on the southwest.

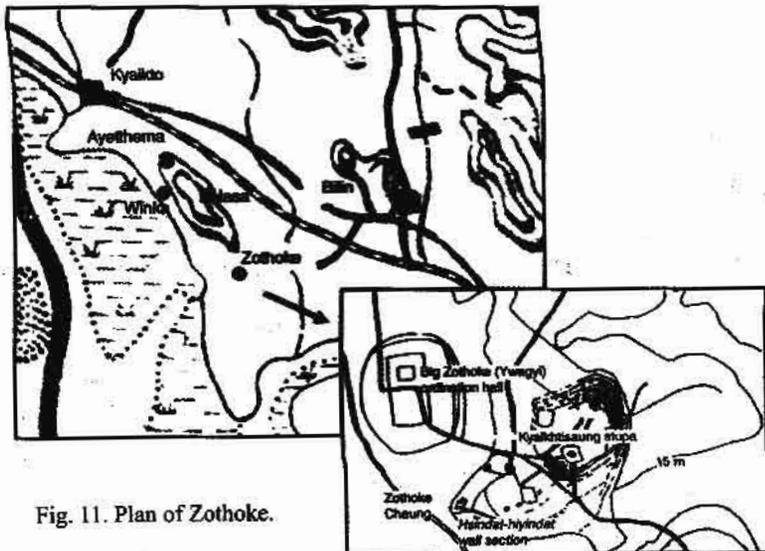


Fig. 11. Plan of Zothoke.

remains notable, from the higher northeast (43 m) to some 9 m on the southwestern corner. On the west, Thaton faces the coast, with the walled area filling a fanlike sector along the foot of the long mountain spur. This parallels a fault line along which the rail line runs. Just south of Thaton, the range opens to form a valley 20 km long, with Zingyaik Mountain (269 m) at the north and passageway to Pa-an, then south over the Three Pagoda Pass to central Thailand. When seen in its geographic setting, the location of Thaton is clear, its multiple walls and moats channelling water from the hills on the east and preventing flooding from the sea on the west. Protection from coastal inundation is aided by the natural topography, for seven of the eight low hills forming a circular arc around the wall city are located on the west and south where the terrain lies open to both the shore and the road to the east.² Most of these hills today are associated with local spirit beliefs; only at Neimindara (55.2 m) on the northeast is this mixed with a perception of its strategic value, as in precannon times it is said that the troops that held this hill controlled the city (Aung Myo, pers. comm., April 2005).

Within the southern area of Thaton today, numerous monasteries of unknown antiquity cluster around the reputedly old palace site and main stupa, the Shwezayan. This is traditionally dated to the time of the Buddha and more conservatively to the fifth century a.d. (Tin Gyi 1931 : 24). A number of contemporary sluice works, monasteries, and remains of old forts and newer camps mark the Gawt and Waba Streams on the south. Thaton is an administrative center, unlike the small villages at Kyaikkatha and around Kelasa. This is not a recent development, with considerable renovation having taken place in the early twentieth century a.d. At Shwezayan, for instance, patronage during this time supported reconstruction of the entire platform. At Thagya Hpaya, a laterite library on the stupa platform, terra-cotta plaques with reliefs of the Jataka tales appear in our opinion to predate a series of similar eleventh-century a.d. reliefs at Bagan. However, these have been renovated many times so that today they are covered with a thick whitewashed coating. Combined with its continued role as a pilgrimage center, detecting its first-millennium a.d. remains is extremely difficult. There has been only one preliminary excavation carried out at Thaton in recent years, a small pit near the eastern wall, which yielded a few potsherds (Baby 2000). That Thaton had walls during the first millennium a.d. is seen in the abundant distribution of large bricks, many finger marked, in the lower layers of the current city wall. Prehistoric habitation in the area is also seen in the finds from Hsinbyukyun and Mayangon that we describe below.

The earliest known historical piece within Thaton is a bronze image of the Buddha (30 cm) in a standing position, the body curved in a light *tribanga* (three bends) posture. The image was found at Kyet-tu-ywe-Thaung village some 24 km east of Thaton and is now kept at the Nandawya Kyaung Taik in Thaton. Similar images, attributed to the second to the fifth centuries a.d. have been noted in Thailand—one from Pong Tu'k and one from Nakhon Ratchasima (Boisselier 1975 : 69; Dupont 1959 : 92, Pl. 336–337, 165; Le May 1962 [1938]: Pl. 3, 4). Reliefs dated to the ninth to eleventh centuries a.d. have also been found at Thaton, notably two slabs of reddish sandstone. Each over a meter in height, these are carved with images of Vishnu reclining on the serpent Ananta. Figures of Brahma, Vishnu, and Shiva are seated on three lotus stems rising from his navel. Another sculpture found at Thaton depicts a four-armed seated figure of Shiva, a 1.2 m relief, with his bull Nandi shown below the right leg and the buffalo demon under his left knee (Luce 1985 : 170–171, Pl. 88–90). Just south of the Shwezayan stupa compound is the Kalyani Thera or ordination hall, which has been repeatedly renovated. The Kalyani sema are pillar-shaped boundary stones over a meter in height, carved with events from the life of the historical Buddha and other scenes. These

are on a central panel with floral carvings on the apex and in bands on the lower part of the stones. They are somewhat similar to Dvaravati sema from northeastern Thailand generally dated to the sixth to ninth centuries a.d. However, various forms of the Kalyani sema are distinct. They are often linked to twelfth to thirteenth century a.d.. Mon migrations from the northern Thailand kingdom of Haripunjaya, when the population is said to have fled a cholera epidemic or Khmer incursions. However, given the legendary basis of this and the absence of a full comparative study of the stones, it would seem best to leave open the question of their date (Phasook Indrawooth 1998 : 117). Dates can be gleaned from a horde of votive tablets found in recent years at a high school in the palace precinct. These and other tablets from Mudon Township are housed at the Shwezayan pagoda, other Thaton monasteries, and the Mawlamyine (Moulmein) Museum. Among them are Bagan period pieces depicting episodes of the life of the Buddha, as well as a number of earlier types with makaras, stupas, images of the Buddha seated and in the European posture, and Bodhisattvas akin to those found at Sriksetra and Nakhon Pathom. There are also a number of similar tablets found further south on the peninsula at sites on both the west coast such as Dawei and Krabi and east coast sites such as Yarang. We also noted earlier the horde of 127 tablets from Winka (WK6), with some dated palaeographically to the sixth century a.d. (Luce 1985: Pl. 56g, 58a, d, 61a, e, f; Myint Aung 1999 : 53; Pattaratorn 1994 : 120–121, 520, Figs. 29, 42, 43, 2000 : 183; U Mya 1966: Pl. 10, 11, 17, 18). The only tablets with provenance are those from the high school—reportedly found during digging for a latrine—but the depth of the finds was not recorded. These problems also plague the prehistoric finds we describe below.

MAYANGON AND HSINBYUKYUN ARTIFACTS

The western lowlands between Thaton and the coast are populated today, with continued construction of water control devices to reclaim land in this zone. One example of this is provided by Mayangon, located 11.6 km northwest of Thaton. There, the new Mayangon sluice gate, with 15 valves measuring 1.8 by 3.6 m, will reclaim 10,000 acres of wetland (New Light of Myanmar 2006). Survey last year of a small part of the canal for the sluice by San Win's research team produced documentation of more than 100 stone tools and rings as well as incised pottery (Figs. 13 and 14). All the finds were made just west of Mayangon village, located on an oval-shaped mound c. 450 m from north to south and 365 m east to west. The pottery included sherds with wavelike and criss-cross designs similar to pieces from Sanpannagon (16°15'N, 97°20'E) some 30 km south of Thaton (San Win 1986 : 167, 182, Fig. 15). In central Thailand, these types of rings and pottery are seen at a range of sites, including Ban Kao, Kok Pleb and Nong Nor around the Gulf of Thailand and somewhat to the north, Ban Ku Muang, Amphoe Inburi, and Changwat Singburi (Higham and Thosarat 1998; Phasook Indrawooth 1985 : 53, Figs. 17–21). Of the five rings, two complete, four were made from slate and one from a fine-grained quartzite. The stone tools included adze/axes, scrapers, and sickles made from fine-grained and epidote quartzite, slate, microgranite, sandstone (graywackes), fine-grained sandstone, indurated mudstone, siltstone, and rhyolite porphyry.³

Polished stone tools were also among finds from a survey by the authors in 2004 of Hsinbyukyun (450 x 350 m). The mound is similar in size to Mayangon but located just northwest of the northwestern corner of the Thaton walled enclosure. It is enclosed by remnants of two ramparts, from which we recorded a number of finger-marked bricks. Other finds from Hsinbyukyun include

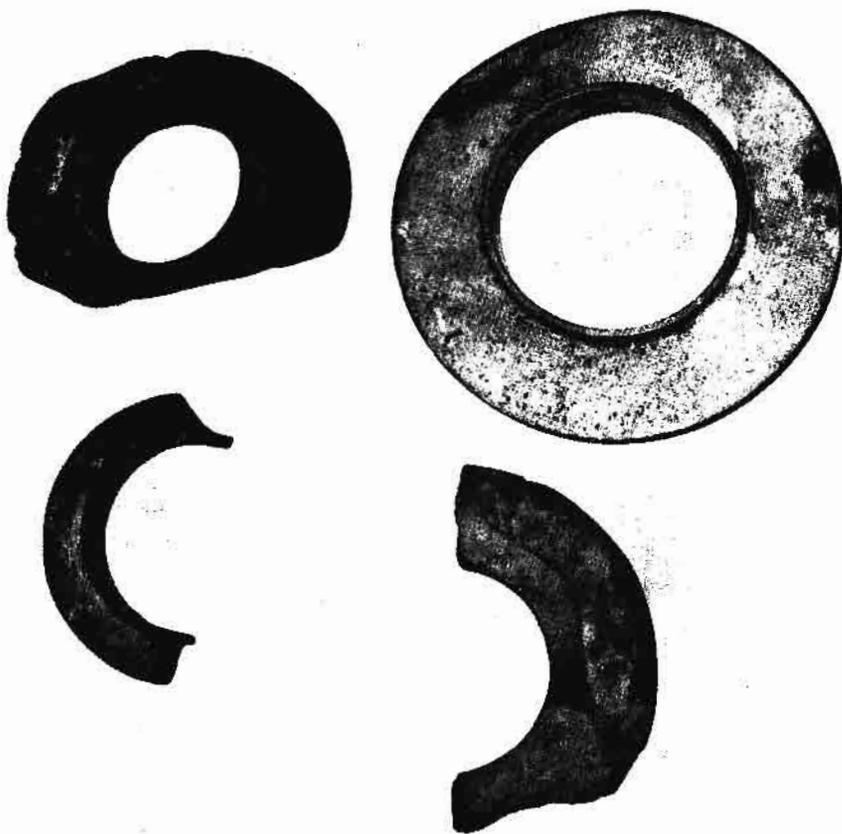


Fig. 13. Stone rings from Mayangon; complete ring 10.5 cm outer diameter, hole 6.0 cm.

carnelian and crystal beads, with the evidence as a whole supporting a profile of Iron Age or earlier habitation in the lowland zone lying between Thaton and the coast. The stone tools were different in shape and material from those at Mayangon and included a bluish white triangular piece (3 x 3 cm), a longer wedgelike brownish orange (5 x 3 cm) and a rectangular black tool (6 x 3 cm) (Fig. 15). There were also thick black pottery sherds with designs separated by horizontal lines. One sherd (5 x 7 cm) had three horizontal rows of different designs: x-patterns impressed with a pointed tool, wider starlike motifs, and a deeply incised horizontal row of flared v-shaped motifs. A similar x-patterning is seen on black sherds from Donwun (17°08'N, 97°01'E), a multiple-walled site on the east bank of the Bilin River c. 22 km north of Hsinbyukyun. There, the incisions are bordered by multiple horizontally incised bands. Other black as well as orange sherds from Donwun have incised undulating patterns of multiple lines enclosed by several straight horizontal lines (Fig. 16). Like Hsinbyukyun, Donwun survey yielded finger-marked bricks, concentrated around the octagonal laterite stupa at the site. A crowned figure (c. 43 cm in height), carved in relief on a stone slab kept near the stupa, stylistically recalls stucco reliefs from Nakhon Pathom in central Thailand dated to c. the sixth to ninth centuries a.d.



Fig. 14. Stone tools from Mayangon; top to bottom 15.5, 13.0, 10.2 cm in length.

The patterns and horizontal ordering of rows on the Hsinbyukyun sherds are similar to two orange sherds recovered c. 50 cm below ground level from a cave just south of the walled city of Tanintharyi south of Myeik. On the Tanintharyi pieces, however, each incised motif is enclosed by a square line with the row flanked above and below by rows of triangular impressions. A stone mold (8 x 10 cm), probably for casting a metal ornament, was found from the same cave (Fig. 17). The masklike oblong design (5 x 8 cm) inscribed on the piece is framed with a row of dots, with the two large circular eyes and mouth. The Tanintharyi pieces, undated and from farther south, share the problems of provenance and stratigraphy we noted earlier, with the lack of context leaving our conclusions general. We include them in our report, however, for they provide an important reminder of earlier habitation all along the Lower Myanmar peninsula.



Fig. 15. Stone tools from Hsinbyukyun; top to bottom 6.5, 6, 3.5 cm in length.



Fig. 16. Pottery sherds from Donwun.



Fig. 17. Stone mold found south of Tanintharyi.

CONCLUSION

Kyaikkatha, Kelasa, and Thaton illustrate the complementary relationship of Lower Myanmar sites to each other and other regions. The mouth of the Sittaung where Kyaikkatha is located is at the protected apex of the Gulf of Muttama, while Kelasa and Thaton are on the edge of higher ground. All three sites, however, are more elevated on the east, tilting down to alluvium and the Andaman Sea on the west. Each would have had trading advantages: Kyaikkatha with the interior and areas west, Kelasa along the coast, and Thaton for passage to the east. A framework of landscape modification, coastal diversity, and of reciprocal shore, maritime, and land routes considers processes of change at different scales. At one level, they are adaptations of natural norms, well-engineered efforts to control water stress from flooding and saltwater inundation. Thus the construction time

represented by a pattern of five to seven 15 m earthworks flanking part of a site may have been brief—a quick response to immediate need. At another level, they express keen awareness of the local terrain, not as a static entity but as a framework for interaction (Blom et al. 2003; Evans and Farr in press). This sense of the land and man's presence is immediately felt on entering the domain of Kyaikkatha, Zothoke, and Thaton. Particularly at Kyaikkatha, it becomes increasingly palpable as one moves over the ramparts, labors through the thick vegetation covering walls and moats, and enters the inner core of the walled domain. The impression is derived not only from surmounting each wall but also by the shifting visibility of these in relation to other built elements within the walls and natural landmarks outside the site. Often these are of striking beauty, such as the blue ridge of Kyaiktiyoe stupa east of Kyaikkatha. Despite the natural and man-induced degradation of the walls, the perception of being within or without the boundaries is immediately felt. This is quite different from entering walled sites such as Beikthano or Sriksetra, where in the dry flat terrain of Upper Myanmar it is easy to miss crossing the ramparts. Once within, the only orientation is to man-made elements, such as the Bawbawgyi stupa from the palace at Sriksetra. We need more evidence to confirm or amend our hypotheses, not least due to local hydrological change over the last 2000 years. Working from the specific to the general, however, a model drawing in artifacts, sites, and ecology begins to structure data in ways open to future expansion.

NOTES

1. The area within the outermost wall was measured from aerial photographs of the late 1950s and 1980s.
2. The hills are Neimindara, Thamidawgon, Hsinphyukyawn, Natkyawn, Phaungdawoo, Nandaw (palace), Shwezayan stupa, and Nathsingon. Popular belief today notes that Thaton is protected by the bones or blood of Byattwi, except on the southeast, where the eleventh-century a.d. king Anawrahta is said to have entered to take the city. Among the images of nats or spirits on the southeast Nathsingon hill are thus many of Byattwi and Byatta, the Tanintharyi nats, two brothers said to be foreigners shipwrecked on the Tanintharyi coast.
3. Test carried out for San Win's team by the Department of Geology, University of Yangon, April 2006.

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ABSTRACT

The high rainfall of the Lower Myanmar coast is balanced by the aridity of the country's inland plains. The article profiles three sites in a laterite-rich area located in the northern part of the Lower Myanmar peninsula. The walls and moats of these sites underline their role in water management, one where control of water was the decisive catalyst. The sites of Kyaikkatha, Kelasa, and Winka illustrate how slight changes in topography signal critical junctures, the points where walls and moats were constructed. As a result, up to seven walls flank the higher edges of these sites; these protected the interior by diverting excess water to lower areas. Using large finger-marked bricks and terra-cotta artifacts such as votive tablets, plaques, and architectural elements, a broad chronology of c. the sixth to ninth centuries a.d. is proposed, although a majority of the pieces dated to the seventh century a.d. Attention is also drawn to evidence of Lower Myanmar prehistoric habitation in lowland areas close to the coast, where natural and man-made changes continue to alter the ecology and affect archaeological interpretation. The survey is used to encourage comparative studies, drawing in environmentally diverse but culturally related areas of South and Southeast Asia. Key-words: Myanmar (Burma), ecology, laterite, water control, hydrology, Iron Age, Buddhism.

14. Early Walled Sites of Dawei:

Thagara and Mokri,

with Than Swe (Dawei)

Early Walled Sites of Dawei: Thagara and Mokti

ELIZABETH MOORE AND THAN SWE

ABSTRACT

Early archaeological sites on the Tenasserim coast of Myanmar are little known in Western literature and in this paper we review the evidence for some early historic walled cities in this region. The article draws on modern historical and archaeological research and traditional history, knowledge and myths in order to provide a rounded account of early Dawei.

INTRODUCTION AND ECOLOGY

Maps showing early trade routes across the Bay of Bengal invariably point towards Peninsular Myanmar. If ports are indicated, they are usually in the north on the Gulf of Muttama and described as 'Mon'. Further south a succession of landings rather than a single urban kingdom were known. Dawei was one of these landings, taking an active part in first millennium AD coastal and overland networks. Its sheltered location provided safe maritime access and overland portage to Thailand. Nonetheless, the walled sites of Dawei have received little consideration in the English literature (Moore and Aung Myint 1991: 93-4). The Myanmar documentation is otherwise (Aung Myint 2000, 2000a; Than Swe publications 1996-2005) but this article is the first to detail the Dawei walled sites and draw attention to the uniqueness of Dawei culture this wider context.

Within present day Myanmar, Thagara and Mokti mark the southern tip of a walled site distribution extending a thousand kilometres north to Tagaung (Figure 27.1). They also connected



Fig. 27.1 Map of Myanmar locating places mentioned in the text (Courtesy of Bob Hudson, University of Sydney).

traders to Sri Lanka, India, Rakhine (Arakan), Thailand, Srivijaya and Java. Dawei's role in these relations was great enough to sustain its contestation by Mon, Rakhine, Bamar and Thai people. Nonetheless, or perhaps because of this, Dawei's culture has remained distinct. Thagara and Mokti, for example, are not 'Pyu' and not 'Mon' but have affinities with these and other first millennium AD regional cultures.

The abundant resources of the Myanmar peninsula supported a patchwork of distinct walled cultures during the first millennium AD. The best documented to date are Thagara and Mokti, located 11.6 km north and 8.4 km south, respectively, of modern Dawei. Others along the Dawei River include Weidi, Sin Zeik and Aungthawadi, the last perhaps being the earliest of the group (Than Swe 1996, 1997, 2000a). While both Thagara and Mokti probably date to the early first millennium AD, the types of artefacts recovered from the two sites are different. For example, at Thagara, there are finger-marked bricks, funerary urns, glass beads, and bronze images of the Buddha but at Mokti there are votive tablets and significant Brahmanic stone sculptures. Neither of the sites has been dated and the few inscriptions are from much later periods. In addition to this marked contrast in artefacts, they occupy separate ecological niches, a variation also reflected in the relationship of the walls and moats to the local terrain.

The evidence used in this paper is purposely taken from both factual and traditional sources, an approach worth some explanation. It has been stated that the past is made part of the present through archaeological and historical production. It is contended here that in the case of Dawei, memory of these processes is found not only in the European traditions of historiography but also in chronicles, which employ a very different and complex vocabulary (Aung Thwin 1980; Sao Saimong Mangrai 1976; Shanks and Tilley 1987:114-5). Before exploring the chronicles and artefacts of Thagara and Mokti, however, some relevant aspects of the region are discussed, including the river, inlet, ancient trade, the Dawei language, and the unique character of the laterite in the area. In different ways, all these factors contribute to the distinctive character of Dawei and underlie the contrasts between Thagara and Mokti.

THE DAWEI RIVER

Dawei is sited on a low terrace mound east of the Dawei River, with further hills and ranges on the east forming the border with Thailand. This topography is mirrored on the west where the mountains separate it from the Kappali or Andaman Sea. The Dawei River has a relatively short course with a high sedimentation rate. It is not prone to flooding although there is heavy rainfall in the area (5842mm per annum). While short, the river makes two pronounced bends north and south of Dawei that may account in part for the location of Thagara and Mokti. The river's northern offset is the result of a lateral slip displacement along a local fault line, so the river angles westward. Thagara is on the floodplain west of the river, with a road over the mountains providing sea access. However, the bend eight kilometres south of Dawei is a meander typical of the river's expansion in the lower valley where it widens to form the port inlet with access to the sea (Cho Cho Aye (Geology), Kyin Swan (Geography) Dawei University, pers.comm. 29.03.04; Ministry of Mines 1989: 12). The shallow inlet is bordered on the west by the Dawei peninsula and on the east by a narrow floodplain. Mokti is located on a low mound in this floodplain, adjacent to a stream feeding in to the inlet. Thus like Thagara, Mokti had access to the sea, possibly easier, for there was no portage needed over the mountains to reach the coast.

The shallowness of the inlet is in part due to sedimentation from the sandy soils in the area and also tin and wolfram mining discharge beginning in the early nineteenth-century British period. However, while these may have altered the depth, the shallow waters are more often attributed to rock shoals north of eef Island. As noted, Mokti is located on a stream feeding into the southern part of the inlet, which would have allowed the small craft accessing the inlet to continue on to the walled site. The presumption of a limited depth in the inlet during prehistoric and early historic periods is further reinforced by the presence of mangrove swamps lining the banks of the inlet and covering the aptly named Middle Island (Khin Su Win 1958:57, 76–7). Of the larger inlet islands, two are said to have ancient cemeteries, with local people avoiding travel there. On the seaward side of the peninsula, there are a number of caves and deep-sea coves such as Nyaw Byin, with its remains of the Bagan period fortress of Taung-kwe (Than Swe 2005).

TRADE AND LANGUAGE

As mentioned above, Thagara had sea access via a mountain pass to Nabulei Chaung, some 20km west. Traditional accounts state that the 'original' Dawei peoples lived thousands of years ago at the egress of this stream (Khin Su Win 1958; Kyaw Min 1958). Just south of this, at Maungmagan, the Bagan King Alaungsithu anchored in 1155 AD (517 ME). The name of the beach refers to this visit, when the women of the court are said to have taken advantage of privacy to swim and play (Aye Sandi 1999). The role of Dawei as a trading centre meriting a royal visit may be reflected in an eleventh-century Indian text about Kalasapura (City of Pots) citing a coastal town of Suvarnavipa, a kingdom subject to the Pyu (Gutman 2001:108; Luce 1985:50).

Another inscription, an unedited fragment of a Sanskrit text from Sriksetra, mentions Kalasapura and its ruler Sri Paramesvara several times. It implies that the city was either subdued or had entered into a special relationship with the Pyu around the end of the seventh century AD (Gutman 2001:109). Kalasapura is thought to have been located in the Muttama area of Mon State. However, Dawei is also known for its pottery, with production in the Ohlotepyin ward today still making use of the soils from the nearby fields to produce pots for the water festival similar to those excavated from Thagara cemetery (Aye Sandi 1999; Imperial Gazetteer 1908: 441). As noted below, the Thagara pots were used as urns in a first millennium AD Pyu fashion but they are distinct in their globular shape and long necks.

The distinctiveness of Dawei culture is best in its language. Dawei can refer to the city and the region but as a dialect, it refers to a highly intonated variant of Tibeto-Burman of unknown antiquity. The use of words found in Bagan inscriptions is often mentioned but in fact Bagan retentions account for only ten per cent of the vocabulary, with sixty-five per cent being independent Dawei (Aye Sandi 1999). Thus, it is possible that Dawei was spoken during the early phases of Thagara and Mokti. In this context, a number of Dawei words refer to the balance of parental obligations and spouses and many describe Dawei flora and fauna, suggesting a localised evolution (ibid.).

This apparent uniqueness is countered by suggestions that the Dawei dialect is derived from that of Rakhine (Arakan), which has a similar dialect. One reason for this is that both vernaculars use the Myanmar script, perhaps accounting for their survival (Aung Myint 2000; Imperial Gazetteer 1908: 437). Earlier accounts record migrations from Rakhine, but Dawei people are also

related to the Inthas around Inle Lake who are said to have migrated south (or north depending on the rendition) in the twelfth to thirteenth century AD. Dawei people generally dispute the Rakhine link and are more apt to compare their customs to the first millennium AD Pyu or Mon peoples. However, as we explain below, the mortuary artefacts from Thagara are different from those found at Pyu cemeteries. In addition, the absence of laterite blocks and to date, other 'Mon' artefacts such as silver coins, distinguishes them from walled sites such as Kyaikkatha (17.21n x 96.55e) in the present day Mon State.

LATERITE

At early sites in the Mon State, walls were constructed of brick and laterite, but around Dawei, brick and rammed earth were used. The reason for this is the absence thick surface accretions of laterite (gawun), a material that is abundant further north. Although there is Dawei laterite, it is iron-rich rather than the magnesium-rich laterite of the Mon State. Also, the pebble accretions of the iron-rich type are smaller than the magnesium-rich variety, a process accelerated by the high percentage of sand in the area (Geography Department, Dawei University. pers.comm.13.12.03).

Given the extensive Mon use of laterite to construct not only walls but also stupas, the contrast is noteworthy. Surprisingly, however, laterite bowls (circa 45 cm diameter) are seen at Thagara and Mokti (Sawwa), and three laterite rings (24 cm diameter and 6 cm high), a terracotta lid (60 cm) and a series of terracotta finials were found at Weh-kyi-taung, a monastery near Dawei Hospital. Finally, the takeh or back support of the image of the Buddha at the Mokti pagoda is said to be a 1.5m laterite slab. This last object is described in two different legends, noted below for their memory of contact between Thagara and Mokti and Dawei and Sri Lanka. (Figures 27.2 and 27.3).



Fig. 27.2 Laterite bowl, Pashu Kyauk pagoda, Sawwa; diameter circa 45 cm.



Fig. 27.3 Laterite cylinders and terracotta 'cap', Weh-kyi-taung monastery near Dawei Hospital; now Hpaya Gyi museum, Dawei; laterite rings 24 cm diameter; 6 cm high.

In one account, not in **Dawei chronicles**, a Queen of Thagara floated a golden bowl down the Dawei River to send medicines to the King of Mokti. The king had become insane through drinking poisoned water from a still well. The medicines cured the illness, the two married, and the Mokti king ruled.

The second legend described four wooden images of the Buddha that were floated on a raft from Sri Lanka to Bassein, Dawei, Kyaikto and Kyaikkami (Amherst). None succeeded in pulling the raft to shore, but when it arrived at Mokti, the piety of an old nun meant that she had only to tie a thread to it to draw it in (Aung Myint pers.comm. 10.12.03; Shorto 2002). The statue is kept today in the htarpanar of the Shin Mokti Hpaya, shifted there in 1952, during a period of insurgency. As noted above, the raft, a large slab of laterite, forms the backdrop for the image although due to offerings of gold leaf and upkeep, this is not visible today (Than Swe 1996:49–52).

CHRONICLES AND LEGENDS

Despite legends of a visit by the Buddha to 432 BC, **Dawei chronicles** put the founding of Thagara (Yekan) a thousand years later, in the middle of the eighth century AD (116 ME). This is the first of three dynastic lines (Than Swe 1996:85–86):

King Thamandaraza	113 (123)–270 (276) ME c.751–908 AD
King Bannya Oo	357–438 ME c.995–1076 AD
King Byathabaik of Zalun	924–1105 ME c.1562–1743 AD

The chronicle stories also include two figures, Gawampati and Gawinanda, who may carry the memory of earlier **Brahmanic practice**. Both tales have chthonic elements, hermits or Yatheit who nurture those establishing **Buddhist rule**, and foundation stories of first millennium AD walled sites (Moore 2005, Moore and San Win (Forthcoming)). In one, Gawampati and his brother, future King of Thaton, are born from the union of a Naga and a hermit. Gawampati is later present at the founding of Sriksetra and the building of Kyanzitha's palace at Bagan. Gawinanda, another tale, tells of a prince Maung Nwa (Mr. Bull) who becomes a Yatheit. He eventually fathers two children, born of a Ngakoma fish nat. The children, Shin Zaw and Shin Zan, enshrine Sacred Hairs (Hsandaw) at Thagara and Shin Dhat-weh, and Shin Zan is crowned king of Thagara (Than Swe 1996:53). Both figures are associated with a bovine name, in Gawampati's case, interpreted as a guardian of the cattle of a place, and as one of the names of Shiva, linked to the bull Nandin in the Mahabharata (Levy 1957:83, Przuluski 1926: 240). Elsewhere, Gawampati is a meditating sage, a bovine pre-Buddhist figure linked to Shiva, or a deity of drought and wind, called from his mountainous home in a frontier territory (Przuluski 1926, Luce 1959:63). The legends and stories clearly draw on a variety of sources, but both convey memory of religious and social transformation compatible with first millennium AD walled site building. One more indication of the earlier habitation around Dawei is stone tools, to which we briefly turn below.

STONE TOOLS

A number of stone tools, *moegyo pauk sein* or thunderbolts and *moegyo thwa* or thunder-teeth, have been found in Dawei, but as at excavation sites in the Samon River valley near Mandalay, they are either discarded or kept for their protective powers (Pautreau et.al. this volume Chapter 13). These include protection against fire and to 'cut' and cure lumps under the skin. This is similar to beliefs elsewhere in Myanmar and of villagers around Angkor in Cambodia, where the stones are placed in water, which then can be drunk for its medicinal effect (Moore et. al. 2006). However, the Dawei distinction between useless stones and those of medicinal value is unusual.

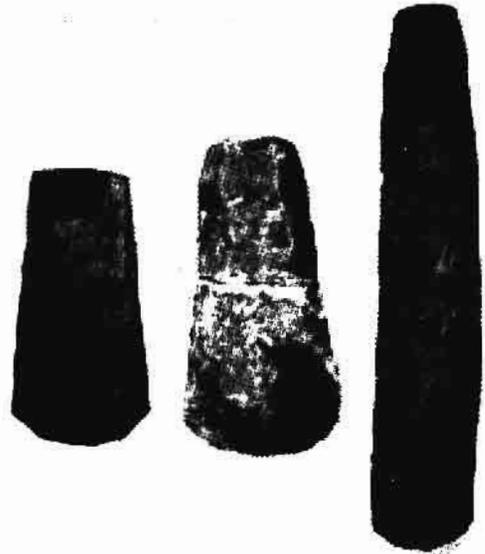


Fig. 27.4 Stone tools from new Dawei Hospital site, Hpya Gyi Museum; left to right: 10.5 x 4.8 cm, 12 x 5.5 cm, 21 x 3 cm.

In the late 1990s, a number of bifacial polished, but very weathered, stone tools were found during construction of a new hospital in the centre of present Dawei (Figure 27.4). No pottery was reported but sherds may have been overlooked as basketloads of tools were reportedly discarded during building works (Hpya Gyi Museum Curator pers.comm. 12.03, 29.03.04). Given the quantity of tools recovered, this may have been a workshop or settlement area. The samples in the Dawei Hpya Gyi Museum are thinner and have different proportions than those recorded in Upper Myanmar. They include a long wedge-shaped chisel (21 x 3 cm) with a triangular profile, a tool also reported at Myeik to the south. The other two are unifacial (12 x 5.5 cm) and bifacial (10.5 x 4.8 cm) axe/adzes, all made from grey fine grained sedimentary stone. They are similar to tools from Thagara (16.5–17 x 4.5–5, 6 x 3–4 cm). Others from Thagara are shouldered (11 x 4–6 cm), and one made from slate has a long tube-like handle (11.7 x 2 cm). Stone tools have been reported at a number of locations around Mokti and further south at Thayetchaung but there has been no systematic exploration.

THAGARA (MYOHAUNG)

Thagara or Myohaung (Old City) is a large walled mound in the midst of a floodplain (Imperial Gazetteer 1908:438). It is flanked on the north and south by streams that rise in the western hills and empty on the east into the Dawei River. On the north of the site is the Kyaing Chaung, where the royal elephants were housed, while on the south is the now-intermittent Padat Chaung. This stream floods in the rainy season often making the site inaccessible (Figure 27.5). The interior however, remains dry, protected by the wall around the site. During the dry months, the moat flanking the wall collects water, so that the old moats are used for nursery rice cultivation in the spring.

There are up to four walls at Thagara: two outer rounded ones (1600 x 1100m) enclosing the mound and two inner quadrangular walls (745 x 640m) (Moore and Aung Myint 1991: Map

11; Survey 09.05). These are constructed of earth and large bricks typical of Myanmar prior to ninth to twelfth-century AD Bagan (Figure 27.6). The Thagara walls are similar to those in the district to the north, the Mon State, in that their shape is derived from that of the mound (Moore and San Win (Forthcoming). However, as noted above, the Mon State walls were made of both bricks and laterite blocks. The Thagara moats (10m on the north but 25m on the south) vary, in some parts wider than seen in Mon State (San Win 1986, 2005).



Fig. 27.5 Flooding south of Thagara.



Fig. 27.6 Junction of the circular and rectangular moats, northeast side of Thagara.

NORTH SECTOR STRUCTURES

It is on the north of the site that most of the above ground structures are found with the hill of Shin Zalun pagoda on the northeast being the highest point. Various natural and carved stone linga venerated here are of note in connection with Gawinanda and Gawampati and an earlier ritual tradition that may have included Shiva. Just inside the north wall is the Hsin Pyuu Kan (white elephant pond). Adjacent to this is SGR1, one of the two structures unearthed during preliminary excavations by the Department of Archaeology in 2001.

SGR1 was a mound excavated to a depth of 3.35m reaching natural soil (Figure 27.7). This revealed a brick structure (8 x 6.4m) oriented to the northeast overlying a habitation layer. The building has an entry platform with an inner and outer enclosure. A square upper terrace (3.5m) was defined (Ngwe Ngwe Soe 2000).

SGR2, identified as a palace, is on higher ground nearer the centre of the mound and thus akin to Pyu cities (Figure 27.8). It is a long (10m) rectangular brick building with an entry on the east, a single-chambered front hall and four small cells in a row at the back. The structure, due to the small size of the bricks and the layout, has been attributed to the late sixteenth-century AD (Ngwe



Fig. 27.7 Excavated mound of SGR-1, Thagara; Northeast oriented brick structure (8 x 6.4m); entry platform with an inner and outer enclosure and square upper terrace (3.5m).

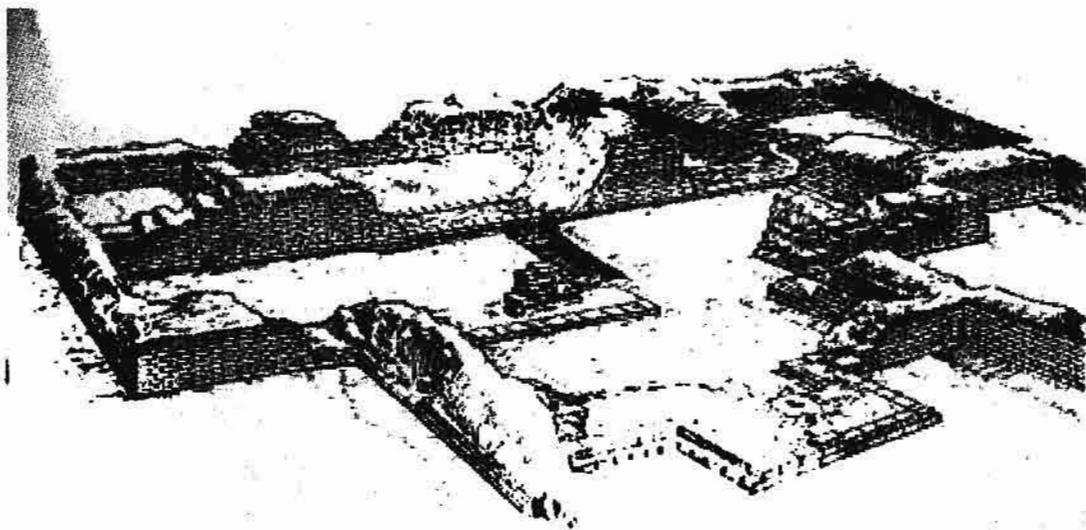


Fig. 27.8 Perspective drawing of SGR-2, Thagara; 10 metre-long rectangular brick building with east entry, a single-chambered front hall and four small cells in a row on west.

Ngwe Soe 2000; Than Swe (Unpublished). It was rebuilt several times, indicated by a different alignment of the entry hall, the presence of finger-marked bricks and two habitation layers in the 3.5m stratigraphy.

THE SOUTHEAST 'PORT', BEADS, BRONZES

The Kayat Pyin cultivation area on the east of Thagara has yielded a number of artefacts, including beads, glazed pots and bronzes. The southeast wall has a short snout-like extension, capped with a 150m long angular earth and brick construction. Water ponding in the dry season indicates that this was once the course of the Padat Chaung. The base of three brick stupas, perhaps beacons for arriving boats, are aligned from north to south in the northeast-southwest wall. These are known as Paung Myeh, Paung Leh and Paung Oo (tail, middle, and head).

Beads are abundant from Kayat Pyin, with finished and unfinished ones suggesting a workshop or trading area (Figure 27.9). They include round and oval spheres, tubes, biconical shapes and flat ovals, varying in size from about 2mm to 2.3 cm. They are made of green and blue glass, carnelian, and other black, chocolate and cream coloured semi-precious stones. An oval black stone intaglio with finely carved bull (1.5 cm) and an unfinished oval pre-form have also been found. The tubular beads are opaque with a dull surface. They are deep red or terracotta, yellow brown, milk white, cream, sky blue and dark blue in colour.

Glazed pots from Kayat Pyin suggest a long trading history at Thagara. One is a zoomorphic 'hip flask' (18 cm height, 8.5 cm diameter) with the body of a small mammal draped over the top (Figure 27.10). Made of red clay, it is coated with a pale greenish yellow glaze. Another piece appears to be thirteenth to fourteenth-century AD Sawankalok ware depicting a small (8 cm) figure of a hunched man toting a sack.

The bronzes from Kayat Pyin are mostly sculptures, although a coiled bracelet and ring have also been found. As with all the Kayat Pyin artefacts, these were unearthed by local farmers. At least one of the sculptures, an image of the Buddha (13 cm) seated in pralamban, sana indicates local production (Figure 27.11). It is similar although somewhat cruder than sixth to ninth-century Dvaravati or Pyu pieces such as an image of the Buddha (13 cm) from Beikthano and another from Twante (Luce 1985 Vol.2: 76(b); Myanmar Times 2003). However, the face of the Thagara piece is more angular with pronounced eyebrows and large coiled hair curls. The robe covers only one shoulder, smoothly draped over the body, the edges marked by a single incised line. The right arm is broken but may have been raised in the *Abhaya mudra*. The left is lowered with palm open and inscribed with a rough Dharmacakra. A high copper content is suggested both by the bright green underside of the palm or throne and the overall colour. The head of the image is solid, although breaks on the chest and along the legs show that these are hollow. The other bronze images from Thagara are very different but like the ceramics, show occupation of the site well into the second millennium AD. Most are kept in the Dawei's Hpayay Gyi Museum.

A torso (10 cm) from an image of the Buddha may have displayed the Bhumisparsa mudra although the right arm is now broken. The Ushnisha is low and rounded with flat medium sized hair curls. The shoulders are sloping, the right uncovered, with the sanghati thinly folded making a thick band of cloth. The low Ushnisha, shoulders and robe fold suggest tenth-century AD Anuradhapura but the drapery varies somewhat and image could be later, of peninsular origin (Listopad 2003; Jacq-Hergoualich. 2001: Pl.179).

An image (7.5 cm) seated on a finely made throne (11 cm) in the Dhyani mudra bears a flame or *siris-pata Ushnisha*, and has small flat hair curls. The throne, akin to pieces from Sri Lanka, has inward facing Makaras on the sides and a Kirtimukha face at the apex. The image of the Buddha is close to those of the Polonnaruva period (993–1235 AD), in the folding of the sanghati and the flame Ushnisha. Similar thrones with images are seen in Rakhine, where they are attributed to the Late Polonnaruva (Gutman 2001: 156–7; Listopad 2003:106–8).

A flat teardrop shaped piece (6 cm) bears a Sukhothai-style image of the walking Buddha of a type more common in stucco or terracotta (Moore et. al. 1996: 52, 91). As the image is reversed, it may have been part of a mould.

An image of the Buddha seated upon a trilobed throne with a Deva kneeling at the base on each side. The image (15 cm) is crowned, its style that of Eighteenth century Ayutthaya. This style is also seen in an adorned wooden image wearing shoes in Hpaya Gyi pagoda (Moore et al. 1996: 245–6).

An unidentified female figure (7 cm), possibly a *yakshi*. She is well formed with full breasts and hips, the horizontal pattern of the lower garment clearly shown on the front back of the legs. Some likeness to the Didarganj *yakshi* of Ashoka's time can be seen.

SOUTHWEST AND SOUTHEAST OUTSIDE WALL

West of Thagara, the hills rise to 150–270m, dividing the valley from the coast. Quite different finds have come from two burial areas outside the city wall to the southwest and southeast. In fields 800m southwest of the site, an oval patch 3m in length devoid of plants was excavated in 1996 by villagers to a depth of 60 cm. A black ash layer at this depth caused uneasiness and digging stopped, as this is the traditional gravesite of a Thagara princess. On the southeast is the Myo Ko Kon cemetery (Moore and Aung Myint 1991:93). Many terracotta urns (15–50 cm in diameter and 11 cm in height) containing small beads, ash and bones have been unearthed in rice field bunds, at about 8–10 cm below surface level (Figure 27.12). The rounded bottom, long neck and vertical designs resemble the pots made today in the Ohlo-byin quarter of Dawei. Used in the water festival, the pots are either sun-dried or baked in kilns to produce a more reddish colour.

While terracotta urns are ubiquitous at Pyu sites, the shape and motifs of the Thagara ones are unique. Some are incised on the shoulder with twelve downturned fig-leaf motifs similar to pots found at Twante and others at an encased stupa at Bagan (Luce 1969 Vol.1: 20). The elongated neck (c.4 cm) generally has three horizontal bands. The pots are often found in groups of three within a bed of black soil, possibly ash from burning of a funerary pavilion. Unlike Pyu urns that contain many beads and silver coins, those from Thagara have only one to five small blue, deep violet or red glass beads, 1mm thick and 2mm in diameter. This has been the case for many years, with collections of strings of these small beads thus indicating the one-time presence of a very large number of the urns. These beads are much smaller than those of Kayat Pyin, possibly used for beaded girdles, elaborate waist ornaments typical of Pyu costume.

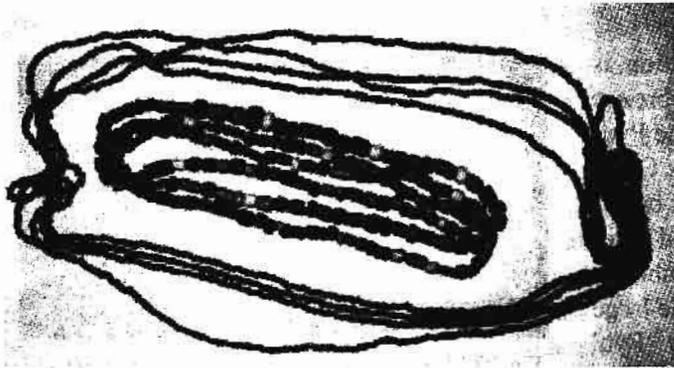


Fig. 27.9 Beads, Thagara; small beads (1-3mm) from Myo Ko Kon cemetery burial urns; medium beads (3-6mm) from Kayat Byin quarter; Than Swe Collection.



Fig. 27.10 Zoomorphic 'hip flask', Thagara; Than Swe collection; 18 cm high, 8.5 cm diameter.



Fig. 27.11 Bronze image of the Buddha, Thagara; now in Hpaya Gyi museum; 13 cm high.



Fig. 27.12 Terracotta urn from Thagara cemetery; Hpaya Gyi museum. Thagara; now in Hpaya Gyi museum; 14 cm height as broken, width 15cm.

LARGE BRICKS

Thagara's first millennium AD occupation is supported by the Dvaravati style of the bronze seated image of the Buddha as well as the Pyu-like use of terracotta urns and beads. Other typical artefacts are the finger-marked bricks (19–22 x 31–45 cm) found at Thagara and other sites around Dawei (Figure 27.13). As a ubiquitous marker of pre-Bagan occupation, the large and moulded bricks are not exclusively 'Pyu' or 'Mon' and thus provide an important caution against identifying Dawei sites such as Thagara and Mokti in these terms.

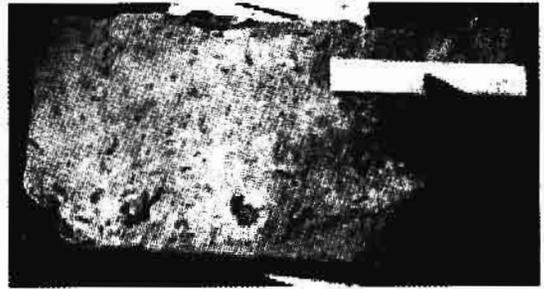


Fig. 27.13 Brick, Mokti; Than Swe Collection, 44 x 22 x 5.5 cm.

Although the Mokti and Thagara bricks are close in size, other artefacts from the two sites are distinct. Located 9.6 km south of Dawei, Mokti and its south sector, Sawwa, are on the Pauktaing creek that flows into the Dawei River. They are sited on a slightly elevated ridge at the foot of the range separating Dawei from Thailand. Local records suggest that Mokti predates Thagara, with early twentieth-century accounts noting the antiquity of the image, a stone and a Bodhi tree (Imperial Gazetteer 1908:438).

Mokti is a rectangular walled feature measuring some 800m from east to west and slightly less from north to south. There are remnant walls, some triple, on the east, north and south. The terrain is flat apart from the slight elevation of the west portion near the river where the pagoda is located. On the southwest corner is a shrine for the Dine Bin Daung *nat*. This was renovated in 1995 and is a continued place of veneration. Beyond the three walls south of the *nat* shrine is Sawwa (400m north-south) also with multiple walls, but unlike the Mokti walls, those at Sawwa hug the perimeter of a small but prominent hillock. Two pagodas are venerated within Sawwa today: Pashu Kyauk, where the large image is said to have frightened away invading troops from Malaya has a shrine with the large laterite bowl legendarily floated south by the queen of Thagara. On top of the Sawwa hill is Shwe Kuu Taung where the presiding monk recalls other laterite blocks and a number of polished stone tools being found (pers.comm. to Moore 08.04).

On the basis of location, Sawwa may predate Mokti but chronicle histories make no reference to Sawwa. The founding of Mokti (Mottathuka Nagara) is recorded in Dawei chronicles as 1417 AD (779 ME). Some accounts date the pagoda to 1438 AD, attributing it to King Sawthila of Weidi. As noted earlier, these say that the pagoda was built to enshrine an image of the Buddha carved from Bodhi wood from Sri Lanka (Duroiselle 1917:42). However, votive tablets from Mokti testify to much earlier occupation for they include tablets akin to Sriksetra finds. Votive tablets are absent at Thagara, suggesting that the Mokti pieces came via the south along the coast, across the peninsula or as part of maritime exchange. Southern or eastern networks may also explain a four-armed image of Vishnu (85 cm) carved on a stone slab (1.4m), described below.

VISHNU IMAGE

The Vishnu image is a relief carving on a slab, one of four recovered from the interior corners of the Mokti walled area (Figure 27.14). The stone, now in a shrine in the village of Landaw north of Mokti, is venerated as Shiva. It is 9 cm in thick and 42 cm wide, today painted black. The eyes are painted white; open and almond shaped, they may once have been inlaid. The hair is arranged in a tiered mukuta, and the long-lobed ears have pendant floral earrings that rest on the shoulders. The two upper hands are crudely carved, holding a mace and a conch shell. The lower hands are pendant, the right one open and the left pointing downwards, the index finger lying over the thick U-shaped curve of the lower garment.

When viewed in negative, it can be seen that the garment covering the figure and slight protrusion of the abdomen are typical of late first millennium AD Mon images of the Buddha, the robe covering both shoulders carved in a transparent or 'wet' appearance. The image has a heavy necklace made up of rectangular pendants flanking a central diamond-shaped piece. The design is similar to a necklace worn by Maya on a stone plaque at the Ananda Pagoda (Luce 1969: Vol. 3. Pl. 279a). The wide band at the waist is inset, perhaps to secure a belt. The robe and posture recall sixth to ninth-century AD Dvaravati stone images from Northeast Thailand and the mukuta tenth-century AD Khmer pieces, also from Northeast Thailand (Boisselier 1993:32). Some of the Northeast Thai pieces are about the same size as the Mokti stele, of note given the later presence of pillar-like sema at the Kalyani Thein in Thaton.

Despite the Buddhist affinities of the Mokti slab, the figure stands on a square plinth, possibly once a lotus or bearing an inscription. Below is a figure of a *garuda* or *galon* (35 cm), depicted frontally with hands together at chest level but with legs tucked under shown in profile, akin to attendant figures flanking the Buddha in some Pyu pieces and somewhat similar to attendants on some of the Ananda Pagoda plaques (Luce 1969 Pl. 279(d), 300(d), 319'(e); 1985, Vol. 2: Pl. 46 (b), 47 (b). At Dawei, a similar attendant is seen beside the central image on a second large slab (46 cm) from Mokti in the Hpaya Gyi museum. On balance, the Vishnu piece may possibly have been Buddhist and adapted in the Bagan period to depict a Brahmanic deity.



Fig. 27.14: Stone stele. at Mokti, Landaw, north of Mokti; detail stele.



Fig. 27.15 Ganesha stone bust from Mokti, now in Hpaya Gyi museum; 25 cm high, 26 cm wide.



Fig. 27.16 Torso Bagan period, Hpaya Gyi museum; 80 cm tall.

Brahmanic patronage during the Bagan period is also suggested by a statue of Ganesh (25 cm high, 26 cm wide) (Figure 27.15). The figure is plump with beads on the crossed legs, and the base of the trunk dipping into the bowl. The taut rounded stomach is creased below the beaded belt and tassels. The piece is finely carved, but only the lower portion remains. Similarly fine carving is found on three other pieces in the Hpaya Gyi museum. A left hand (29 cm) with multiple finger rings holds a softly carved conch or possibly a lotus, while a right (16 cm) holds the bottom of a flywhisk banded with rosettes. The rosettes are paralleled on a torso (80 cm), akin to images of *Thagyarmin* (Indra) from the Shwezigon and stone plaques of the Ananda at Bagan (Luce 1969 Vol.3: Pl. 176a, b, 280d) (Figure 27.16).

VOTIVE TABLETS

Patronage of Dawei during the early Bagan period is further testified by two votive tablets (13 x 8 cm) inscribed in Mon by governors of Kyanzittha's reign (1084–1113 AD). They record a wish to be reborn as an *Arahat* when Kyanzittha is born as a Buddha, with Luce (1969:26) interpreting them as a need to keep watch over the Mon population of Dawei. This attention by Bagan is possible, especially in the context of the suggestion earlier that Dawei, as Kalasapura, may have had a special trading relationship with Bagan. At least nine other Dawei votive tablets (on average 12 x 8.6 cm) are attributed to King Anawrahta.

There are also important Pyu votive tablets found at Mokti-Sawwa similar to ones from Sriksetra, Rakhine and the eastern side of the peninsula (Gutman 2001:57; Luce 1985 Pl.61a; Mya 1966: Pls.22, 60b). Two (8.7 x 6.9 cm) depict the Buddha seated on a double elephant with Makaras flanking the throne (Figures 27.17–27.18). A rampant feline and a stupa flank the image on either side (Dupont 1950: Pl.497, Mya 1966: Pls.10–15). Two larger tablets (12.5–14 x 10 cm) depict a central image of the Buddha seated on a double lotus throne. The right hand is in Bhumisparsha mudra with a small bowl held in the left hand. Four bulbous stupas flank the image, two on either side. The head is framed by a narrow arch seen in a few tablets from Sriksetra (Luce 1985 Vol.2: 61(a)). The reverse of the both tablets is impressed with a leaf pattern, particularly deep on the central stem (Figure 27.19). Again, parallels are found in tablets from Sriksetra (Mya 1966: fig 60).



Fig. 27.17 Votive tablet with felines and elephants, Mokti, Pe Nyan collection; 8.7 x 6.9 cm.



Fig. 27.18 Votive table with stupas from Mokti, Pe Nyan collection; 12.5 x 10 cm.



Fig. 27.19 Reverse of votive tablet with stupas from Mokti, Pe Nyan collection; 14 x 10 cm.

These stupa votive tablets may have reached Mokti overland, a link suggested by the presence of similar tablets at Yarang in Pattani province. At Yarang, the stupa tablets were linked to finds of a number of stupikas. One tablet was inscribed in Sanskrit in Pallava script and dated to the seventh century. The tablet-stupika combination has been tentatively connected to Caitayakanikaya, an offshoot of the Mahayanist *Mahasanghikasnikaya* (Pattaratorn 2000: 183). A stupa tablet and small silver stupika are also among the finds from Khin Ba mound at Sriksetra (Luce 1985 Vol.2: 30(e)). No stupikas have yet been found at Mokti, but the hypothesis is a useful reminder both of Mokti's connection to late first millennium Buddhist developments but also of how little we know of the monastic travellers who passed through Dawei.

CONCLUSION

The contrasts between Thagara and Mokti illustrate the localized cultures that arose from such contacts. Thagara benefited from a combined river and sea access in an area that does not appear to have undergone significant topographic change other than the drying up of the Padat Chaung stream. In contrast, the extensive meandering of rivers around Mokti and Sawwa suggest they may once have had greater access to the sea than is the case today. Thagara's 'Pyu' cemetery is not typical and the only image of the Buddha from this period is akin to Dvaravati pieces. Other early but not 'Pyu' objects include beads of glass and semi-precious stone, terracotta urns and fingermarked bricks. Later pottery and bronzes link Thagara to the east during the Sukhothai and Ayutthaya periods. Mokti has a mix of Hindu and Buddhist artefacts with votive tablets similar to ones from Sriksetra and the stone sculpture akin to Bagan. Laterite bowls and slabs link both sites to the Mon State culture of 'Suvannabhumi', for large accretions of laterite are not found around Dawei. Other links to 'Mon' and to Brahmanic cultures are found in the parallel elements of the Gawinanda-Gawampati legends. There are also the phallus-like linga around Thagara and possibly other forms of Brahmanism seen in small bronze hermit figures unique to Dawei. While the legends could be argued away on archaeological grounds, it is noteworthy that despite continuous royal sponsorship of Theravada sects, that chronicles have retained traces of Mahayanist and Brahmanic elements.

The difficulty of matching chronicles and legends to archaeological artefacts generally means that they are left aside. Doing this means ignoring the context in which the chronicles arose and that in which the sites have been venerated for the last two thousand years. It is a religious not archaeological perspective that takes a footprint to 'prove' that the Buddha met Gawampati on Mt. Ganangtaung, and the fish relic to verify that Shin Saw and Shin San were born from the Ngakoma fish. As stated earlier, however, the legends stemmed from the social memory of past events. To appreciate the complexity that gave rise to the cultures and nurtured their survival, such evidence needs to be documented alongside geographical and artefactual data.

We do not know to what extent the Thagara and Mokti domains were defined by their enclosing walls. We know even less of patronage networks supporting the diverse sects evidenced by the few artefacts remaining today. The disparity of finds between the sites is significant given their proximity and common timeframe circa 500–1500 AD. Just as the word Dawei refers to a town as well as to a language in and to a region in a more general sense, the meaning of its sacred landscape is both concentrated within particular contrasting locales and distributed along wider reaching paths

(Bradley 1994: 96). Although Dawei was not the dominant force in all of the interactions described here, the distinctiveness of its culture bespeaks a people able to navigate seamlessly along different routes and between different modes.

NOTE

* All photographs and drawings are by and copyright to the authors unless otherwise acknowledged.

1 'Kappali' is a Myanmar word referring to Negrito peoples (Kyin Swan 2003:2; Myanmar Language Commission 1993: 23). Thagara may be derived a Pali word meaning ocean or from the Myanmar tha meaning pleasant. In Mahayana texts, there is a dragon king known as Sagara with a wise daughter who died at the age of eight. This recalls the hagiography of the sage Gawampati who in an earlier existence died at the age of eight (Moore 2005; Soothill 1975).

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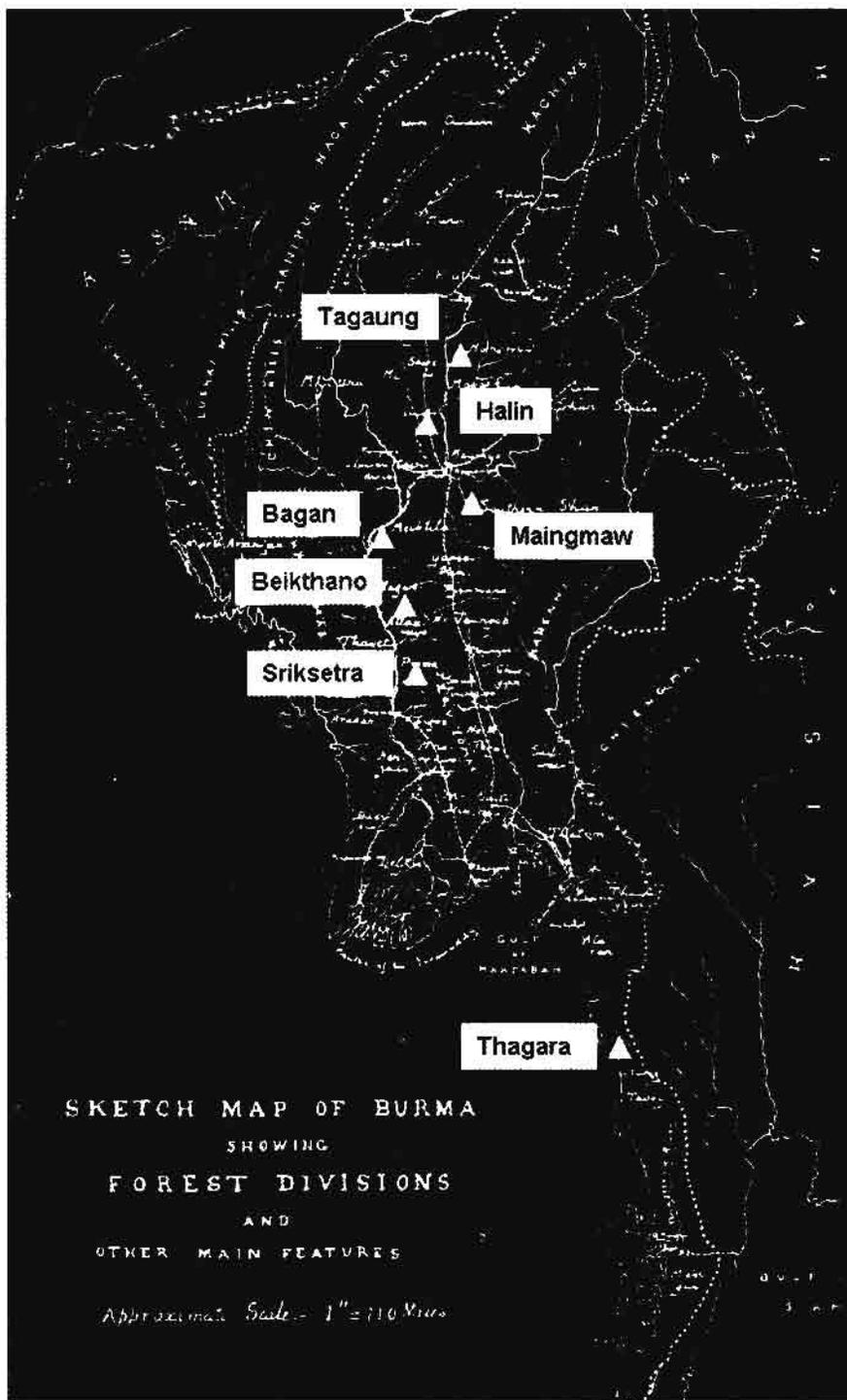
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15 Pieces and more in Early Burma

a new look at 'Pyu Culture'



Map 1. Map of Burma showing selected sites and features mentioned in text (after Peacock, E.H. 1933. *A Game-book for Burma and Adjoining Territories*. London: H.F. & G. Witherly)

Place and space in early Burma: a new look at 'Pyu Culture'

ELIZABETH MOORE¹

ABSTRACT

Ancient Burma (Myanmar) is commonly split into Upper Burma 'Pyu' and Lower Burma Mon cultures, an ethnic classification of walled site cultures in the Irrawaddy (Ayarwaddy) basin that began with fourth to ninth century C.E. scripts. The early Buddhist archaeology, however, points to multiple groups and spreads far beyond the Irrawaddy drainage system. The Mon typology has profitably been unravelled in Aung-Thwin's controversial study (2005), but, while his advocacy of the Pyu primacy has been questioned, rudimentary definitions of the first millennium C.E. 'Pyu culture' have remained largely unchallenged. The blinkered results of text primacy in defining ethnicity and cultural identity are addressed here, with data from recent discoveries used to identify a relational engagement between the brick walls and terracotta urns typical of early Buddhist cultures in Upper Burma. This localised integration of spatial and spiritual factors is further strengthened by a range of artefacts and indigenous texts².

GEOGRAPHY, CHRONICLES AND ARCHAEOLOGY

The Upper/Lower (*ah-che-ah-nya*) division of the Burmese language is by definition geographical: the 'region adjoining the upper reaches of the Irrawaddy River' and the 'downriver or leeward side' (Burma Commission 1993: 540, 557). This distinguishes the central arid region north of Prome (Pyay) from the Twante-Pegu (Bago) delta and the coastal Mon State³. The Upper/Lower term stems from the Irrawaddy, so many other important first millennium AD polities are not included in this common expression: Arakan (Rakhine), Tenneserim (Tanintharyi) and the Chin, Kachin and Shan regions. All these provided important economic and cultural interchange for the central basin. For

¹ I would like to thank the School of Oriental and African Studies (SOAS) and The British Academy for their support to carry out this research.

² Data from the first millennium C.E. walled sites of Tagaung (23°30'N, 96°11' E), Halin (22°27' N, 92°23' E), Maingmaw (21°17' N, 96°12' E), Beikthano (20°00'N, 95°22' E), Sriksetra (18°48' N, 95°17' E) and Thagara (14°04' N, 98°11' E).

³ The mediaeval northern limit of the Mon was Thayet (*Sarak* in Mon) on the Irrawaddy midway between Rangoon (Yangon) and Prome (San Win, pers. comm. 03-2008).

example, Arakan and Tenasserim front the Bay of Bengal and the Andaman Sea and supported significant Indian Ocean trading networks. (Map 1) They were distant from subsequent Upper Burma centres of power but supplied essential ports and natural resources for the succession of royal capitals at Pagan (Bagan), Ava (Inwa), Amarapura and Mandalay.

It is the epigraphic basis of indigenous texts rather than the geography, artefacts or localised legends of these many ancient cities that framed the birth of archaeology in Burma. King Bodawpaya (r. 1782–1819 C.E.) is credited with this beginning, for he charged Twinthin with the task of collecting stone inscriptions and compiling of *The New Chronicle* (*ya-zawin* or ‘lineage of kings’) (Hla Pe 1985: 37–54–57, Tet Htoot 1961: 52–54). This was followed closely in the 1829 *The Glass Palace Chronicle of the Kings of Burma* ordered by King Bagyidaw (Khin Maung Nyunt 1992: 15, Pe Maung Tin and G.H. Luce 1960). Although these and the many other chronicle records relied on a combination of inscriptions and legends, colonial partiality for linear over cyclical history was seen institutionally in the 1902 founding of the Epigraphy Office under the Archaeological Survey of India (Moore 2008, 2009). This was changed to the Directorate of Archaeology only in 1954 and the Department of Archaeology in 1972.

Accepting the general lines of national *ya-zawin* such as U Kala, compiled in the reign of Tanageranwe (r. 1714–33 C.E.), Twinthin and the *Glass Palace Chronicle* for the purposes of this article, Pagan was founded in the second century C.E. and known as Pugarama (Pagan) from the eleventh century C.E. (Nyunt Nyunt Shwe 2007: 288, Pe Maung Tin and Luce 1960). These chronicles record many groups moving about the upper region (Kala 1992, Tun Nyo (Twin Thin, Minister Twinthin Thaik Wun Maha Sithu U Htun Nyo) 1968). Although they are not framed in the direct chronologies of Western archaeology and rarely deal directly with culture or other subjective aspects of history, the chronicles influenced site explorations of pioneering archaeologist Taw Sein Ko (1864–1930) and his successors throughout the twentieth century C.E. (Wyatt 1997: 690). Indeed, given their focus on site lineage, the signposting of chronicles, albeit not solely the text-centred Pyu model emphasised by Luce and his followers, is generally rewarding for archaeological exploration (Moore 2007: 25).

Taw Sein Ko likewise did not see homogeneous ethnicity during the first millennium C.E. emergence of Buddhist polities. Quite the contrary, taking his cue from chronicles he describes numerous groups including Pyu, Kanyan, Burma, Mon and Arakan in pondering the origins of the word ‘Burma’:

It is curious that the term Burma, by which the Burmans are known, is not met with, in Burmese history, till we come to the destruction of Sīrikhetarā, when it is recorded that the inhabitants were split up into three parties, viz: - Pyu, Kanyan, and Mrammā...The King’s nephew, Samuddarāja [Thamudarit], collected the remnants of his tribe and founded Taungnyo. [northwest of Pyinmana near Nay Pyi Taw (1968: 46 fn.2)] Three years afterwards, the Talaings, who inhabited Rāmañña, came and destroyed the newly-founded State. He then removed his capital to Thet-thā-pandaung, from thence again, after six years, he removed to Mindōn. In the third year of his removal, he was attacked by the Arakanese of Dhafñāvati, and so for the third time, he removed to Yōn-hlut-kyun, and, joined by the inhabitants of 19 Pyu villages, he founded Pagan. (1913:1)

U Kala's *Great Chronicle*, Twinthwin's *New Chronicle* and the *Glass Palace Chronicle* note the Pyu as one of several groups, not giving the 19 village heads assembled by Thamudarit a single ethnic label. The *Great Chronicle* suggests that some of the villages were Pyu, stating that after the ill-fated reign of Supaññanagarachinna and a 'great whirlwind that carried away the winnowing tray', that the Kanyans, Pyu and Burma split into three divisions. Sriksetra fell and there was an interregnum of three years at Taungnyo, six at Padaung and three at Mindon before Thamudarit brought together the headmen of 1) Nyaung-U; 2) Nagabo; 3) Nagakyit; 4) Magyigy; 5) Tuti; 6) Kyaussaga; 7) Kokkethein; 8) Nyaungwun; 9) Anurada; 10) Tazaunggun; 11) Ywamon; 12) Kyinlo; 13) Kokko; 14) Taungba; 15) Myegedwin; 16) Tharekya; 17) Onmya; 18) Yonhlut; and 19) Ywasaik (Pe Maung Tin and Luce 1960: 29; Kala 1992: 187; Tun Nyo 1968: 46-47).

Following the record of these chronicles, the nineteen villages were distinct or competitive enough to label them separate ethno-cultural spheres. Despite this, however, as the only surviving script from the many groups is called Pyu, all have commonly been brought together as 'Pyu'⁴. However, given references in Chinese texts to eighteen dependent kingdoms and nine garrison cities, and tribes numbering anywhere from 32 to 298, it seems clear that the singular 'Pyu culture' is a term of convenience only (Luce 1985: 70-71). This caveat was recognised long ago by Blagden:

...a forerunner of the Tibeto-Burman movement into the southern parts of the valley... The name 'Pyu' has merely been attached to it as a convenient label, not improbable in view of Bur-mese traditional history, but by no means to be accepted as final. (Blagden 1919: 61)

His cautions, however, were overridden, one reason being the need for a simple means to describe the abundance of first millennium C.E. artefacts. However, a critical difficulty with the usage - that has been often accepted as final - comes in its stifling of comparative innovative study of the available data on the different Tibeto-Burman and other ethnic groups. The alternative is retreat, stating an inability to probe further in the absence of more data. While this often the case, especially given today's conservative attitudes towards generalisation, it was not prevalent in earlier scholarship.

ETHNICITY AND ARCHAEOLOGY

BEIKTHANO

Taw Sein Ko, for instance, thought that natives of Taungdwingyi, 16 km southeast of Beikthano, identified with the Tibeto-Burman Kadu (Kanyan), a suggestion once advocated by Than Tun (1965: 12). Chen Yi Sein identified Beikthano as Lin-yang and proposed a Khmer (205/210-225 C.E.) and then 'Monized' phase until the fifth century C.E. (San Shwe 2008, Chen Yi Sein 1999: 86-87). It is not the different groups in chronicles that has and often continues to engage Burma scholars, however, but rather the origins of the *Bama (Mranma)* with its reference to both a 'racial' and 'national' group (Aung-Thwin 2008). This is commonly either adoption of Luce's view that Burma came via Kyaukse ('*Myanma-asa-Kyaukse-ka*') or Po Lat's advocacy of Tagaung as the root locale ('*Myanma-asa-Tagaung-ka*') (Hla Thein Tun 1997:27-28, Phone Tint Kyaw 2007: 44-45).

4 As Luce notes, these peoples were called P'iao in early Chinese references and Tircul by Mons and Javanese (1985: 47).

In the Beikthano area, the apparent simplicity of two choices, whether Upper/ Lower, Pyu/Mon or Kyaukse/Tagaung, is belied by the complex local archaeology. For example, Palaeolithic and Neolithic sites have been recorded around Mya Thalun pagoda on the Irrawaddy at Magwe, 45 km west of Beikthano. At the Bronze-Iron Age cemetery of Ywa-din-gon, 80 km northeast of Beikthano, suggestion of mortuary lineage is possibly seen in sixty-seven skeletons, some in coffins made of tree trunks added to clustered burials over time. As with other Samon valley sites, the artefacts and 400–200 BC Accelerated Mass Spectrometry (AMS) results from Ywa-din-gon are comparable to bronze Dian cultures in Yunnan. Samon affinities to Yunnan fade, however, with entry of Indic-oriented Pyu artefacts, suggesting a combination of absorption or displacement perhaps by an intrusive population (Moore 2007). Such variable change is indicated by finds not totally Samon or Pyu during 2000–2001 excavations at Letpanywa (19°48'N, 95°58'E), 30 km southwest of Beikthano, where skeletons were documented inside and outside two structures, along with finger-marked bricks and iron artefacts but also two bronze bands circa 2 cm in diameter bearing large-nosed human faces worked in relief (Nyein Lwin 2004). In Taungdwingyi, Pyu artefacts were recovered during recent renovation of Aung Myin-zaya (Arakan Zeidi) in Taungdwingyi, while at Beikthano, indication of mortuary lineages is possibly seen in urns from a building (BTO20) discussed below. (Fig.1) In short, Beikthano did not exist only in relation to distant sites such as Sriksetra (140 km) and Halin (285 km) but within multi-period highly localised systems.

TAGAUNG AND PAGAN

Beikthano was not the only site to be dubbed something other than Pyu: Luce nicknamed Tagaung the 'eastern capital' of the Kadu (Kayan) and honoured the Thet as the 'most numerous and cultured' peoples of Pyu times (Luce 1974: 124, 1985/1: 28, Than Tun 1965: 12). Statements such as these have been perpetuated, as have Luce's equally imaginative contrasts between Mon and Burmese ethnicity and architecture at Pagan (1969). Other beliefs surround the Thet (Sak), credited by some with disseminating Buddhist teachings via the Chindwin (Moore 2007: 234, map after Win Maung (Tampawaddy). In the absence of a writing system for the Thet, Kadu or other dialect groups vital to the rise of the cosmopolitan Pagan, verifying or discarding earlier generalisations such as these may hopefully stimulate more archaeological documentation of vital but little-mapped regions such as the Chindwin basin.

Pagan, which chronicles link to Tagaung, is also in need of further research, for it remains notably sparse in Pyu artefacts (Stadtner 2008). Despite long investigation and excavations in recent years at Yon Hlut Kyun (1999–2000), iron kilns to the east around Zi-O, eighth to the tenth century CE pottery production at Otein Taung (1999) and survey of the nineteen founder villages of Pagan cited in chronicles, significant Pyu finds have yet to be recorded (Hudson, Win Maung and Nyein Lwin 2002, Hudson 2004: 15, 211–212, 249).

An attempt has been made to fill the 'Pyu Pagan' gap in recent study of Paw-daw-mu (Temple 996) in the southern sector of Pagan. Although the study considers it Pyu, subsequently encased in a Burmese eleventh century C.E. structure, the majority of stylistic parallels for the distinctive stucco of the inner temple are to eighth to tenth century C.E. Dvaravati pieces. These include faces peering out of horse-shoe shaped *kudu* arches, images of the Buddha and floral details (Gutman and Hudson, 2008: 20–22; Hudson 2004: 247–248). Some parallels for the *kudu* arches can be seen at Nakhon Pathom of this period but the faces more closely resemble Nalanda styles; parallels for the floral motifs and arches include Abeydadana murals attributed to Kyanzitha (r.1084–1113 C.E.)

(Department of History 1986: 43–44; Handlin images, pers.comm. 2008). Another comparison is to an arch from the eleventh century C.E. Maung Di stupa near Twante in the delta region usually placed within a ‘Mon’ Lower Burma (Stadtner 2008). Thus if any ethnic identification is given to the stucco of Temple 996, ‘Mon’ seems more relevant than ‘Pyu’.

This does not discount earlier occupation: the base of the structures is 80 cm below present ground level and images of the Buddha on the east side are visible only above the lower torso (Gutman and Hudson 2008:20). Fragmentary reports on pre-Anawrahta artefacts likewise often indicate finds well below surface level. For example, early twentieth century C.E. note of a ‘Pyu’ pot at Myinpagan was eight metres below ground level (Archaeological Survey of Burma 1917: 42, Hudson 2004). However, given the vagueness and early date of the description, the attribution is open to question.

SCRIPTS AND ARCHAEOLOGICAL CRITERIA

How can we begin to map out the epigraphically-absent groups of first millennium C.E. Burma? As discussed further below in relation to China, vernaculars in the absence of a writing system often stimulate a rich material and performance culture. An example is seen in elements such as origin legends and songs of Tavoy (Dawei), where the walled site of Thagara is located (Aye Sandi 1999, Kyaw Min 1958, Moore and Than Swe 2006). Dawei, written in Burmese script, is spoken within a restricted geographical area and limited population, with local information commonly transmitted verbally and easily sheltered from cultural dilution. As an ethnographic means to at least raise questions about its ancient presence, its culture offers one way to extract Thagara from the hazardously general ‘Pyu culture’. As re-iterated often above, the present-day English term ‘Pyu’ designates the only known local Brahmi-derived script recording the Tibeto-Burman (and other) languages spoken in first millennium C.E. Upper Burma. The various script styles are sometimes called archaic and unchanging, but elsewhere temporally mixed and in close touch with Asokan to Gupta centres (Aung-Thwin 2005: 14, Phone Tint Kyaw 2007, Tha Myat 1963, 1972). Others separate a Sanskrit-based North India-derived script on stone slabs and urns at Halin and Sriksetra, from a South India Pali-based style on the gold plates from Sriksetra, and an ability to read the early twelfth century C.E. Myazedi inscription Pyu does not mean one is able to read Halin Pyu (San Win, pers.comm. 04.2008; San Shwe, pers.comm. 01.2008).

In short, the script styles are diverse, examples are few, and the dates span eight hundred years. What the diversity does suggest is local scholarship, an intellectual creativity seen clearly in the diagnostic artefacts of ‘Pyu culture’ discussed below. Prior to the defining of criteria, unidentified artefacts later labelled Pyu were mentioned in passing. Beikthano, for example, was noted by road engineers in 1896, when they unearthed brass cups and silver coins. As many of the British officers and civil servants came via postings in India, they brought with them the antique collecting ‘passion’ of this era and considered the objects Indian (Guha-Thakurta 2004: 28). Forchhammer, Taw Sein Ko and Beylié explored Sriksetra in 1905–1907 expeditions, Halin was surveyed in 1905, and Taw Sein Ko documented two mounds in the southern part of Beikthano in 1905. However, the first systematic excavation was carried out at Beikthano only in 1959–62 when twenty-five mounds were unearthed under the supervision of Aung Thaw, Director-General from 1961–1982 (Aung Thaw 1968; Myint Aung 1970; Nyunt Han et al. 2007: 7, 9, 14; San Shwe 2006, 2008).

Aung Thaw's Beikthano excavations, as with many subsequent ones, were aimed at documenting above-ground structures rather than sub-surface stratigraphic exploration into the origins of sites. This was the case, for example, in Tagaung excavations in 1967–1999 when twelve mounds were unearthed during six periods of fieldwork, and also in the first Department of Archaeology excavation of two mounds at Thagara only in 1999–2000. In this context, Aung Thaw's efforts were at the time, and still remain, a benchmark in assembling sufficient data to formulate diagnostic criteria for 'Pyu culture' (Aung Thaw 1968: 3):

- Masonry structures with massive walls made of large bricks
- Silver coins
- Burial urns
- Beads
- Pottery
- Iron artefacts
- Buddhist statuary and *htarpanar* (relic offerings)
- Pyu inscriptions
- Fort walls with massive curved gates.

Subsequent research and publications have retained these criteria to assess whether an assemblage should be called Pyu. The list has been cited time and again, for from all the 'Pyu' excavations, there remain only four radiocarbon dates obtained in Aung Thaw's initial Beikthano work, along with four usable radiocarbon results from Myint Aung's subsequent excavations at Halin. In addition, dating continues to make use of the lower calibrated range of the few dates to define the chronology. Thus generally Beikthano (second century BC to fourth century C.E.) is followed by that of Sriksetra (fourth to fifth to the eighth century C.E.), then Halin (second to ninth century C.E.) and Maingmaw (fourth to fifth century C.E.). Until the 1998–2003 excavation at Tagaung, its culture was dated to the eleventh century C.E. Pagan era but due to the presence of a number of the diagnostic indicators is now considered Pyu. The only absolute date from Tagaung (770–900 C.E.) was obtained from in situ charcoal about one metre below ground level with a cluster of urns during construction of the new museum at Tagaung (Hudson, pers.comm. 2006).

Of Aung Thaw's nine traits, Luce heavily prioritized the written word of inscriptions and Chinese accounts (Luce 1985). While many others such as Aung Myint (1998), Aung-Thwin (2005), Bo-hmu Ba-shin (1998), Hudson (2004, 2008), Moore (2007), Stargardt (1990, 2003) and Win Maung (Tampawaddy) (2006) assess the walled site cultures in a structure that includes archaeology and ecology, the linguistic legacy of Luce and his colleague Than Tun has encouraged continued preoccupation with texts to define 'Pyu culture' (e.g. Than Tun 2002, Wheatley 1983). In the last fifteen years, there has been a resurgence of Pyu exploration, seen for instance in 1995-2002 C.E. excavation of eleven mounds at Beikthano. With a growing body of field data, scripts have in more recent publications been used as only one – albeit still the preferred – index of pre-Pagan habitation (Nyunt Han et al. 2007: 15-16):

- Large bricks to construct walls, palace, religious buildings
- Marked bricks (circa 45 cm long, 10 cm thick)
- Entry gates

Urns with bones and ash
Terracotta pottery
Silver and gold coins
Pyu scripts used to write Pyu and Pali
Beads
Gold objects
Buddha images and other Buddhist objects in silver, gold and bronze
Enclosing walls

The eleven point list of Nyunt Han, Aung Kyaing, Chit San Win and Thein Lwin reiterates Aung Thaw's, albeit with more detailed brick and metal categories. Their article nonetheless usefully bridges early twentieth century surveys, post-Independence excavations at Beikthano, Halin (1966–1969), Sriksetra (1962–1963 and 1970–1971) and Maingmaw (1979–1982) with excavations of the last fifteen years (2007: 4–7). The article is also significant, coming from several of the Ministry of Culture staff who carried out this work, for while some excavation reports are made available informally, they have not been published. There is the additional limitation of language as the Nyunt Han et al. article is in Burmese and so not accessible to all foreign scholars. Over the past fifteen years, the majority of publications on archaeological research have come via the Universities Historical Research Centre (UHRC), formerly under the Ministry of Education and since 2007, the Ministry of Culture. While these often include English language articles, their international circulation has been limited, and contemporary Burmese scholars remain underrepresented in Western publications (Aung-Thwin 2008). These points are central to the present article, for the absence of new material and scarce citation of Burma scholars has contributed to unquestioning adoption of outmoded paradigms such as that for 'Pyu culture'.

Thus the situation today is contradictory. Pyu writing remains preferred but with the important exception of the 1979 finding of an important inscribed stone urn at Sriksetra, the body of Pyu texts has remained at a virtual standstill. On the other hand, there is an ever-growing corpus of diagnostic but little-cited artefacts. The abundance and site specific diversity is vital to bring new data on early Buddhist Burma into the English literature. It is in this context that significant elements of the Nyunt Han et al. summary are discussed below:

At Tagaung, stone, bronze, iron implements and the first 'Pyu' finds inside the walled site and at the nearby villages of Hsin Hnyat Kon and Kyan Hnyat were recovered from 1998–2004 excavation and survey. These and the related Maw Shan city of Maingmaw in the Shweli valley mark the northeast limit of documented archaeological assemblages spanning the late Bronze-Iron Age to Buddhist periods (Moore 2007: 188–191).

From Halin, only 150 km southwest of Tagaung, notably different artefacts include numerous stone tools and rings, bronze and iron implements, and inhumation burials. Four skeletons, one 160 cm in length, were documented, two male and two female in a layer of buff sand 210 cm below surface level adjacent to the southeast corner of the walled zone. The inhumations, comparatively dated to 5000 B.P., were accompanied by large and small pots, with the assemblages likened to those at Nyaunggan near Monywa and Myin-oo-hle le near Meiktila (Moore 2007: 56 (map), 78, 81, 90–99, 119–120).

At Beikthano, no below ground excavation has taken place, but 2003 unearthing of mounds substantially expands previous data of the correlation of structures and burial urns associated with the Buddhist archaeology of the walled site. Several of the more than thirty-five unexplored mounds

flanking the inside and outside the north wall of the site were unearthed with numerous urns were found at two of the brick buildings (BTO 19 and BTO 20). (Table 1) A nearby building, KKG 1, has multiple rooms around a central chamber with urns in all but the central room. Just south of a north gate (KKG 15) is building KKG 17, source of 588 of the 708 beads recorded during Aung Thaw's excavations. Most of the beads were terracotta, fitting well into the prominence of brick and pottery production at the site (Aung Thaw 1968, Moore 2007). (Fig. 4).

KKG 1, KKG 17 and BTO 20 are three of more than thirty-five mounds that enfold outer and inner faces of the north wall of Beikthano. The wall (2743 m long) is unusual, built on a dike of yellow clay and less sturdy than the east (3048 m) or south (2438 m) walls constructed directly on the ground surface (San Shwe 2006). This north area of the site is possibly the root settlement sector, a concentrated zone of brick buildings, beads, urns and iron. For instance, nearly 250 kg of iron objects such as nails, sockets, bosses and strips were recovered from Beikthano, many in the north sector monastery (KKG 2) and gates (KKG 13 and KKG 15) (1990: 284–285). BTO 19 and BTO 20, outside the north wall, are rectangular halls with post holes, a ritual platform and numerous urns, similar to KKG 9, KKG 11 and KKG 12 inside the north wall (San Shwe 2008). Six BTO 20 urns were decorated with two rows of auspicious birds modelled on the rim and mid-section: doves on one and others with peacocks, ducks, and hintha or brahmīny ducks. (Fig. 2 and Fig. 3). All the birds are expressively modelled, in full flight with wings spread on betel box or drum shaped vessels *circa* 30 cm in height. They bear multiple rows of deeply incised vertical lines on the slightly rounded base (San Shwe 2008). The urns are notable for their fine workmanship and the iconographic hint of lineage in the clusters and linked decorations. This does not rule out a Buddhist attribution for the birds being from previous lives of the Buddha, but equally they may have merged local and Buddhist traditions.

A bronze image of the Buddha (13 cm) seated in *pralambanāsana* or 'European position' was recorded in 2003 from a depth of 65 cm below the top of the brick mound covering another rectangular structure (BTO13) south of the north wall. (Fig.4 and Fig.5) Thein Lwin compares the image to an undated seated example from Maingmaw, while San Shwe gives it a fifth to sixth century C.E. date in relation to an image in Leh-myet-hna temple in Sriksetra. Brown suggests a later dating of around the seventh century C.E. for the bulk of Pyu images of the Buddha, based on stylistic affinities to Dvaravati pieces in Thailand (2001). The author (2007) adopted this more conservative view on stylistic grounds, but these new and significant documenting of ritual structures, urns and Buddhist sculpture suggest multi-period occupation by diverse religious sects, with chronicle accounts of its 'fall' reflecting simply political struggles with Sriksetra.

Finds from Maingmaw remain tantalizing but poorly provenanced in the absence of further excavation. Seven silver stupas and fifteen images of the Buddha, in gold (seven), silver (seven), and one in another metal were reported in 2005 at Maingmaw by a local farmer. The images were likened to included those from Kalagangon village just outside the east wall of Sriksetra (Moore 2007 figures). Finds from 1982 at Mya-nadi 6.4 km east of the Maingmaw walled area, include a ten-line Pyu inscription with other Pyu inscriptions in nearby Leh-dwin and Myit-tha. The inscription, unfortunately not reproduced in the summary, is written in a South India-derived script with their distinctive 'r' (*ra-gauk*) and 'i' (*lon-gyi-tin*) similar to the script of the Sriksetra gold plates (San Win, pers.comm. 04.2008).

Only thirty-six mounds, eleven since 1993, have been unearthed within the massive walled site of Sriksetra. (Fig. 6). The largest corpus of Pyu writing comes from Sriksetra, with art history and

palaeography dating this phase of the site's occupation to the fifth to ninth century C.E. (Hudson 2008: 273). One of the recent excavations yielded the most significant find of Pyu writing in recent years, a stone urn (105 cm high and 260 cm wide) from Hpaya-taung (HMA-31), a pagoda adjacent to the central palace or citadel (Fig. 7). The massive stone receptacle bears four lines script, each with a royal name ending in *-vikrama*, the first being read by San Win as *Hri Vikrama* (Moore 2007: 173). The large domain of Sriksetra probably extended south to Thegon, a walled satellite site where an image of the Buddha in *pralambanâsana* was recorded; no details are given of the context or size (Nyunt Han et al. 2007: 15).

In summary, at Tagaung and Halin, underground excavations have added data to the the previously little known transition from Bronze-Iron Age to Buddhist finds, while at Beikthano, Maingmaw and Sriksetra, above ground survey and unearthing of mounds has widened the extent and range of Buddhist artefacts. Many of the finds have reversed earlier hypotheses, such as the prior absence of imagery to definitely call Beikthano Buddhist, and the case for a range of localised Bronze-Iron to Buddhist transitions in the Halin and Tagaung artefact differences. There is no mention in Nyunt Han et al. of 'Pyu' objects in other regions with like material such as Arakan, Thagara and Thaton, or their absence at Pagan. There are, however, articles in the conference volume on Arakan, Tavoy and Pagan (Aye Hla, Lè Lè Win, Nu Mya Zan, San Win and Than Swe 2007).

RAMPARTS AND URNS

The constant finds of finger-marked bricks has underlined their ubiquity at sites over the country. Nonetheless, at Tagaung, finger-marked bricks recorded in 1.7 m below surface level at site TG31, have been called 'Pyu', laying an Upper Burma primacy over a wide artefact distribution and giving a unified social identity to a time of numerous fluid groupings. Such use of a fraction to surmise a whole bypasses inter-relationships of local artefacts, a point underlined by Taylor in considering culture and ethnicity (1982: 7):

Because ethnicity has generally been conceptualized as an ascribed attribute with the implicit assumption of instinctive and primordial antagonisms between different groups, as has been customary in Western political thought since the rise of nationalism, rather than as a relational attribute reflecting ecological and subcultural characteristics, a false problem has been posed on the practice and study of Burma's politics.

One significant ecological and cultural relationship which appears to have has been ignored is that between walls and urns. The wall form was determined by the local ecology, a man-made perimeter often presumed to mark the site domain. The existence of urns both within and immediately outside walls, however, belies this sense of boundary. At Beikthano, for example, 357 urns that have been documented from inner as well as outer sectors (San Shwe 2008). Of these, 193 are in the north sector with the remaining 164 in the centre and south (Table 1). As at other sites, there has been as yet little documentation of their contents, clustering or stratigraphy, let alone how variations might reflect the synthesis of lineage traditions as mentioned earlier. This is discussed further below along with other issues raised by the wall-urn association, from the management of natural resources to the role of astrology and alchemy in the rise of Buddhist rule.

The urns, ritually gathered and embedded in building foundations, possibly for the consecration of rulers, contain different types of artefacts in addition to ash and bones. At Tagaung, one urn contained six types of iron objects, as well as beads and gold (Chit San Win 2005: 100–101). At Sak-

setra, urns were often buried alongside alchemically potent iron artefacts, a practice documented on the upland area outside the Sriksetra's southwest walls. These hills are also a rich source of fossilised wood, favoured for production of black and white line design beads, a process that imbues the beads with 'hot' and 'cool' properties (Moore and Tan 2008). The use of local resources for production such as this was integral to the long development of the highly localised astrology of Burma. Taking the black and white beads as an example, monks and laypersons adept in the alchemic techniques of changing common into precious metals may well have provided a skill that encouraged the growth of monastic communities common into precious metals may well have provided a skill that encouraged the growth of monastic communities. In addition to objects in and around urns, the timing and positioning to deposit urns and erect buildings may well have had alchemic or astrological parameters (Moore 2007a, Moore and Tan 2008). The urns, understood in these contexts, become both agent and mirror of a changing relationship between man and his environment and, in the author's opinion, consequently in his epistemology and spiritual beliefs.

The population of religious communities would in these circumstances have included various learned figures, all represented in the urns at 'memorial halls' such as BTO20, at stupa-like structures and other buildings on both sides of the walls (San Shwe 2006: 272). The southwest Sriksetra hills, for instance, are terraced and contain numerous urns. This proximity to the walled area has been emphasized by Stargardt in suggesting a purposeful integration of urns with structures and water flow around the walled area (Stargardt 2003). While the author (Moore 2007) has elsewhere questioned this, if urns are understood in relation to various lineages, retaining an active presence in ways not easily assessed becomes more plausible.

Mortuary custom elsewhere follows similar patterns of abundance and proximity: at Beikthano in 'countless low mounds which are urn graves' (Aung Thaw 1968:2) and at Thagara where the cemetery is immediately southeast of the walled site. In nearby Quangxi among the Dong, 'grave mountains' are documented within and nearby the settlement (Ruan 2006: 19, 65, 72, Figure 2.49). Tagaung provides a different example, where Vessel 11 was repeatedly stamped with a four-armed crowned, possibly ancestral figure, with a large face and prominent eyes, flexed knees and flanked by an elephant and bull. (Fig.8 The pot contained bones of a entire human skeleton, bronze rings and coiled wire, as well as terracotta, bronze, quartz, carnelian and black stone beads (Chit San Win 2005: 75). The urns, when understood not just as vessels for the deceased but as relic-like objects potentially related to local contexts, could easily have integrated with Buddhist practices whereby certain relics guaranteed authenticity (Trainor 1997: 134). (Fig.9)

The walls of Pyu sites are strong features often seen to mark an 'inside' and 'outside'. This is a logical surmise when considering their girth, for they are often 2.5 metres wide. While many walls are now eroded or had their bricks taken for road construction, they are still often 1.8–4.5 metres in height (Moore 2007: 133). Shallow moats around the wall perimeter managed water scarcity and excess, provided plant and animal food, and were probably brick production areas. At Tagaung and many other sites, local streams and *in-gyi* (seasonal water bodies) were maximised to boost cultivation. Although *in-gyi* were vital for habitation during all periods, the construction of ramparts may reflect a heightened need for water control analogous to Northeast Thailand where construction of earthworks responded to a particular hydrological phase of increased water availability unique to the Iron Age (McGrath 2008). In a manner also recalling recent data from Northeast Thailand, the Bronze-Iron Age to Buddhist transition in the Samon valley of Upper Burma saw a 'brief starburst of social display' (Higham 2008). To date, however, Samon artefacts and sites have not yielded

diagnostic traits tying the Samon culture into the urns and ramparts of the emerging Buddhist era (Moore 2007: 130).

The complex rampart-urn relationships sketched out here highlight a locale-specific pattern reiterated in even the few groups such as the Thet and Kadu worthy of note in national chronicles. Luce (1985) investigated remnants of these languages, and there are ethno-archaeological insights to be gleaned from Thet and Kadu vernaculars in the Arakan, as well as the Arakan and Tavoy peoples. Related questions of text and visual culture can be seen in the Tai-Kadai Dong groups mentioned earlier and dominant Han peoples (Ruan 2006:14):

... Without a written language, the development of material culture has as a result flourished... Since their culture has never been made into a 'text' (*sic*) it has developed into oral literature, music, dance and variety of artifacts, the most dominant, and indeed the most instrumental of which are rituals and architecture. The Dong possess a meaningful and understandable relationship with their built world.

This acknowledges the importance of language yet seeks 'text' in the objects and rituals of the material culture. Similarly, ceremonies to embed urns and erect walls were likely to have been essential in continued processes to commemorate and reconstruct lineage (Aung Thaw 1968: 22, Ruan 2006: 70).

CONCLUSION

Text has been given precedence over a meaningful reading of the archaeology of by-gone relationships between places and people (Leoshko 2003:7). The walled sites in this sense may be construed as waypoints, signposts in local and regional narratives, where ramparts and urns honoured and validated domain for diverse lineages and dialect groups (Tilley 1994: 32–34). The many styles of Pyu script likewise suggest its purposeful creation to embed new elites within local belief and effect social change. The role of ancient elders (*poranas*) was critical in this process, with social memory of ancient honourables evoked today by life-size depictions of monks, hermits and tutelary and other figures at many walled sites. Examples range from locally prominent monks such as the Pauk Sein Sayadaw in the Shweyaungdaw monastery at Beikthano, to the Gawinanda hermit at Shin Zalun pagoda at Thagara and within the material culture in the richness of local astrological calculations to distinct custom among the Thet, Kadu, Arakan and Tavoy peoples. (Fig. 10, Fig. 11, Fig. 12) With a new generation of Burmese archaeologists, historians and anthropologists emerging, it is time to open up long-standing compartmentalizations of academic disciplines. To realise fully the heritage of the country's Buddhist landscape, room must be made for the present and for new types of data in mapping out not one but many cultural meanings.

The ethnic and linguistic homogeneity of 'Pyu culture' has become entrenched in Burmese archaeology, spawning many misconceptions. To discuss, as done here, alchemy, astrology and charismatic *Sayadaws* or monks in the context of ramparts, water management and urn burial at Beikthano, remains heretical. Yet there is much to justify innovative review when Tagaung has been enshrined as the first Pyu capital but has no Pyu inscriptions, and Thagara has possibly the earliest Pyu urns and other artefacts but no Pyu texts and lies far from the putative Pyu sphere of Upper Burma. Finally, at Pagan, King Thamudarit is credited with assembling nineteen village headmen

in 107 C.E. (Win Maung (Tampawaddy) 2006) and while the headmen are often called Pyu, this is not the case in all chronicles and there are as yet virtually no Pyu artefacts. There is clearly cause for a wider definition of Pyu culture, not least to recognise the multiple Tibeto-Burman groups of chronicles and more empirically the striking diversity of artefacts at walled sites from Tagaung to Thagara. The commemorative norms invoked in the mortuary custom differ at each of these sites, from the large-eyed crowned figure stamped on the Tagaung urn, to the delicate birds in flight modelled on the Beikthano vessels and the *Vikrama* rulers interred in their enormous stone urns. Only the Sriksetra urn inscription justifies an ethno-linguistic classification, for there is no ethnic indicator in the Tagaung or Beikthano artefacts. Indeed, if chronicles and earlier scholars are recalled, these could just as well be Thet and Kadu as Pyu.

The peoples of ancient chronicles travelled past many places before choosing sites to construct ramparts and manufacture burial vessels. The wall-urn relationships resulting from these activities do not resolve into one or even three orderly groups. All the walled sites connect in one way or other to the Irrawaddy, but beyond that, given that movement was along the smaller watercourses, the homogeneity is lost. Tagaung for instance, maps out along the Uru and Shweli Rivers, Beikthano reaches east to the Samon, and Sriksetra south to the delta, with its lineage only latterly pulled north to legitimate the new rulers of Pagan. Just as local beliefs and materials, from rubies and gold to clay and stone, brought meaningful form to the material cultures that informed chronicles, all should contribute to our interpretation of that past.

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Table 1. Urns from Beikthano (data courtesy San Shwe 2008)

Structure	Urns	Sector
BTO- 15	4	South
BTO- 5	73	South
	77	
KKG- 12	80	North
BTO- 19	41	North
BTO- 20	41	North
KKG- 11	11	North
KKG- 1	7	North
KKG- 14	5	North
BTO- 16	3	North
KKG- 18	2	North
BTO- 9	1	North
KKG- 17	1	North
BTO- 10	1	North
	193	
BTO- 6	25	Central
BTO- 7	10	Central
KKG- 9	40	Central
KKG- 24	9	Central
KKG- 6	2	Central
KKG- 21	1	Central
	87	
	357	

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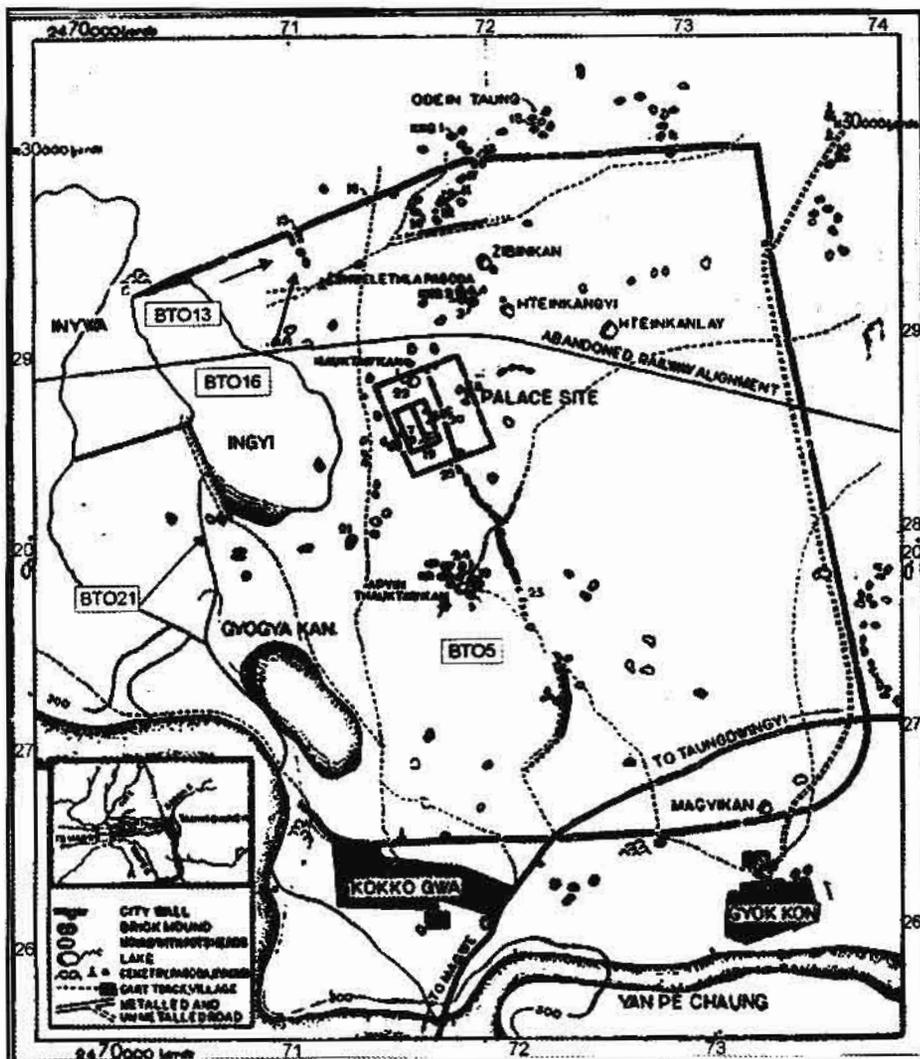


Figure 1. Beikthano Map after Aung Thaw's excavation of KKG mounds (Aung Thaw 1958)



Figure 2. Two *in situ* terracotta burial urns at structure BTO 20, north Beikthano (courtesy San Shwe)



Figure 3. Urn with birds from structure BTO 20 at Beikthano (courtesy San Shwe)



Figure 4. Finger-marked bricks at Beikthano structure BTO 16 adjacent to BTO 13



Figure 5. Group of three *in situ* urns at BTO 16 during 2003 excavations



Figure 6. Aerial photograph of Sriksetra taken at the end of World War II showing overview of upland area on southwest of the circular walled site and proximity of the Irrawaddy River on the west (Williams-Hunt Collection, SOAS)



Figure 7. Detail of Figure 6 showing circular walled area of Sriksetra with rice fields in the north sector and the rectangular enclosure of the palace-citadel in the centre. Hpaya-taung pagoda is to the northeast of the palace-citadel (World War II Williams-Hunt Collection, SOAS)



Figure 8. Stamped Vessel 11 from Tagaung, after the drawing by Win Maung (Tampwaddy) from Chit San Win 2005



Figure 9. Thagara terracotta burial urn at Hpaya Gyi Museum, Tavoy

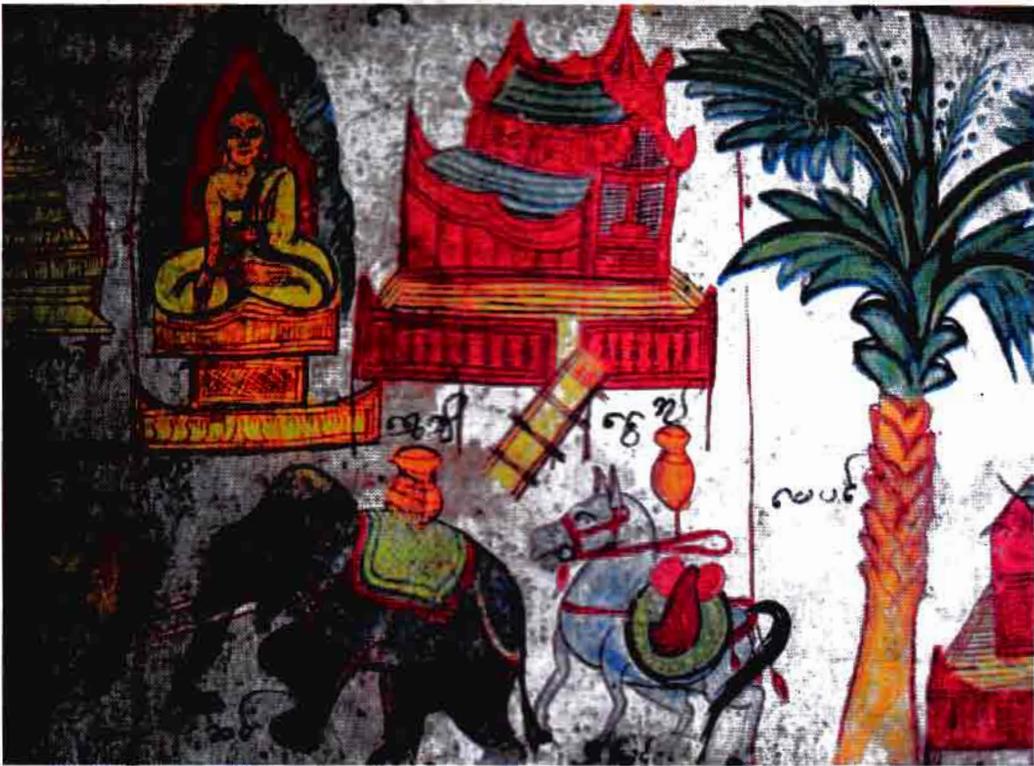


Figure 10. Scene from Konbaung horoscope (Pe Nyan Collection) (Moore 2007a)



Figure 11 . Pauk Sein Saysadaw's room
at Beikthano walled site

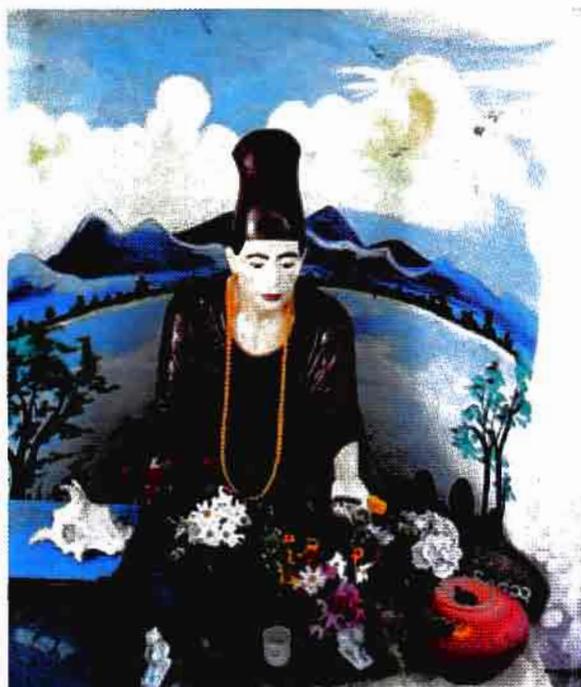


Figure 12. Gawinanda image at Thagara
near Tavoy

Appendices

Bio data of Elizabeth Howard Moore

The author's doctoral research on ancient landscapes, published as *Moated Sites in Early North East Thailand* (Oxford: British Archaeological Reports, 1988) was a classification of walled sites in Northeast Thailand using the World War II Williams-Hunt Collection of aerial photos (<http://gdap.crma.ac.th>). She extended this using aerial and radar coverage in studies of prehistoric and historic alteration of the terrain at Angkor summarized in 'Spaceborne and Airborne Radar at Angkor: introducing new technology to the ancient site' co-authored with A. Freeman and S. Hensley (JPL, NASA) in *Remote Sensing in Archaeology* (Ed. by J. R. Wiseman and Farouk El-Baz) New York, Kluwer Academic/Plenum Publishers; 2007, Ch 8: 177-208). Her *Early landscapes of Myanmar* (Bangkok: River Books, 2007) drew attention to the changing relationship of man and the environment from the Paleolithic era to the rise of Buddhist kingdoms with many of the conclusions referring to articles included in the present volume. Her current research on new Pyu excavations and the southern coastal region of Myanmar continues this focus. She is presently a Reader in the Department of History of Art & Archaeology at the School of Oriental and African Studies (SOAS), London and can be contacted at em4@soas.ac.uk.

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INDEX

Note: Numbers in **bold** indicate illustrations

A

Aerial photograph 127, 132
Alaungsithu, King 327
Amaravati 208, 306
Anawrahta, King 117, 147
Andaman Sea 23, 28, 233, 256, 316, 326, 346
Andhra coast 300
Angkor 330
Arakan, see Rakhine
Arimaddana, see Bagan 233
Aung Myint, U 116, 131, 135, 137, 139
Austro-Asiatic 41, 53, 254, 260
Austronesian 39, 254
Axe 7, **11**, 19, **22**, 45, 47, 51, **68**, 83, **88**, **114**, 217, 306, 312, 330
Ayethema 117, 273, 275, 281, 304-6
Ayeyarwaddy River 21, 41, 45, 54, 69, 70, 83, 89, 104, 109, 113, 114, 205, 234, 256, 293, 345

B

Bagan 37, 41, 45, 69, 74, 205, 216, 217, 233, 278
Origins unclear 93, 95, 113, 195,
Style 74, 239, 253, 255, 274, 327, 337
Bago (Pegu) 112, 149, 276, 306, 345
Bamar 43, 53, 95, 201, 254, 262, 272
Bawbawgyi 137, 215, 317
Beads 19, 131, 148, **170-191** (drawings of bead types), 237, 238, 351
Alchemy 354
Barrel 174-182
Carnelian see Carnelian beads
Chin 155, 156-7, 159
Cowrie 27, 30, 202, 256, **258**
Cylinder beads **184, 186**, 187, **188**
Flat beads **190**
Fossil wood (*in-gyin kyauk*) 116, 157

Glass 47, 241, 301, 334, **335**
Gold 88, 90, 300
Looting 25, 116
Quartz 108, 258, 313
Samon 25, 27
Shell 7
Spherical **170, 172**
Stone 22, 42, 69, 116, 305
Tiger 28, 48

Beikthano (Peikthano-myo, Vishnu) 12, 42, 109, 117, 220, 221

Alchemy 357
Clusters, settlement 92, 348, 350, 352
Dating 53, 86, 196, 201, 206, 350
Dynasty 40
'Kinnari' 94
Memorial hall KKG11 92
Urns 72, **91**, 93, 238, 348, 352, 357 (list), **362, 363**
Walls 84, 111, 197, 200, 352

Bell 12, 27, 42, 44, 49, 50, 70, 203, 204, 213, 236
Belu, chaung, river, Shan plateau 117, 247, 252, 258, 262

Bhaddapitha 88, 237, 300
Bhamo 4, 27, 51, 54, 68, 109, 256
Bhumisparsa mudra 74, 238, 242, 333, 339
Bird-man bronze pole see Bronze, bird-man pole
Bodhithat (Bawrithat) 74, 108, 249, 258
Aerial photograph (after U AungMyint 1998) **260**

Border, role in centre polity formation 39, 76, 249, 261, 262

Boundary stone, Buddhist 147, 311
Bowl 27, 44, 71, 131, 242, **328, 329**
Brahmanic 53, 208, 217, 326, 328, 337
Brahmi scripts 42, 76, 208, 211, 217, 349
Brick, see Terracotta, finger-marked brick

Bronze Age 3, 12, 67, 85, 111, 197, 217, 223, 236, 249

Absence of social augmentation 21, 52

Site distribution 198, 235

Bronze implements, tools and artefacts 3, 67

Axe 7, 10, 23, 68, 85, 88, 236

Bird-man pole 25, 26

Bracelet 8, 11, 42, 160, 333

Drum (Heger) 27, 29, 40, 74, 251, 257

Halberd 7, 11, 22, 24, 51, 202

Hilt 27, 45, 48, 85, 89, 95, 217

Mirror 11

Mother-goddess figure 8, 24, 28, 88-9, 198, 207, 217

Musical instruments 41, 43, 49, 62-3

Packet, bronze wire *kye doke* 19, 22, 26, 39, 46, 89, 115, 116, 256

Pyu musicians 50, 94, 202

Spear 10, 22, 25, 39, 42, 45, 83, 87, 236, 237

Spoon 25, 44

Sword 47, 83, 85, 93, 95, 217, 238

Wire repair 8

Bronze-iron culture 84, 109, 235, 250, 262, 348

Budalin 5, 21, 38, 83, 111, 217

Beinnaka (Badi-gon, PadiKon) 43, 84, 86, 95, 115, 116, 181, 200

Buddha image 40, 74, 196, 203, 213, 215, 241, 242, 301, 302, 311, 326, 333, 334, 335, 339, 352

Buddhism

Being a border 76

Changing world view, epistemology 96, 103, 243, 354

Chronicle perception 254S

Local perceptions, ecology 29, 104, 119

Buddhist statuary, see Buddha image

Buddhist, pre- 90, 148, 199, 277, 329

Burial custom

Horse burial Samon 39.

Inhumation 3, 9, 12, 22, 86, 93, 210, 237, 351

Urn stone 94, 209, 211, 215, 351, 353

Urn terracotta 91, 206, 241, 334, 345

C

Carnelian beads 19, 28, 45, 72, 85, 156, 160, 170, 172, 178, 180, 182, 217, 240, 305, 313, 333, 354,

Chin beads, peoples 41, 68, 92, 111, 116, 155, 159, 163, 200, 207, 345 see also Beads, Chin

Chindwin artefacts, river, valley 7, 12, 23, 38, 46, 48, 53, 83, 87, 111, 205, 219, 223, 293, 348

Chinese, early records 19, 24, 39, 45, 68, 197, 204, 251, 264, 271, 280, 347, 350

Chronicle 29, 41, 44, 68, 75, 104, 196, 201, 219, 221, 234, 239, 254, 275, 329, 340, 346, 356

Coffin, wood, Samon culture 24, 47, 94, 348

Floral bronze elements 83, 88-9, 217

Coins 12, 72, 90, 116, 161, 208, 224, 258, 278, 283, 301, 334, 349, 351

Cowrie see Bead, cowrie

D

Dvaravati 53, 198, 210, 224, 241, 279, 301, 333, 336, 348, 325, 327, 340, 352

Dawei 42, 106, 117, 219, 240, 272

Dhammaceti, King 272, 279, 281, 284, 304

Dhotawaddy River, see Myit-Ngeh

Dian culture 19, 21, 30, 38, 48, 53, 109, 251, 257, 348

Distillation pot 9, 22, 29, 39, 48, 51

Donwun 315

Drum, bronze see Bronze, drum

Duttabaung, King 210, 221-2

E

Ecology adaptation 30, 45, 68, 106, 112, 120, 235, 253, 293, 327, 353

Erhai, Lake 24, 39, 47, 50

Ethnicity 38, 53, 75, 249, 253, 345, 347, 353

F

Finger-marked bricks see Terracotta, finger-marked bricks

Flooding, monsoonal 104, 113, 117, 258, 298, 300, 311, 330

Fort walls see Walls

Fossil wood *ingyin-kyauk* 27, 116, 156, 163, 199

G

Gates, curved city 91, 83, 104, 196, 205, 215, 228

262, 351,
Gavampati, see Gawampati
Gawampati 275-7, 285, 329, 331, 340
Gawinanda, hermit Dawei 239, 329, 355, 366
Gawun, see Laterite
Gold, reference to 203,
 Bhuddha, image 213, 352
 Butterfly 44
 Coins 300, 306
 Cubical bead 88
 Deposit 68, 181, 236
 Flowers 131
 Gold teeth, jaw, peoples 68, 204, 251
 Gold plates 44, 86, 199, 215, 349, 353
 Goldsmiths 45
 Ornaments 47, 83
 Transition in use 30

H

Halberd, bronze, see Bronze, halberd
Halin, Shwebo District
 Artefacts 46, 156, 210, 217
 Bagan period 205
 Bowdawpaya, King 1798 AD inscription
 206
 Chin-lin 202
 Dating 12, 40, 195, 196, 200, 214, 217, 254,
 344, 350
 Fortress sites 205, 207
 Halberd 10
 Hot springs 85
 Hydrology 111
 Inscription, chronicle 217, 219, 221, 222,
 282, 349
 Jaw with gold teeth, see Gold teeth, jaw
 King Ruha 39, 218
 Prehistoric occupation 12, 45, 217, 234,
 353
 Pyu period 39
 Rings, stone 8
 Samon culture, relation so 198
 Salt 45
 Sculpture 94m 214
 Shape 84
 Skeletons 12, 45, 237
 Trade 54, 71, 205
 Urns 91, 93

Yunnan, Nanchao 19, 24, 39, 200, 204
Han incursions, influence 19, 31, 39, 53, 75, 201,
234, 239, 264, 357
Hanthawaddy period 281, 299
Heger I bronze drum see Drum, bronze
Hindu context, statuary 11, 37, 39, 94, 103, 118,
198, 213, 217, 222, 262, 338
Hmannan Yazawin see Chronicle
Hmawbi (Sampanago, Sanpanagon) see Sanpanna-
gon
Horse, stamped on plaques 94, 107, 137, 297,
Horse burial, Samon see Burial, horse
Horse-shoe shaped arch 305, 349
Hpaya Htaung urn, Sriksetra 211, 216
Hsin Hnyat, Tagaung 68, 71-3, 107, 236, 351
Hsinbyukyn near Thaton 118, 315
Hsindat-Myindat wall, Zothoke 273, 296, 308

I

In-gyi (seasonal water body), importance 30, 69, 71,
104, 111, 235, 355W
Inhumation burial see Burial custom
Inle Lake 259
Inscription 39, 40, 75, 76, 196, 205, 208, 212-3, 217,
221, 275, 327, 352
 Inscriptions, royal 211-212, 356
Iron resources, implements 11, 23, 45, 47, 49, 68,
70, 87, 89, 109, 198, 217, 237, 260, 262, 297, 305,
352, 354
Irrawaddy see Ayeyarwaddy

K

Kadu (Kanyan) 41, 53, 68, 207, 347, 348, 355, 356
Kalagangon, Sriksetra gold plate 213, 225, 352
Kalasapura 327, 338
Kanyan see Kadu
Kaw Htin 272, 278, 299
Kawgun Cave 131, 148, 216, 306
Kelasa Mountain 278, 280, 295, 305, 309, 316
KengTung 259, 264
 Aerial photograph mosaic, Williams-Hunt
 Collection, SOAS 261
Khin Ba Gon mound horde, See Sriksetra, Khin Ba
Gon
Khmer 108, 148, 210, 298, 312, 347

Kok Ko Kha Hla, Samon 83, 89, 90, 209
Kyaikkatha 108, 118, 127, 148, 185 (bead), 278, 295, 298, 301, 311
Kyanzittha, King 201, 221, 278, 304, 338
Kyan Hnyat 67, 236
Kyaukse 41, 43, 84, 115, 198, 256, 347
Kye doke, see Bronze, packet *kye doke*
Kyontu, Waw 117, 131, 271, 306

L

Landscape

Alteration, manmade 235, 271, 316
Religious and Social change 37, 103, 119, 253
Social memory 29, 219, 236, 249, 340, 355
Spatial and religious aspects 41, 53, 220, 225, 340, 345

Laterite, artefacts, sculpture 117, 108, 297, 328

Lawsauk 22

Lead rolls 3, 12, 84, 86

Letpanywa 40, 42, 348

Lewe 19, 21, 22

Leymyethna 353

Lijiashan 19, 22, 30, 264

Linga 213, 331

M

Maingmaw see Pinle

Map, sites (order in book)

1. Samon bronze culture and Lijiashan Yunnan 20
2. Samon and Dian sites, Yunnan 23
3. Tagaung location in Myanmar and site plan 67, 235
4. River valleys pre- proto-historic settlement (U Win Maung (Tampawaddy)) 105
5. Ancient settlement circles (U Win Maung (Tampawaddy)) 110
6. Sriksetra (U Aung Myint) 111
7. Tagaung (U Win Maung (Tampawaddy)) 114
8. Samon valley civilization (U Win Maung (Tampawaddy)) 115
9. Sittaung River and Kelasa Mountain sites 118

10. Thaton and Mayangon Iron Age site 119
11. Ancient cities where finger-marked bricks are found (U Aung Myint) 126
12. Maingmaw (Pinle) (U Aung Myint) 128
13. Pinle fortress city (U Aung Myint) 131
14. Waddi (U Aung Myint) 134
15. Taungdwingyi (U Aung Myint) 135
16. Thegon (U Aung Myint) 135
17. Tagaung (U Aung Myint) 136
18. Kyaikkatha (U Aung Myint) 137
19. Thaton (U Aung Myint) 140
20. Hmawbi (Sanpannagon) (U Aung Myint) 141
21. Thagara (U Aung Myint) 144
22. Zothoke (U Aung Myint) 146
23. Myanmar Bead sites 154
24. Maingmaw (Pinle) and Waddi 155
25. Myanmar cultural regions Tagaung - Thagara 233
26. Tagaung walled areas 235
27. Shan Plateau cultural regions 252
28. Myanmar ancient cities 250, 292
29. Kyaikkatha 297
30. Zothoke 309
31. Thaton 308
32. Myanmar ancient sites (Bob Hudson) 325
33. Myanmar ancient sites (Peacock 1933) 343
34. Beikthano (U Aung Thaw 1958) 361
35. Sriksetra (Williams-Hunt Collection SOAS) 364

Martaban 118, 148, 202, 222, 293

Maung Nwa (Mr. Bull) 239, 329

Mawlawmyine (Mawlamyaing) 262, 306, 312

Mayangon 314

Megalithic 90, 94, 111, 209,

Memorial hall, Beikthano see Beikthano

Metallurgy, early 3, 90, 199, 257

Mettaya (Maitreya) 40, 94, 218

Meza River, stream 68, 236

Moegyo thwa, see stone tools

Mogok 68, 236, 251, 253, 256

Mokti (Sawwa) Dawei 242, 272, 327, 329, 340

Vishnu image 337

Mon and Pyu relationships 11, 41, 53, 75, 129, 148,

150, 239, 242, 272, 282

Mon Chronicles, Inscriptions 50, 208, 216, 242, 271,

304, 306

Monastery structure 92, 197, 202, 205-7, 302, 305, 311-2, 328, 352

Monastic communities 103, 112, 119, 199, 220, 225, 256, 277, 283, 355

Mon-Khmer 50, 52, 252

Monks 92, 198, 206, 207, 225, 249, 277, 278, 354, 356

Monywa 5, 89, 198, 351

Mortuary custom, see Burial

Mother-goddess figure, see Bronze, mother-goddess

Mu canal, river, valley 106, 111, 120, 219

Mudon, Mon site 117, 131, 148, 312

Musical instrument, bronze see Bronze, musical instruments

Musicians, Pyu see Pyu Musicians

Mya Thabeik 112, 272, 276, 281, 304

Myatheindan (Kyaik Talan) stupa 304

Myauk Mee Kon 29, 43, 50

Myeik 272, 314

Myin Oo Hle 83, 89, 94, 351

Myit Nge (Dhotawaddy) 21, 74, 251, 252, 256, 262

Myit Ngeh River, see Myit Nge

Myitkyina 27, 51, 256

Myo Hla 46, 47

N

Nabule, see Nabulei

Nabulei stream 240, 327

Naga 70, 221, 236, 264, 275

Nagarjunakonda 92, 207, 218, 306

Nakhon Pathom 216, 302, 312, 314, 348

Nanchao 21, 24, 39, 53, 204

Nationalism, history 42, 75-6, 86, 202, 243, 249, 254, 346-7, 356

Lineage versus politics 29, 40, 76, 109, 196, 200, 262, 273, 284

Nats 43, 317, 329, 336

Neolithic period 7, 19, 21, 43, 67, 111, 119, 157, 235, 263, 348

Ngakoma fish, Dawei 239, 329, 340

Nyaungan, see Nyaunggan

Nyaunggan Bronze Age site 4, 5, 6, 22, 87, 93, 111, 199, 207, 224

P

Pa-an 272, 311

Pagan, see Bagan

Pebbles, flat, white 28

P'iao 24, 39, 75, 90, 195, 204, 234, 251, 3347

Padah-lin 10

Padi Kon see Beinnaka

Pashu Kyauk image, Dawei 336

Patronage, elite, networks 37, 54, 212, 222, 283, 311, 338, 340

Pauk Kyaing, Maung 70, 236, 253, 264

Pauk Sein Sayadaw, Beikthano 366

Pegu see Bago

Phoe Oo Taung 220

Pinle (Maingmaw) 12, 53, 71, 84, 94, 111, 116, 131, 137, 157, 200, 237, 352

Beads from included 170-189

Wall 1968 photograph U Aung Myint 92

Pottery see Terracotta, pottery

Pumtek Chin beads, see Beads, Chin

Pyawbwe 25, 38, 43, 83, 114, 209

Pyinmana 22, 83, 117, 210, 346

Pyu

Burial custom 94, 328

Criteria 95, 224, 239, 242, 351, 356

Culture 24, 37, 38, 53, 70, 76, 90, 200, 223, 254, 274, 282, 336

Inscription 212, 219, 243, 273, 349, 352

Landscape 37

Musicians 41, 50, 53

Nineteen villages 346

Period 11, 85,

Population group 95, 108, 197, 254,

Walls 39, 52, 197, 282,

R

Rakhine 251, 326, 327, 346, 348, 353, 355

Rampart, see Wall, city

Relics 221, 277, 281, 304, 354

Rice production (wet rice) 30, 41, 45, 84, 95, 263

Rings, ceremonial 3, 29, 38, 42, 52, 205, 209

Glass 23, 47, 88

Mayangon 119, 313

Nyaung-gan stone 9

River valleys, Chart ancient cultures and archaeological features 122-4

Rmen (Mon) 278

Roof tile, terracotta see Terracotta, roof tile

Ruha, King see Halin, Ruha

S

Sak-Kantu (Sak, Thet Kadu) see Kadu

Samon 30, 43

Beads 85

Culture 21, 25, 46, 89, 95, 217, 256, 258, 355

River 19, 23, 43, 114, 120

Valley 19, 46, 54, 198

Sanpannagon 118, 131, 148, 156, 272, 312

Sanskrit, see Inscription

Shells, see Beads, shell

Shiva 276, 311, 329, 331, 337

Shizhaishan 19, 21, 264

Shwedagon 220, 279, 281

Shweli (Mao) River 22, 45, 75, 106, 249, 263, 3551, 356

Sin Bo bronze drum fragments 27, 51, 109, 257

Sittaung River 23, 107, 116, 118, 278, 293, 295, 304, 316

Spear, bronze and iron, See Bronze, implements and tools

Sri Lanka 198, 209, 241, 262, 277,

Sriksetra

Aerial photograph Williams-Hunt Collection, SOAS

Artefacts 84, 199

Bawbawgyi 137, 215, 317

Bricks 139, 197

Buddhist practice 94, 214

Chronicles, dating 201, 206, 211, 219, 220, 349

Gates see Gate, curved city

Khin Ba Gon artefacts 214

'Megalithic' stones 209

Name 200, 203

Payagyi urns 210, 215

Payama stupa 203

Roof tile 74, 107, 238

River change 113, 114

Setting, ecology 112, 234, 354

Urn 71, 215, 217, 235

Wall 90, 112, 195

Stone implements, tools 11, 44, 54, 69, 83, 86, 119,

236, 260, 299, 301, 313, 314, 329, 330, 336, 351

Srivatsa 71, 88, 90, 203, 236, 300,

Stone urn, royal see Burial custom, Stone urn

Suvannabhumi 43, 197, 271, 275, 279, 282, 304

T

Tagaung 41, 43, 44, 53, 73, 254 (name), 356

Abhiraja 75, 253

Bricks, finger-marked 42, 254, 353

Crops 69

Radiocarbon date 350

Excavations 69, 253

Kant Kaw Taung (Kan Thida, Maingmaw Thupa-hu-min 264)

Landscape 67, 68, 325, 355

Naga shrine 76

Bagan, and Tagaung 349

Po Lat (Myanmar -asa-Tagaung-ka) 347

Pottery 71, 72-3,

Roof tiles 73, 107, 238, 255

Tagaung Taung, *In-net* (black *in-gyi*) 69

TG 31 cross section (U Win Maung (Tampawaddy)) 70

TG 31 Urns, stamp 73, 235

Votive tablets 74, 238

Tanintharyi stone plaque with 'face' 316

Taungdwingyi

chronicle

Taungthaman

Taxila

Tayoke-pyi see Bodhithat

Temple 996 Bagan (Paw-daw-muu)

Terracotta

Architectural section Winka

Plaque with figures 307

Pot, distillation 29

Relief figures (horse, *bhaddapitha*)

Roof tile 107, 255

Finger-marked bricks 254, 303, 363

Urn 72, 91, 93, 235, 238, 335, 348, 352, 362, 363

Votive tablet 302, 339

Thagara 68, 149, 239, 272, 325, 330, 345

Beads 241

Bricks 336

Bronzes 241, 333, 335

Excavated structures SGR1, SGR2 311, 331

Glazed wares 241, 335

Landscape 331

Sculpture 338

Stone tools 330

Structures SGR1, SGR2 332

Urn 335, 365

Thegon 84, 131, 139, 216, 353

Thanwlin (Salween) River 109, 248

Thaton 117, 147, 148, 202, 275, 280, 284, 296, 299, 354

Excavation east wall 240

Geography 295

Monasteries 311

Sculptures 311

Thet (Sak, Kadu) see Kadu

Tibeto-Burman 24, 39, 41, 54, 75, 196, 207, 243, 254, 347, 356

Marhu, Azi, Lashi, Rawan, Phun 109

Tiger bead see Bead, figural

Tun Sun 272

Tutelary spirit 42, 71, 95, 104, 276, 283, 355

Twante 240, 302, 333, 345, 349

Twintaung crater 5

Y

Yetagon Taung 27, 256

Yunnan 19, 21, 25, 30, 39, 51, 74, 116, 201, 251

Ywa Gon Gyi 19

Ywa Htin Gon (Ywa-din-gon) 45, 83, 209, 348

Z

Zawgyi River 106, 116, 248, 251, 258

Zingayaik Mountain 275

Zothoke 108, 118, 273, 284, 298, 304, 309, 317

U

Urn, see Burial, urn

Urn, terracotta see Burial urn

Urns, stamped motifs see Burial urn

V

Varman dynasty see Inscriptions, royal

Vikrama dynasty see Inscriptions, royal

Vishnu, image of 337

Vishnu city see Beikthano

Votive tablet, see Terracotta

W

Waddi 84, 129, 139, 156, 163

Winka 112, 117, 149, 273, 301, 305, 307-8, 312
