SPAFACON2021

Papers from the SEAMEO SPAFA International Conference on

SOUTHEAST ASIAN ARCHAEOLOGY AND FINE ARTS

13 - 17 December 2021

Editor: Noel Hidalgo Tan

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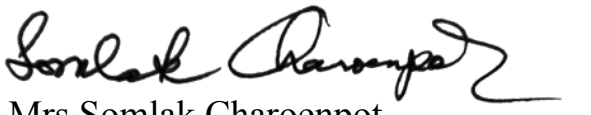
INTRODUCTION

This volume contains the extended abstracts from the papers presented at the SEAMEO SPAFA International Conference on Southeast Asian Archaeology and Fine Arts, which was held online from 13 to 17 December 2021. Also known as the SPAFACON2021, this conference was organised online due to the pandemic. Despite the disruption brought about by Covid-19 to our in-person events, training programmes and field research, it is heartening to see that archaeology and cultural heritage has continued under new modes of communication and collaboration.

This fourth iteration of the SPAFACON is also scheduled a year earlier than our usual triennial cycle to commemorate the 50th anniversary of SEAMEO initiating a centre dedicated towards archaeology and the fine arts. Over the past year, SPAFA has also been highlighting this legacy of international cooperation and capacity-building by sharing our photographic archives on our social media.

I am delighted by the high level of enthusiasm and intellectual curiosity brought by the participants to the conference. During our call for papers we received close to 90 submissions, but owing to the pressures of time and the online format, we were only able to accept 34 papers for the conference. The variety of papers present here, although a small set compared with our usual proceedings, reflects the breadth of the centre's ambit – covering not just archaeology, but also performing arts, visual arts, museum studies, and other aspects of Southeast Asian cultural heritage.

I would like to thank all the participants, without whom this conference would not be possible in its present form, in particular, our Governing Board members who represent every country in Southeast Asia, and to the Ministry of Culture, Thailand and the Ministry of Education, Thailand for their long-standing support of SEAMEO SPAFA and its activities.



Mrs Somlak Charoenpot
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Before Bagan: Using Archaeological Data Sets to Assess the Traditional Historical Narrative

ပုဂံမတိုင်မီကာလ၏အစဉ်အလာသမိုင်းအဆိုအမိန့်များကို ရှေးဟောင်းသုတေသနပညာရပ်ဆိုင်ရာအချက်အလက်များအသုံးပြု၍ဆန်းစစ်ခြင်း

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Abstract

What we know about Bagan derives almost exclusively from historical sources – namely retrospective chronicles, inscriptions, and changing architectural styles. To date, archaeological excavations have played a limited role in augmenting or challenging this traditional narrative. This is unfortunate, because small scale excavations within Bagan's peri-urban settlement zone, and within the walled and moated "royal city," have demonstrated considerable knowledge about the city's past. This is especially true for the Pre-Bagan phase (600-1044 CE). This presentation documents what we think we know about the time "before Bagan," using the established sources, and assesses this narrative using information from contemporaneous excavation levels.

ပုဂံခေတ်ယဉ်ကျေးမှုအကြောင်းကို သမိုင်းအချက်လက်များဖြစ်သည့် အစဉ်အလာရာဇဝင်မှတ်တမ်းများ၊ ကျောက်စာများ၊ နှင့် ပြောင်းလဲလာခဲ့သည့်ဗိသုကာပုံစံများမှသာလျှင် သိကြရသည်။ နှစ်သက်တမ်း သတ်မှတ်ရန်အတွက် ရှေးဟောင်းသုတေသနဆိုင်ရာတူးဖော်လေ့လာမှုများသည်အစဉ်အလာအဆိုအမိန့် များကို ဝေဖန်စစ်ဆေးရန်

(သို့) ပြင်ဆင်ကြရန် လုံလောက်မှုမရှိကြသေးချေ။ ပုဂံမြို့ရိုး၊ ကျုံးဧရိယာနှင့် မြို့အစွန်အဖျားနေရာများတွင်လေ့လာခဲ့သည့် အနည်းငယ်မျှသော စမ်းသပ်တူးဖော်လေ့လာမှုများက ပုဂံမြို့၏အတိတ်ကာလကို သိရှိနိုင်စေရန် ရုပ်လုံးဖော်ြပနေကြသည်။ ပုဂံမြို့ပြမတိုင်မီကာလ (၆၀၀-၁၀၄၄ စီအီး)နှစ်သက်တမ်းတွက်ချက်မှုအဖြေများရရှိခဲ့သည်။ ယခုတင်ပြမည့် စာတမ်းမှာ ပုဂံခေတ် မတိုင်မီကာလအကြောင်းအရာများကို ရှေးဟောင်းသုတေသနပညာရပ်ဆိုင်ရာတူးဖော်မှုရလဒ်များနှင့် အစဉ်အလာအဆိုအမိန့်အချက်အလက်များကို စစ်ဆေးအသုံးပြုလျက် မည်ကဲ့သို့တွေးတောသိရှိလာနိုင် ကြောင်းကို တင်ပြမည်ဖြစ်ပါသည်။

Keywords

Bagan; Myanmar; Retrospective Chronicles; Inscriptions; Architectural Analysis; Archaeological Dating

အဓိကအချက်များ။ ပုဂံ၊ မြန်မာ၊ အစဉ်အလာရာဇဝင်များ၊ ကျောက်စာများ၊ ဗိသုကာဆိုင်ရာခွဲခြမ်း စိတ်ဖြာခြင်း၊ ရှေးဟောင်းသုတေသနပညာရပ်ဆိုင်ရာ နှစ်သက်တမ်းတွက်ချက်ခြင်း

Located along the Ayeyarwady River, in Myanmar's central dry-zone, is the ancient capital of Bagan. Being one of history's great Buddhist kingdoms, Bagan is home to over 2,800 Buddhist monuments (Moore et al. 2016:294). This royal city rose to prominence between 9th to 14th centuries with a large and diverse population that extended over 80 km^2 (Higham 2001:134; Hudson 2004: 234-235, 265-266, 2008:553, 555; Hudson et al. 2001:53; Moore et al. 2016:285). At the height of this empire, during the 11th to 14th centuries, Bagan was the capital of a polity that controlled much of what is now the country of Myanmar (Daw Thin Kyi 1966:187; Galloway 2006:35; Higham 2001:134; Hudson 2004:183, 266, 2008:553, 555; Kan Hla 1977:17; Moore et al. 2016:285; Stadtner 2011:214-215, 2013:14, 18). Knowledge of this capital during its height of reign is well documented through epigraphical and archaeological records. However, the Pre-Bagan (600-1044 CE) occupation of this ancient landscape has been illusive, dictated almost exclusively by references in the quasi-mythological retrospective chronicles and restricted stone inscription. To date, archaeological excavations have played an extremely restricted role when it comes to either augmenting or challenging this traditional narrative. This is unfortunate, because small scale excavations within Bagan's peri-urban settlement zone, and within the walled and moated "royal city," have demonstrated that considerable knowledge about the city's past can be gained through rigorous archaeological investigations. With the growing number of excavations, it is an appropriate time to analyse what we know about the time "Before Bagan" and assess this traditional narrative using information gleaned from contemporaneous excavation data. In reviewing this amalgamation of data, two objectives can be achieved: 1) Discuss the challenges and benefits in using this multi-faceted research approach, and 2) Identify areas of strength and weaknesses in the understanding of the Pre-Bagan phase.

Understanding the Retrospective Chronicles and Inscriptions

The importance of archaeological data to our understanding of the era prior to the establishment of the Bagan regional polity reflects the fact that most of Myanmar's history has been conveyed to us through retrospective chronicles (Hudson 2004: 24; Lieberman 1986: 236-237). This chronicle-based knowledge is heavily influenced by U Kala's (1960) *Maha-ya-zawin-gyi* ("Great Royal Chronicle") – compiled between 1712 and 1720 CE – along with its various derivatives. Undoubtedly the most well-known of the offshoots is Pe Maung Tin and Luce's (1923) widely read English translation of the *Hman-nan maha-ya-zawin-daw-gyi*, better known as the "Glass Palace Chronicle." Such narratives extend into the distant past – to the beginning of the "current world cycle" in Buddhist cosmology – and the era of the region's first kings. Given the deep time frame they encompass the oftentimes fantastical events and colorful figures they incorporate, scholars from outside Myanmar

have generally treated the chronicles as quasi-mythological, deeply allegorical accounts that suffer from the additional problem of being framed by the political circumstances of the period that they were compiled (Aung-Thwin 2005: 138, 153; Hudson et al. 2001: 49, 2004: 23; Koller 2017: 96; Lieberman 1986: 237, 251-252; Miksic and Goh 2017: 364; Saya Thein 1918). These issues do not mean, however, that the chronicles should be ignored. As aptly noted by Bob Hudson (2004: 35), "a cautious and analytical approach to the chronicle sources, particularly if backed up by inscriptions and archaeological data, can add to existing information, and at times prompt research."

For their part, epigraphers have offered alternative versions of Myanmar's history, and in doing so they have chosen to incorporate certain aspects of the chronicles, namely those that are supported by inscriptions, whilst discarding those elements that cannot be verified (e.g., Luce 1969; Than Tun 1956; see also Lieberman 1986: 238). Those aspects of the epigraphic record that refer to Bagan certainly provide an additional set of historical events and characters that can be used to evaluate and enhance the information presented in the chronicles.

The broader corpus of inscriptions suggests that the Bamar peoples arrived in the area of Bagan in the mid-9th century CE, from the area of Yunnan, via the Kyaukse region (Galloway 2006: 87, 105-106; Hudson 2004: 54, 182; Luce 1969: 36; Miksic and Goh 2017: 361). Written references to Bagan begin to appear at other centers around Myanmar by 11th century (Frasch 2014; Hudson 2004: 183-185). These inscriptions appear to "verify the existence of an expansionist Bagan from the 11th century" onwards (Hudson 2004: 182, 185,188, 238; Luce 1969: vii; Nyunt Nyunt Shwe 2011: 25; Strachan 1989: 7), an idea that conforms with the chronicle narrative and is supported by Chinese text as well as Cham inscriptions (Aung-Thwin 1985: 21; Aung-Thwin and Aung-Thwin 2012: 80; Hudson 2004: 182; Luce 1969: 8; Miksic and Goh 2017: 361). Most of the surviving inscriptions at Bagan itself date later in time, to the 12th and 13th centuries CE (e.g., Frasch 2014). Assessments of the inscriptions also indicates that they are in better agreement with the sections of the chronicle record that post-date ca. 1175 CE (Lieberman 1986:238), coinciding with the Late Bagan phase (1174-1300 CE). Not surprisingly, it is at this time that Bagan's epigraphic record grew more extensive, and historical dates also became "more frequent and credible" (Lieberman 1986: 248). From the standpoint of the current discussion, this means that the Pre-Bagan (600-1044 CE) and Early Bagan (1044-1113 CE) phases, and the time period immediately preceding them, remain largely outside of the corpus of inscriptions, and the chronicles therefore lose one means through which they can be appraised and augmented. It is here where the independently generated data and

interpretations of archaeology might have the biggest bearing on our understanding of Bagan's development as both a community and, eventually, an expansionist polity.

Using Archaeology to Assess and Augment the Chronicle Narrative

Interpretations based on the evaluation of written texts have long been "overvalued" compared to those generated through field archaeology, with the latter usually limited to complimenting historical narratives in those parts of the world where the two lines of inquiry coincide (Feinman 1997: 371; Miksic 2001: 103, 2012: 173-174; Miksic and Goh 2017:28). When disagreements between the two data sets occur, the historical documents usually reign supreme. Be that as it may, Gary Feinman (1997: 372) cautions that archaeologists should not only avoid "blind adherence to the written word," but also refrain from cherry-picking information from the historical records simply because it fits a favored interpretation. According to Feinman (1997: 372), "independent consideration followed by careful juxtaposition of these records provides a stronger basis for interpretation." In other words, the goal is not simply to challenge the "tyranny of text," but to use the independence of the archaeological record to expose "contradictions and tensions in historical and archaeological data sets" (Overholtzer 2013: 481).

Key Themes in The Study of What Came "Before Bagan"

There are three key topics that archaeological investigations can focus on when it comes to both assessing and augmenting the chronicle narratives for the Pre-Bagan period.

1. The retrospective chronicles tell us that King Thamoddarit founded Bagan in 107 CE, when he collaborated with the inhabitants of the pre-existing 19 villages in the surrounding area to construct a capital city at Yonhlukkyun/ Yonhlut (Pe Maung Tin and Luce 1923: 28; see also Galloway 2006: 37; Grave and Barbetti 2001:75; Hudson 2004: 182, 188; Luce 1969: 5; Stadtner 2013: 22).

2. The chronicles also imply that Bagan itself may have originally been the location of a village inhabited by members of the "Pyu" culture group (Pe Maung Tin and Luce 1923:23; see also Aung-Thwin 1985:21; Galloway 2006:38; Luce 1969; Miksic and Goh 2017:361), although others posit that it was a Bamar village that existed alongside the surrounding Pyu communities (Miksic and Goh 2017:361). The latter interpretation finds some support in the chronicle narrative, which suggest that both Pyu and Bamar were living in and around Bagan at the time (Pe Maung Tin and Luce 1923:28).

3. The chronicles also inform us that King Thinlikyaung subsequently moved the capital from Yonhlut to Thiripyistsaya (Lokananda/ Kyaussaga) in the 4th century CE (between 344-387 CE), and later, in the 6th century (514 CE), King Thike-tine-min established his capital at Ywasaik, close to the Dammayazika pagoda, with the final movement of the royal palace to the area of the currently visible walled and moated royal city being orchestrated by King Pyinbya in 849 CE (Pe Maung Tin and Luce 1923: 45, 55; see also Aung-Thwin and Aung-Thwin 2012: 78; Galloway 2006: 38; Hudson 2003, 2004: 26, 191-192, 220-222; Hudson et al. 2001: 49; Kan Hla 1977: 15; Miksic 2001: 99, 2018: 211).

What Does the Archaeology Say?

At this time, there are only a few instances where excavations at Bagan have taken place (Figure 1), but in all cases the results of these studies have some implication for what occurred in the area "before Bagan." Reviewing these excavations provides a series of dates that speak directly to aforementioned two key themes (see Table 1 and 2).

Fig. 1 Archaeological excavations at Bagan relevant to understanding the Pre-Bagan (600-1044 CE) period.

The Royal Capital

The City Walls. Addressing the walled and moated royal city of "Old Bagan,". Carbon samples were collected from along the city wall when it was being reconstructed in the early 1990s (Grave and Barbetti 2001: 75, 79-80, Table 1; Hudson 2004: 220). The radiocarbon dates indicate an earliest construction date of 11th to mid-13th centuries and continued occupation of the area until 15th to 17th centuries (see Grave and Barbetti 2001: 75, 79-80, Table 1; Hudson 2004: 220-224). Considered in unison, none of the dates support the 849 CE construction date for the city walls found in the chronicles (Hudson 2004: 236). The dates do, however, lend some support for a possible mid-11th century wall construction date, which coincides with the epigraphically documented establishment and expansion of the Bagan polity.

Inside the City Walls. Moving inside the walls of the royal city, excavations at the so-called "Kyanzittha Palace" (Site 1590) describe a series of superimposed platforms, brick walls forming rooms, and brick-lined pits, the latter possibly serving as "post holes" for large wooden columns that would have supported a heavy roof (Hudson 2004: 223-224). A retrospective assessment suggests that at least three distinct construction phases represented at the site (Hudson 2004:224). Particularly important to our discussion, is evidence that the palaces timber superstructure was burned in a very hot fire, which formed two ash beds separated by a lens of brick rubble (Grave and Barbetti 2001: 82). A set of charcoal samples were obtained from these exposed sections (Grave and Barbetti 2001: 75, 80, Table 1; Hudson 2004: 220). Carbon recovered from the lower ash layer provided a date range of 1320-1440 calAD. While the carbon from the upper ash layer dated to 1220-1300 calAD. As the date from the upper ash layer were older than that of the lower ash layer, Grave and Barbetti (2001: 82) surmise that the inversion of dates might relate to older wooden superstructure elements collapsing in on younger, already burned wooden furnishings. A third sample of charred wood was obtained from the base of a large, brick-lined post hole, likely fragments of a teak column. This sample yielded a relatively wide date range of 980-1250 calAD, placing it in the 11th to early 13th centuries.

Thus, despite on-going reassessment, expanding excavations, and the potential for yet unexposed earlier construction (see Hudson 2004: 223-225; Galloway 2006: 39-40; Miksic and Goh 2017: 361-362), the current dates do not lend much credence to the chronicle narrative, which proposes an 849 CE founding year for Bagan's royal city (Hudson 2004:54; Hudson et al. 2001: 49-50). However, carbon samples taken for dating are likely associated with the middle of the three construction levels, implying that the lowest, 3rd level, although remaining undated, must be even earlier than the 13th-14th

century time frame (Hudson 2004: 236). Equally relevant is the fact that excavations did not extend to bedrock, so we cannot be sure of exactly how many different construction levels occur below those exposed, nor do we know precisely when construction was first initiated. Thus, it is important to acknowledge that we still know very little about the earliest occupation levels.

Located 120 m to the west of the "Kyanzittha Palace" excavations of a "substantial buried structure" known as "King Anawrahta" (1044-1077 CE) palace exposed several construction levels as well as number of brick-lined post holes (Hudson 2004: 223-233). According to Hudson (2004: 227-233), Levels 1-3 all postdate the 14th century CE. Level 4 is believed to date from the 13th century CE, or earlier. However, lack of 11th century occupation rules out any of the exposed buildings having been part of King Anawrahta's actual palace (Hudson 2004: 236). The construction sequence also does not appear to support the city founding date of 849 CE documented in the chronicles. One caveat is required. The lowest level, Level 4, was associated with the remains of two brick buildings, and presumed to date to sometime after the 11th century, we do not know their exact age. The base of the southern building rested on a "natural soil layer," (a paleosol) "directly above the present water table" (Hudson 2004: 230). There was also a "packed clay floor" at the base of the 2nd structure (Hudson 2004: 230). As will be discussed below, it is possible that this floor construction represents a rammed earth floor surface, meaning that it might potentially date as early as the Pre-Bagan phase. Certainly, more research needs to be carried out at this locus, particularly in association with the earliest levels.

Site	Loci	Material	Date	CE/calAD-2σ (95.4%)	Lab #	Source
City Wall	Top of north wall	Carbon	-	1390 – 1650	OZA202	Grave and Barbetti 2001: Table 1
	Vertical earthernware tube, east wall platform	Carbon	-	990 – 1210	OZA203	Grave and Barbetti 2001: Table 1
	Ashy layer beneath east city wall	Carbon	-	1030 – 1220	OZA204	Grave and Barbetti 2001: Table 1
	Ashy layer beneath east city wall	Carbon	-	1020 – 1220	SUA-2949	Grave and Barbetti 2001: Table 1
Kyanzittha Palace	Upper ash layer	Carbon	-	1220 - 1300	Beta-106248	Grave and Barbetti 2001: Table 1
	Lower ash layer	Carbon	-	1320 – 1440	Beta-106247	Grave and Barbetti 2001: Table 1
	Charred wood, base of a large, brick-lined post hole	Carbon	-	980 – 1250	OZD335	Grave and Barbetti 2001: Table 1
Anawrahta Palace	Level 1	Earthenware Pipes	17th – 18th CE	-	-	Hudson 2004:227-233
	Level 2/2b	Stratigraphy	16th – 17th CE	-	-	Hudson 2004:227-233
	Level 3	Vietnamese and	15th – 16th CE	-	-	Hudson 2004:227-233
	Level 4	Rate of Deposition	13th CE	-	-	Hudson 2004:227-233
Yonhlut	Structure excavation	Brick	Bagan Era	-	-	Hudson 2004:196

Table 1. Relevant radiocarbon dates from the royal city and proposed palace sites.

The Peri-Urban Settlement Zone

Yonhlut. The site of Yonhlut is situated 14 km east of the Bagan's royal city (Hudson 2004: 192, 194-195, 200; Hudson and Nyein Lwin 1999; Hudson 2000b, 2003; Hudson et al. 2002). A locale that the chronicles suggest was established as the capital for the amalgamation of nineteen villages in 107 CE. Referred to now as the "1st palace" site. Results describe an expansive surface scatter of earthenware sherds associated with high soil phosphate levels, potentially representing "habitation debris" (Hudson 2004: 195). At the purported palace site, excavations exposed a large rectangular structure made from low-fired or sun-dried bricks (Hudson 2004: 194-195). This building remains undated, although the bricks appear to date to the Bagan, rather than the Pre-Bagan or "Pyu period" (Hudson 2004: 196). The team concluded that the 107 CE date for the Yonhlut site appears to be "entirely mythological" (Hudson et al. 2001:49; Hudson 2004: 25, 188).

Otein Taung. A set of excavations, highly relevant to the Pre-Bagan era, have been carried at the site of Otein Taung, located in Bagan's peri-urban settlement zone (Table 2), ca. 2.2 km southeast of the walled royal city (Hudson et al. 2001). The site, referred to as "potter's hill" (Otein Taung), exhibits two large mounds (eastern and western). Excavations unearthed a large and diverse quantity of artifacts that support the interpretation of craft production activities which "can be confidently attributed to the 9th century" (Hudson 2004: 207-210), and possibly even the 8th century CE (Hudson 2004; 2019). Two relevant radiocarbon dates indicate a potential Pre-Bagan occupation with a date range of 760-980 calAD and 880-1030 calAD (Hudson et al. 2001: Table 1). Hudson (2004: 211) posits that the ceramic mounds were likely situated at the edges of a village from the 9th to 14th centuries CE, with the earliest, 9th century crafting occurring near individual houses, and more intensified production being moved to the outskirts of the village, in particular the eastern mound locus, starting in the 10th century CE.

Independent confirmation of the Otein Taung sequence comes from investigation at the same site carried out by the IRAW@Bagan research project in 2019 (Iannone et al. 2021). Test excavations in the large flat area situated between the two pottery mounds – the area presumed to be the location of the actual village residences – exposed a series of occupation surfaces. The stratigraphic sequence demonstrated one significant shift in floor construction techniques and usage. This consisted of a transition away from well-constructed, comparatively "clean" rammed earth floors associated with domestic features such as post holes and piers, and earth ovens – all features that imply proximity to commoner residential constructs, such as houses, kitchens, and ancillary buildings – to the use of beaten earth floors, which are little more than accretions of trampled ground surfaces. The

latter exhibit a paucity of evidence for associated domestic constructions (e.g., post holes or piers). They are, however, characterized by significant refuse accumulations (on-floor assemblages) and incorporations (in-floor assemblages) and comparatively continuous sediment deposition.

The relevant radiocarbon dates from the 2019 investigations at Otein Taung are outlined in Table 2. The dates for the lowest of the beaten earth floors include 980-1031 calAD and 891-993 calAD. These dates imply that the transition from the rammed earth to beaten earth floors occurred sometime in the 9th to 10th century, solidly in the Pre-Bagan phase. Logically, the series of rammed earth floors, which predate the beaten earth floors because of their lower stratigraphic position, must date even earlier. This suggest that an 8th to 9th century CE establishment date for the Otein Taung community is not out of the question.

One final point concerning Otein Taung is worth mentioning. Ethnoarchaeological research carried out by the IRAW@Bagan research team demonstrated that the boundary between villages and their agricultural fields should be discernable in the archaeological record, with such transition zones not only being indicated by a lack of evidence for architectural constructions, but also significant refuse deposits (Talving-Loza 2019: 171-172). The archaeology conducted at Otein Taung so far suggests that a similar ground plan to that of the traditional villages was likely in place at Otein Taung in the Pre-Bagan to Early Bagan phases.

							Fraction of Modern		Radiocarbon Age				
Lab#	Project ID	Operation & Site	Floor Type	Level or Feature	Construction Phase & Cultural Phase	Sample Type	pMC	1σ error	BP	1σ error	calAD-2σ (95.4%)	calAD-1σ (68.2%)	Source
D-AMS 034591	IRAW 748a:DS7	OP. 748, Otein Taung	Beaten	Level 6b	748-C1-3rd/b, Pre-Bagan	charcoal	88.01	0.25	1026	23	980-1031	995-1021	IRAW@Bagan
OZE 768	N/A	Otein Taung	N/A	Eastern Mound-Bottom of Ash Lens	N/A	Charcoal	87.34	0.39	1088	36	880-1030	N/A	Hudson et al. 2001, Table 1
D-AMS 034592	IRAW 748a:DS16	OP. 748, Otein Taung	Beaten	748a-F/18 (Level 7b)	748-C1-4th, Pre-Bagan	charcoal	87.21	0.25	1099	23	891-993	900-922 (28.0%), 949-982 (40.2%)	IRAW@Bagan
OZE 769	N/A	Otein Taung	N/A	Test Pit in Field @ 1.5 m	N/A	Charcoal	86.22	0.36	1191	34	760-980	N/A	Hudson et al. 2001, Table 1

Table 2. Relevant radiocarbon dates from the Otein Taung Site.

A Brief Consideration of Pre-Bagan Material Culture

Given the limited excavations, and paucity of detailed artifact analyses, the presence or absence of Pre-Bagan remains, and the general character of the occupation levels dating to this era, are difficult to assess. The most obvious artifact class to turn to is the ubiquitous ceramic sherd. However, the vast majority of those recovered during the limited excavations that have been carried out at Bagan are of the earthenware variety, and there is currently no extant seriation for these artifacts, never mind one based on a solid stratigraphic sequence. Sherds from Chinese produced ceramics are more useful for dating, because their chronology is better established. However, such items have rarely been recovered in sealed stratigraphic contexts nor in large quantities at Bagan (Goh 2018: 192-193), which makes them less useful for dating specific cultural levels, especially those of the deeply buried, Pre-Bagan phase. Fragments of Chinese porcelains have been found during surface surveys carried out by the IRAW@Bagan team, as well as Goh Geok Yian (Goh 2018: 190-191) and John Miksic (2018).

In Myanmar, the most commonly used diagnostic artifact for defining the Pre-Bagan period is the so-called "Pyu finger marked brick," an item closely associated with the early urban centers that preceded the establishment of the Bagan empire, and one that is often treated as being "characteristically Pyu" (Aung Myint and Moore 1991). That said, they seem to have a considerably long period of usage in the region and are also known to have been utilized over a considerable geographic territory, from India in the east to central and northeast Thailand in the west (Moore 2007a: 134 -136; 2009: 112). In other words, finger-marked bricks come from different places, and are dated to different time periods, and they thus cannot be attributed to one cultural group or period of time (Miksic and Goh 2017: 280). In terms of Bagan, examples of such bricks have been found in places that potentially have early, Pre-Bagan occupation, namely the Kyaussaga/Lokananda area (Hudson 2004: 192; see also Win Maung 2001; Hudson et al. 2002), but they have also been found in constructions dating as late as the 14th century, leading Bob Hudson (2004: 123) to conclude that: "Fingermarked bricks as such are not, therefore, definitive exclusively of Pyu or early urban sites, and need to be read carefully.

Charlotte Galloway (2006: 88-89) notes that another set of objects that are potentially datable to the Pre-Bagan period, Pyu votive tablets, were also used at Bagan. One such tablet, rendered in Pyu style (Galloway 2006: 90), was found beneath the Buphaya stupa (built ca. 850 CE). Other examples of Pre-Bagan material culture, such as Pyu silver coins and funerary urns, are virtually non-existent at Bagan (Miksic and Goh 2017: 361), although a few possible fragments of the latter were recovered by the IRAW@Bagan

team in 2019. Finally, ceramic or stone disks, referred to as *shaqdo* in Myanmar, have a long history of use in Southeast Asia (see Miksic and Goh 2017: 277). The IRAW@ Bagan team recovered a number of these items during the 2019 excavations at the Otein Taung site. However, although they were recovered exclusively from Pre-Bagan contexts at Otein Taung, possible examples were also found in Late Bagan occupation levels at the Shwe Creek test excavation site. This means that, once again, this particular class of artifact cannot serve as a useful chronological marker for the Pre-Bagan phase.

Pre-Bagan Architecture

The style of architecture during the Pre-Bagan period are typically derived from Pyu type architecture. Although the Pyu are known for their stone construction, they also build temples using brick construction. At Bagan, except for a few stone or stone clad structures, most of the architectures were built using bricks (Miksic and Goh 2017:367; Pyiet Phyo Kyaw and Yin Myo Thu 2020:28; Strachan 1996:9).

Pre-Bagan architectures are akin or derived from the brick constructed Pyu temples and stupas at Sri Ksetra (Strachan 1996:9). The earliest stupas or zedi at Bagan are two bulbous shape stupas, the Bu Hpaya 850 CE and the Nga Kywe Na Daung 9th-10th CE. Nga Kywe Na Daung is one of the earliest examples of green glazed terracotta plaques adorning the exterior of stupas in Bagan (Blackmore 1991:149; Moore 1997:29, 2007b:29; Strachan 1996:38). Temple structures or *gu-hpaya* during this period are similar to single storied Pyu brick temples that are either *leimyethna* or *bebe* type structure (Moore 1997:27, 2007b:27; Strachan 1996:9, 15, 39). *Leimyethna* are temples with a central core with four entrance and four Buddha images, while bebe temple types are central space structures with one entrance and one Buddha image (Cho Oo 2000:212; Kan Hla 1979:101; Strachan 1996:15-16, 39). Both types of structures utilize voussoir brickwork, radiating arches, and half barrel vaults (Miksic and Goh 2017:368; Strachan 1996:9, 15, 40). One example of these single storied *leimyethna* temple still in its unmodified Pre-Bagan form is the Nat Hlaung Kyuang, a Vishnu temple, which is possibly built by King Taungthugyi between 931-964 CE but Strachan (1996:16, 39) argued that it was built sometime before 1057 CE during reign of King Anawrahta (c.f., Blackmore 1991:149; Taw Sein Ko 1917:18). The interior walls and vault are decorated with paintings of "geometric designs of interwoven, circular motifs on the soffits and above and panels of presumably Vishnu" (Strachan 1996:41).

Although these temples were constructed with bricks, their surface was covered with protective plaster, whitewashed with lime-based coating and decorated with stucco

throughout (Strachan 1996:15). They are usually covered with a stucco lotus bud finial at the top, a stucco molding depicting a myriad of forms, motifs, designs, and symbols, stucco floral curves with contrasting strong and straight horizontal lines of tiered roofs and many windows, as well as stuccos reliefs of Buddha images and of the *Jatakas* or life tales of the Buddha on walls and support pillars made the temples and stupas lively and beautiful (Moore 1997:29-30, 2007b:29-30; Strachan 1996:15, 22). While earlier researchers were uncertain as to the origins of Bagan's stuccowork (Moore 1997:29-30, 2007b:29-30), recent discovery at Pawdawmu indicate that the Pre-Bagan stuccowork was a continuation of Pyu stuccowork based on the discovery of an earlier encased Pyu *bebe* type temple encased inside a more recent 11th century CE construction (Hudson 2004:247; Gutman and Hudson 2005;20-22; Galloway 2006:104; Taw Sein Ko 1917:25). The earlier encased structure of Pawdawmu also seems to be decorated with glazed fitting and although the provenance of this find is poor, it could also indicate that Bagan's glazing technique may have its origin from the Pyu as well (Hudson 2004:247). Pyu finger marked bricks as well as stone covered with clay and stucco were the construction material and methods used in the encased Pyu structure in Pawdawmu. The combination of these lines of architectural evidence demonstrate that the Pyu were in Bagan before or coexisted with the Bamar; thus, while the architectural styles do not extend the occupation of Bagan prior to the 849/850 CE founding date reported in the chronicles, they do confirm presence of the Pyu culture group evident in both the historical narrative and epigraphical interpretations.

"Dirt" Archaeology and its Relevance to "Before Bagan"

Returning to the three key themes in the study of what came "Before Bagan", there are several observations that can be made. First, currently no archaeological or architectural data supports the 107 CE founding date for the amalgamated capital of the 19 villages. There is also no solid evidence for the founding of the walled and moated royal city in 849 CE. There is, however, incontrovertible proof that at least one village settlement existed at the Otein Taung site in the Pre-Bagan phase. Importantly, the rammed earth floors that were used in the earliest occupation levels at Otein Taung may relate, in technological terms, to the packed clay floor associated with the lowest level of the "King Anawrahta" palace excavations (Level 4). This floor surface therefore warrants more detailed excavation and chronological assessment, as the similarity between the floor constructions at the two loci may imply the existence of a Pre-Bagan occupation level inside the walls of the royal city. If this could be established, it might reaffirm the 849 CE founding date outlined in the chronicles. That said, at the Shwe Creek site, located near the Soo Lay Gon temple complex, the IRAW@Bagan project also uncovered evidence for the continued use of the rammed earth floor construction technique into the mid-11th century, and possibly as late

as the early 13th century. Thus, the Level 4 packed earth floor at the "King Anawrahta" palace could just as easily date to the 1044 CE inception of the regional kingdom, or potentially even later. As is usually the case, "more research is required."

Conclusion

This analysis outlines our two main objectives. First, an approach to understanding "Before Bagan" through this multi-faceted research agenda, utilizing historical, architectural, and archaeological lines of evidence can be both successful and illuminating. Traditional narratives used in conjunction with inscriptions and archaeological evidence bolster the historical reliability of these retrospective chronicles. As presented, archaeological analysis plays an important role in the validation or rebuttal of these historical events, especially during the earlier occupation periods when inscriptions are limited. Second, through the review of both the historical narrative and the archaeological record there are clear strengths and weaknesses that can be identified. Despite the growing corpus of archaeological data that address the Pre-Bagan occupation, it is still limited. This is a consequence of an archaeological agenda that has been centered on the repair, restoration, and complete reconstruction of the myriad stupas, temples, and monasteries (Hudson 2000a, 2008) at the expense of the research-focused, excavation-based, variety. A second issue relates to chronology-building, one that characterizes much of Southeast Asian archaeology. Highlighting the scarcity of chronometric dating, Bob Hudson (2015: 9) noted that in 2015 there were only 60 radiocarbon dates for the entire country of Myanmar! This issue is compounded by the lack of any systematic earthenware ceramic seriations published for Myanmar (c.f., Goh 2018; Miksic 2018), and few attempts to develop chronologies based on changing artifact styles (c.f., Hudson 2005, 2015). Both tools would be useful for dating stratigraphic levels independent of radiocarbon dating. These deficiencies hamper our understanding of these crucial periods. However, through the support of the Department of Archaeology and local archaeological organizations, steps are being made to overcome these shortcomings. The use of historical sources has been an ever-present and often overshadowing line of evidence, not just in Myanmar but across Southeast Asia. As evident in this paper, without the critical analysis and incorporation of supporting datasets, researchers risk the acceptance of biases and propaganda incorporated from the times these retrospective chronicles were written. These are not unknown issues; scholars have been working on the critical analysis of these historical sources with a great success (c.f., Aung-Thwin 2005) and over time this will contribute to a better their understanding as well as more successful application in archaeological research. This places archaeological investigations at Bagan, and across Southeast Asia, in a unique position to help better interpret historical sources but also add to these wonderful narratives of the past that have been woven over the centuries.

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