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ARTICLE

## Pyu urns, Indian calendars, and Myanmar culture

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### Abstract

The article addresses the important question of the calendar used in dating the Payagyi Pyu urns from Sri Ksetra (mod. Pyay) in Myanmar. It shows that, of the four calendars used in Myanmar at the time, two—the Ajjagona and Buddhist eras—can be ruled out. This leaves the Saka and Myanmar eras as the only possible options. However, although the Saka era was used for dating Indian records up to East Bengal, it was only used twice for dating an inscription in central Myanmar and, in addition, the early dates on the Payagyi urns seem to preclude its use in Myanmar that early on. The article concludes therefore that, for dating the Pyu urns, most likely the Pyu–Myanmar calendar of 638 CE was used.

**Keywords:** Buddhist calendar; calendar; Indian calendars; Myanmar era

### Introduction

The four burial urns discovered in 1911 near the Payagyi stupa at Sri Ksetra (near Prome, central Burma) form a major source for the history and civilisation of ancient Burma due to the brief inscriptions that all four urns bear. These inscriptions contain the names of four persons, mostly likely the rulers of the city, together with a set of dates, which both have recently become the subject of a scholarly debate again. The names, or rather their chronological order and hence an assumed royal lineage, have become complicated with the discovery of another urn, the inscription on which gives an alternative order of names, whilst the dates pose a problem concerning the calendrical system employed for them. In this respect, a recent study has made a case for the Gupta era of 319/320 CE instead of either the Saka era (of 78 CE) or the Myanmar (or Cula–Sakaraj elsewhere in Southeast Asia) era of 638 CE, both favoured by previous scholars. This article takes a new approach to the question of the calendar used in the dates of the urns, by juxtaposing a possible Indian influence in early Myanmar against traditions originating and being used in Myanmar only. It will argue that, of all possible dating systems that could come under consideration, the Gupta calendar appears to be the least likely one. Some thoughts on the implications of this finding focus firstly on situating the Pyu urban culture itself (which has been inscribed on the World Heritage List in 2014) and secondly on the debate about the Indianisation of Southeast Asia, which will conclude the article.



**Figure 1.** Suryavikrama's relative urn inscription. Source: U Pe Maung Tin and G. H. Luce (comp.), *Inscriptions of Burma* (London, 1959), vol. 4, plates 354 a–d (Rangoon, 1956).

### The Payagi urns and their dates

In 1911, excavations carried out near the Payagi stupa at Sri Ksetra brought to light an assemblage of four burial urns, each one bearing a brief inscription in the Pyu language on its rim (Figures 1–4).<sup>1</sup> By then, knowledge of the Pyu language was very limited, with the results of C. O. Blagden's pioneering study of the Pyu face of the quadrilingual Rajakumar (or Myazedi) inscription from Bagan just having come out.<sup>2</sup> The director of the newly established Archaeological Survey of Burma, Charles Duroiselle, therefore turned to Blagden again for the decipherment and translation of the urn inscriptions.<sup>3</sup> Describing in great detail how he tried to find a meaning in what he read, Blagden proposed the following translations,<sup>4</sup> which have subsequently gained general acceptance:

- A) '(A relative or the wife of) lord Suriyavikrama died in the year 35.'
- B) 'Lord Suriyavikrama died in the 5<sup>th</sup> month of year 50, aged 64 years.'
- C) 'Lord Harivikrama died on the 24<sup>th</sup> day of the second month of year 57, aged 41 years, 7 months and 9 days.'
- D) 'Lord Si(m)havikrama died on the 4<sup>th</sup> day of the 2<sup>nd</sup> month of year 80, aged, 44 years, 9 months and 20 days.'

This supposed dynasty of three successive rulers of a dynasty ending with *-vikrama* resulting from Blagden's readings remained in place until 1993, when another urn was discovered near the Payahtaung stupa at Hmawza (Sri Ksetra). The lengthy inscription consists of 1,127 characters written in five lines around the body of the urn.<sup>5</sup> In its text, which has

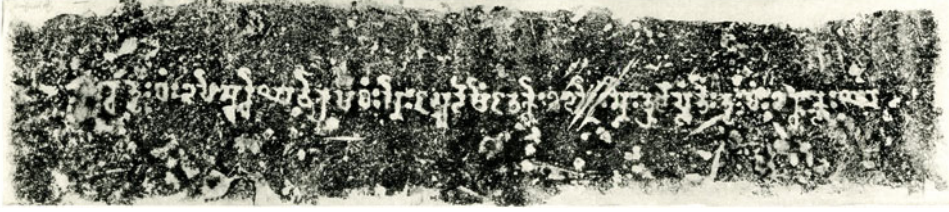
<sup>1</sup> The term 'Pyu' is used here as shorthand for the people of central Myanmar who shared a common culture—language, livelihood, and probably ethnicity—during the first millennium CE. The author is aware that the term may be a misnomer, the Pyu language consists of several chronological layers, and the common culture assumed here was very much a mixed one, incorporating elements of Buddhism, Hinduism, ancestor cults, and other beliefs.

<sup>2</sup> C. O. Blagden, 'A preliminary study of the fourth text of the Myazedi inscriptions', *JRAS* (1911), pp. 365–388. The inscription was discovered in 1907.

<sup>3</sup> C. Duroiselle, *Report of the Director, Archaeological Survey of Burma, for the year 1911–12* (Rangoon, 1912), pp. 11–12.

<sup>4</sup> C. O. Blagden, 'The Pyu inscriptions', *Epigraphia Indica* 12 (1913–1914), pp. 127–132 (reprinted in the *Journal of the Burma Research Society* 7 (1917), pp. 37–44). See now the new reading by Arlo Griffiths et al., *Corpus of Pyu Inscriptions*, nos 3–6, <http://hisoma.huma-num.fr/exist/apps/pyu/about.html> (accessed 13 May 2019).

<sup>5</sup> Griffiths et al., *Corpus*, no. 20. The circumference of the urn has been given as 8 $\frac{3}{4}$  feet or 2.60 metres, so the inscription would have been approximately 13 metres in length. See U San Win, 'Dating the Hpyahtaung urn inscription', *Myanmar Historical Research Journal* 11 (2003), pp. 15–22 (except for some corrections, identical to the article published in *Indo-Asiatische Zeitschrift* 4–5 (2000–2001), pp. 120–125). Originally, this article had been published in Myanmar language: U San Win, 'Hpyahtaung Pyu Kyauksa Lak-sway' [The date of the Payahtaung urn inscription], *Myanmar Historical Research Journal* 1 (1998), pp. 1–5. Also see U Sein Win, *Pyu-ekkhaya Sape-baung-gyut* (Yangon, 2016), pp. 71–83.



**Figure 2.** Suryavikrama urn inscription. Source: U Pe Maung Tin and G. H. Luce (comp.), *Inscriptions of Burma* (London, 1959), vol. 4, plates 354 a–d (Rangoon, 1956).

been deciphered but not fully translated, ten names occur, of which six are introduced with ‘Sri’ and end with ‘ba’—the two suffixes that usually denote royal names. In the order of their appearance, these are:

Sri Devamitra  
 Sri Harivikrama  
 Sri Si(m)havikrama  
 Sri Suriyavikrama  
 Sri Bri(m)thuvikrama  
 Sri Adityavikrama

First of all, it should be noted that a third piece of evidence—the dated headless Buddha, which mentions that Harivikrama was the younger brother of Jayacandravarman—is of no relevance for this question, as it is the only reference for the name Jayacandravarman.<sup>6</sup> This leaves three names to be considered, which agree with the names found on the four urns mentioned: Harivikrama, Simhavikrama, and Suryavikrama. Of them, the succession from Harivikrama to Simhavikrama poses no problem; however, the listing of Suryavikrama after, instead of before, the two names does.

In general, we would assume that epigraphy ‘developed’ from relatively short annotations to longer pieces of greater literary quality and more precise information. The sequence from Suryavikrama’s relative or wife (stating death year only) and Suryavikrama (died in year 50 at the age of 64) to Harivikrama and Simhavikrama (full information on year of death and age) and finally to Adityavikrama’s long inscription would fit such a development. However, the sequence of names in the Payahtaung urn seems to make this development impossible, as it put the short



**Figure 3.** Harivikrama urn inscription. Source: U Pe Maung Tin and G. H. Luce (comp.), *Inscriptions of Burma* (London, 1959), vol. 4, plates 354 a–d (Rangoon, 1956).

<sup>6</sup> G. H. Luce, *Phases of Pre-Pagan Burma*, 2 vols (Oxford, 1985), p. 51; Griffiths et al., *Corpus*, no. 16. The only point of reference is that this inscription has been dated as ‘sixth century’, whilst it seems to belong to the eighth century, as will be argued below.



**Figure 4.** Sihavikrama urn inscription. Source: U Pe Maung Tin and G. H. Luce (comp.), *Inscriptions of Burma* (London, 1959), vol. 4, plates 354 a–d (Rangoon, 1956).

inscriptions of Suryavikrama after those of Hari- and Simhavikrama. On the other hand, any rearrangement of the dates on the four urns does not seem to work either, especially in the way that U San Win has done. He revised Blagden's readings by swapping the meaning of the dates assigned to each name, so his reading rendered a new order of kings that was seemingly consistent with the dates of the Payaygi urns:<sup>7</sup>

- A) Harivikrama died on the 9<sup>th</sup> day of the 7<sup>th</sup> month of year 41, aged 57 years, 2 months and 24 days;
- B) Sihavikrama died on the 20<sup>th</sup> day of the 9<sup>th</sup> month of year 44, aged 80 years, 2 months and 4 days;
- C) Suryavikrama died in year 64, aged 50 years and 5 months;
- D) Suryavikrama's relative (who U San Win assumed to be his queen) died aged 35.

At first glance, U San Win's revision seems to solve the problem of the conflicting serial order of rulers found on the urns but, at the same time, his reading poses new questions, which are connected to the nature of the records and the way the urns are related to each other. Firstly, the Payahtaung urn appears to suggest a dynastic succession of kings—either fathers and sons or, as occasionally found in Myanmar history, fathers, younger brothers, and their children.<sup>8</sup> However, the dates proposed by U San Win do not easily allow a sensible relationship to be established for the three rulers mentioned in both records. Harivikrama, the first person in U San Win's list, died in the year 41, aged 57. This would set his year of birth at (41–57) –16.<sup>9</sup> The second in the list, Sihavikrama, died only three years later, but at the age of 80. He would then have been born in the year (44–80) –36, which is 20 years before his alleged predecessor. Finally, Suryavikrama, being 50 years old in the year 64, would have been born in the year 14.

According to this calculation, Sihavikrama was not only the oldest (or first-born) of the three, but also so much senior to the next in line that he should have been the uncle rather than the elder brother of Harivikrama. In either case, he should have preceded instead of succeeded Harivikrama in the serial order of the Payahtaung urn. The short reign of three years would confirm that he indeed became king at an old age (he would have been 77 at the time of succession). The third in line, Suryavikrama, could then have been the son of Harivikrama, who would have been 30 years of age at the time his son was born. This seems an acceptable relationship.

<sup>7</sup> U San Win, 'Dating the Hpyahtaung urn inscription', p. 18.

<sup>8</sup> The best-known example for is probably the Konbaung Dynasty after Alaungpaya; see R. C. Temple, 'The order of succession in the Alompra Dynasty of Burma', *Indian Antiquary* 21 (1892), pp. 287–293.

<sup>9</sup> The problem that Indian calendrical systems usually include a year '0' is ignored here; see J. C. Eade, *The Calendrical Systems of Mainland Southeast Asian* (Leiden, 1995), p. 16.

U Tun Aung Chain has addressed this question in a different manner.<sup>10</sup> Principally accepting U San Win's revised order of dates,<sup>11</sup> he focussed on identifying and interpreting the relationship term *ṭlo*, which he understood as 'brother-in-law'. This interpretation resulted in a succession going sideways, from Devamitra to the brother-in-law Harivikrama and then on to (brother) Harivikrama and his brother-in-law Simhavikrama, before finally the filial generation would succeed in the person of Suryavikrama. Though such an order of succession cannot be ruled out on arithmetic grounds, it seems highly unlikely that two successive rulers could have come to the throne as outsiders in relation to the family in power—all the more so as the suffix *-vikrama* in all of their names seems to indicate shared ancestry.

Before concluding this section, two more aspects of the urn inscriptions need to be considered. The first concerns the nature of the sources that we are examining, which are inscriptions incised on burial urns in this case. The immediate implication of this is that they would have served to record the time of death of the persons whose ashes the urns contain and, moreover, we would expect the dates to become more comprehensive and detailed the longer such a burial cult prevails.

In other words, an urn inscribed with one date only should be older than an urn with two dates, and an urn stating the year only should be older than one on which we find the year, month, and day. The second aspect refers to the keeping of personal records such as the date of a person's birth or the accession of a ruler. This would require a much more sophisticated 'chancellery office' in operation than the mere computation of the years by way of a linear calendar, which the Pyus presumably did. And, again, dates with few details can be expected to be older than those that are more comprehensive and, if only years are stated, then they should refer to the linear calendar rather than to individuals. U San Win's list, which has Suryavikrama (only one set of dates) succeeding Siha- and Harivikrama (two full sets of dates) and Suryavikrama's queen (year only) at the very end of a sequence of rulers (irrespective of how they are personally related to each other), violates this logic at two points.

However, with the lack of other evidence on which to decide this question, there is little we can do but to ignore the Hpyahtaung urn for the time being and focus on the four urns with single inscriptions alone, as they are the ones that contain the dates that are the subject of this article. This is what will be done in the following section. However, before considering the suggestions made by scholars to identify the eras used by the Pyus, it is necessary to remind ourselves that the readings of the dates themselves are by no means certain. This section therefore builds on the assumption that the Pyus indeed computed time by way of a continuous calendar, which commences at a given point in time. This in itself distinguishes them from many of their contemporary neighbours, with whom they were in contact but who much more frequently gave dating in regnal years than in a current era. We will have to come back to this at the end of the article.

### Re-examining the eras

Blagden, who was the first to decipher and translate the Payagyi urn inscriptions, identified the era in question as the Myanmar/Cula-Sakaraj era of 638 CE, though he added that

<sup>10</sup> U Tun Aung Chain, 'The kings of the Hpyahtaung urn inscription', *Myanmar Historical Research Journal* 11 (2003), pp. 1–15.

<sup>11</sup> The only correction he suggested was to swap the words for the numerals 7 and 2, building on Robert Shafer's earlier proposal to that end. U Tun Aung Chain, 'Kings of the Hpyahtaung urn', p. 6; R. Shafer, 'Further analysis of the Pyu inscriptions', *Harvard Journal of Asian Studies* 7 (1942–1943), pp. 313–371.

he made this assumption ‘for the sake of convenience’.<sup>12</sup> Despite this cautioning, his assumption was as widely accepted by later scholars as his translations were, by Harvey, Ray, Luce, U Aung Thaw, and Aung-Thwin, for example.<sup>13</sup> The only challenge to this interpretation was raised by the head of the Archaeology Department at the time, Taw Sein Ko, who suggested that the choice of eras was between the Vikrama era of 58 BCE and the Saka era of 78 CE. He preferred the latter, but when he communicated the suggestion to Blagden, he rejected it on palaeographic grounds.<sup>14</sup>

A major challenge to this accepted theory came in the mid-1960s when Myanmar scholars began to discuss alternative assumptions. One of them was U Than Tun, who, in 1969, proposed that the calendar used by the Pyus was that of the Indian Guptas, commencing in 319/320 CE. U Than Tun based his revision on the palaeography of the Pyu alphabet and its parallels to the Gupta script.<sup>15</sup> However, when taking the emerging synchronisms between the Pyu cities of Beikthano and Sri Ksetra into account, U Than Tun later changed his mind and proposed the Saka era of 78 CE instead of the Gupta era.<sup>16</sup> In doing so, he possibly followed U Aung Thaw, the excavator of Beikthano, who had suggested this identification of the era at a conference held at Yangon in 1966.<sup>17</sup>

This line of argument was also followed by U Htin Aung—the long-time professor of English at Yangon University, who had suggested that era in his rather vitriolic attack on Luce and Luce’s alleged distortion of Myanmar history.<sup>18</sup> As the title of his treatise indicates, U Htin Aung’s justification for the reinterpretation of the era comes from the chronicles which state that the Pyus used the Saka era before replacing it with the Myanmar era. This is an obvious circular conclusion, as the suggestion of an earlier use of the Saka era only works on the premise that the urns were made and incised before 638 CE.

What U Htin Aung reminds us of, however, is that indigenous Myanmar traditions must not be ignored. The main embodiments of this tradition—the Myanmar chronicles—only sporadically predate the eighteenth century when the first important work was written and will therefore have to be read with caution, especially in relation to their statements on the early history of Myanmar.<sup>19</sup> There is, however, one central point on which the chronicles are unequivocal: the computation of time in Myanmar has always been

<sup>12</sup> Blagden, ‘Pyu inscriptions’, p. 131.

<sup>13</sup> G. E. Harvey, *A History of Burma from the Earliest Times to the Beginning of the English Conquest* (London, 1925), p. 12; Nihar Ranjan Ray, *Theravada Buddhism in Burma* (Calcutta, 1946), p. 63; G. H. Luce, *Old Burma—Early Pagan* (Locust Valley, 1969), vol. 1, p. 8; U Aung Thaw, *Excavations at Beikthano* (Rangoon, 1968), p. 61; M. AungThwin, *The Mists of Ramañña* (Honolulu, 2005), pp. 35–36.

<sup>14</sup> Taw Sein Ko, ‘Era used in Pyu Epigraphs’, in *Burmese Sketches*, (ed.) Taw Sein Ko (Rangoon, 1920), vol. 2, pp. 277–278.

<sup>15</sup> U Than Tun, *Khet-haung Myanma Yazawin [History of Ancient Myanmar]* (Yangon, 1969), p. 42. This book is mainly a Myanmar translation of his dissertation on Bagan, with added chapters on the prehistory of Myanmar before the Bagan period.

<sup>16</sup> U Than Tun, ‘Myanma history: a humanities approach’, *Asian Research Trends* 4 (1994), p. 58; and U Than Tun, ‘History of Myanmar culture’, in *Myanmar Two Millennia*, (ed.) Universities’ Historical Research Centre (Yangon, 2000), p. 22.

<sup>17</sup> See D. G. E. Hall, *A History of South-East Asia* (London, 1981, 4th rev. ed.), p. 154.

<sup>18</sup> U Htin Aung, *Burmese History before 1287: A Defence of the Chronicles* (Oxford, 1970), p. 9.

<sup>19</sup> The standard ‘national’ chronicle, the Glass Palace Chronicle, was compiled between 1827 and 1834, but draws heavily upon the ‘Great Chronicle’ compiled by U Kala in around 1720 CE. Earlier historical records that would qualify as ‘chronicles’ include the ‘Famous Chronicle’ or *Yazawin-kyaw* (circa 1520s) and the Kalyani inscriptions from Pegu (1476–1479), which record bits of the early history of Buddhism in Myanmar; see U Tet Htoot, ‘The nature of the Burmese chronicles’, in *Historians of Southeast Asia*, (ed.) D. G. E. Hall (London, 1961), pp. 50–62; U Hla Pe, ‘Burmese historiography: the source, nature and development of Burmese chronicles’, in *Burma: Literature, Historiography, Language, Life, and Buddhism*, (ed.) U Hla Pe (Singapore, 1985), pp. 52–67.

achieved by way of a continuous, linear calendar. Only the starting point of a calendar could change if a ruler, his advisers, and astrologers saw the need for such a measure.

According to the chronicles, the oldest existing era, called the Ajjana or Anjana era, began in the year 68 before Gautama Buddha was born and ended with his *parinibban* 80 years later, having reached the year 148 at this point. This event marked the start of the Buddhist era (of 544 BCE), which replaced the Ajjana era.<sup>20</sup> The Buddhist era in turn existed until the year 624, when King Thumodarit started a new computation by eliminating 620 years. The king's reform thus established (or rather introduced) the Saka era of 78 CE in Myanmar.<sup>21</sup> Finally, the Pyu King Poppa Saw Rahan is credited with a repetition of this exercise in Saka 562 (or 640 CE), at which point he established the current Myanmar era.<sup>22</sup> As said, the existing chronicles, which are seen to embody Myanmar traditions and customs, come from a relatively late point in time, but the evidence that they provide can be corroborated by way of sources going much further back in time. In the inscriptions from the Bagan period (eleventh to thirteenth centuries CE), all four calendrical systems mentioned in the chronicles are practically employed for dating in at least one instance in Myanmar history.

Beginning with the era very likely used least often, the Saka era of 78 CE was employed by King Alaung Sithu in his long Pali inscription from the Shwegu-gyi temple, composed in 1131 CE.<sup>23</sup> The actual date is stated at the end and in Sanskrit, which seems to indicate that the author was an Indian—either a brahmin or a Buddhist monk (as the rest of the inscription is composed in Pali verse). In their edition of the inscription, Luce and U Pe Maung Tin underscored that this was a ‘unique instance for the use of this calendar’.<sup>24</sup> This seems correct for the Bagan period but, in the early fourteenth century, an inscription from Shwebo in Upper Myanmar gives the year 1262 of an unspecified era. If Saka, this would have been 1340 CE—a date perfectly in line with the two dates on the obverse of the record.<sup>25</sup> Regardless of whether this second example is correct or not, it is obvious that the Saka era in Myanmar was used only in exceptional cases. This sets the country apart from the rest of Southeast Asia, notably the Angkorian empire, where the Saka era was widely used. Having said this, one should, however, not overlook that the very term ‘Saka era’ (*sakaraj*, or *thekkayit* in Myanmar pronunciation) became synonymous with ‘calendar’ in the Myanmar language (as much as in other languages of mainland Southeast Asia).

<sup>20</sup> U Kala, *Yazawin-gyi [Great Chronicle]*, vol. 1, (ed.) Saya Pwa (Yangon, 1968), p. 28; Eade, *Calendrical Systems*, pp. 15–16. According to Fleet, the Ajjana era had been established by the Buddha's maternal grandfather of that name: J. F. Fleet, ‘The date of the death of the Buddha’, *JRAS* (1912), p. 240.

<sup>21</sup> U Kala, *Yazawin-gyi*, p. 130; U Pe Maung Tin and G. H. Luce (trans.), *The Glass Palace Chronicle of the Kings of Burma* (London, 1923), p. 25. The chronicles give no reason for this reform, but it is possible that the former Ajjana era had remained in place somehow, in which case it would have reached the year 776 (the sum of 148 years of the Ajjana era and 624 years of the Buddhist era). The new era could thus have helped to avoid the advent of the ominous year 777 Ajjana.

<sup>22</sup> U Kala, *Yazawin-gyi*, p. 151; U Pe Maung Tin and Luce (trans.), *Glass Palace Chronicle*, p. 52. The king made the year 640 CE the year 2 of his new calendar, which results in the Myanmar calendar of 638. A later reform, introduced in the year 1432 CE to create a ‘long Myanmar era’ (*sakaraj-rhain*), can be ignored here, as it contributes nothing to the dating of the Pyu urns. Besides, it was quite short-lived anyway, going out of use in around 1600 CE; see U Tin Hla Thaw, ‘History of Burma, 1400–1500’, *Journal of the Burma Research Society* 41 (1959), p. 140; U Tun Nyein, *Inscriptions of Pagan, Pinya and Ava: Translations with Notes* (Rangoon, 1899), pp. 37–38.

<sup>23</sup> U Pe Maung Tin and G. H. Luce, ‘Inscriptions of Burma, edited and translated’, *Bulletin of the Burma Historical Commission* 1.1 (1960), pp. 1–28.

<sup>24</sup> *Ibid.*, p. 1.

<sup>25</sup> U Pe Maung Tin and G. H. Luce (comp.), *Inscriptions of Burma* (London 1959), vol. 4, pl. 397b, line 1 (for a reading, see Myanmar Department of Archaeology (ed.), *She-haung Myanmar Kyauksa-mya* (Yangon, 1984), vol. 3, p. 212. The dates on the obverse (*ibid.*, pl. 397a) are 1301 and 1303 CE, respectively.





**Figure 5.** Kutha ink inscription (left part). Source: P. Pichard, *Inventory of the Monuments at Pagan* (Paris, 1994–1995), vol. 4, no. 845.

As could be expected, the Ajjana era is a similarly rare occurrence. The only examples of its use during the Bagan period come from two short painted inscriptions on the ceilings of temples 845 (Kutha) and 1471 (Theinmazi) at Bagan. Both consist of four horoscopes referring to important events in the Buddha's life: conception (Maya's dream), birth, enlightenment, and *parinibban*.<sup>26</sup> In the case of the Kutha temple, the readings of the four dates are interspersed with a second inscription describing the 'Buddhist paradise' *Uttarakuru* (Figure 5). Apart from these two instances, which are directly related to the four 'great' events in the Buddha's life, the Ajjana era was apparently not used for practical purposes such as the recording of a donation.

The Buddhist era, in contrast, was commonly used throughout the Bagan period, from the time of King Kyanzittha and his son Rajakumar up to the end of the Bagan period and beyond.<sup>27</sup> This widespread use of this era is again specific to Myanmar and makes the place an exception among Buddhist countries. The era probably originates from ancient

<sup>26</sup> I am grateful to Pierre Pichard for making the pictures reproduced here available to me. Smaller images can be found in P. Pichard, *Inventory of the Monuments at Pagan* (Paris, 1994–1995), vols 4, 6, figures 845j–k, 1471k.

<sup>27</sup> Kyanzittha's inscriptions (in the Mon language) in *Epigraphia Birmanica* 1, 2 (1960), no. 1 A (BE 1630/CE 1086); U Pe Maung Tin and Luce (comp.), *Inscriptions of Burma*, vol. 2, pl. 110 (1625/1081); Rajakumar's Myazedi inscription, *ibid.*, vol. 4, pl. 364a (16 years after BE 1628/1084 CE). Examples from the fourteenth and

Sri Lanka, where monks had attempted to determine the year of the Buddha's *parinibban*, expecting the future Buddha Metteyya to appear 1,000 years after the demise of his predecessor. The first chapters of the Sinhalese chronicle *Dipavamsa*, which may date from around the fourth century CE, are mainly concerned with calculating the years from the Buddha's *parinibban* by way of royal successions and monastic lineages running parallel to the dynasties.<sup>28</sup> In ancient Sri Lanka, however, the era was not used again for dating either by Sri Lankan historiographers or by the monks or scribes of inscriptions for several centuries. The next instance of a date in the Buddhist era occurs in the twelfth century, when King Parakkama Bahu I unified the island's monastic order and subjected it to a set of rules to abide by.<sup>29</sup> This was well after this era had come into use in Myanmar during the reign of King Kyanzittha and, given the well-established relations between the two countries by that time, it seems more likely that the calendar had been reintroduced to Sri Lanka by monks from Myanmar. Yet, while the calendar fell into disuse again in Sri Lanka soon after, it continued to be employed in Myanmar with great frequency. It was only in the fifteenth century that it was revived in an emerging Buddhist ecumene and spread to other places of the Southeast Asian mainland.<sup>30</sup> From then on, it gained wide acceptance all over the Buddhist world.

It is not clear why King Kyanzittha or his son Rajakumar used the Buddhist era to date their inscriptions, as, by the late eleventh century, the Myanmar era was not only known, but also used widely. As far as we can see, it was used for the first time in the year 440 (1078 CE), closely followed by a royal donation made in the year 455 (1093).<sup>31</sup> Since then, the Myanmar era has been in use for dating practically anything written or printed in Myanmar that needed to have a date on it: inscriptions, manuscripts, printed books, newspapers, etc. At Bagan, the Myanmar and Buddhist eras were frequently used side by side, but there is not a single inscription from the period to have used regnal years or any other possible dating system on its own or instead of the Myanmar era.<sup>32</sup>

### Pyu urns, Myanmar calendars, and Indian influence

The evidence presented so far has shown two things that any attempt to date the Pyu urns will have to take into consideration. Firstly, the Myanmar people preferred continuous and linear computation of time, using calendars that had a clearly defined starting point and ran independently of political or dynastic developments such as royal successions or transfers of the capital city. This did not exclude the possibility of having a new era established when circumstances required it; and this also included the possibility of

fifteenth centuries include U Pe Maung Tin and Luce (comp.), *Inscriptions of Burma*, vol. 5, pl. 469a (1886/1342); and *ibid.*, pl. 523b (BE 1920/1358 CE). U Tun Nyein, *Inscriptions*, p. 37 (BE 1986/1442 CE).

<sup>28</sup> H. Oldenberg (ed. and trans.), *The Dipavamsa, an Ancient Buddhist Historical Record* (London, 1879). These calculations as well as the era resulting from them have since become authoritative in the Theravada world, e.g. for dating the three councils convened after the Buddha's death or the accession of King Ashoka Maurya.

<sup>29</sup> D. M. de Z. Wickremasinghe, 'Polonnaruva Galvihara rock-inscription of Parakkama Bahu I', *Epigraphia Zeylanica* 2, pp. 256–283; see also P. Perera, 'Early dating systems used in historical references in Sri Lanka', in *Festschrift for Prof. S. B. Hettiaratchi*, (ed.) P. Perera (Nugegoda, 2010), pp. 95–105.

<sup>30</sup> T. Frasch, 'The Theravada Buddhist Ecumene in the 15<sup>th</sup> century: intellectual foundations and material representations', in *Buddhism across Asia: Networks of Material, Intellectual and Cultural Exchange*, (ed.) Tansen Sen (Singapore/Delhi, 2014), vol. 1, pp. 347–367.

<sup>31</sup> U Pe Maung Tin and Luce (comp.), *Inscriptions of Burma*, vol. 2, pl. 110; *Epigraphia Birmanica* 1, 2, no. 6, pp. 149–150.

<sup>32</sup> For one of the few inscriptions stating the regnal years alongside a date in the Myanmar era, see Luce, *Old Burma*, vol. 1, pp. 84–85. Apart from this, kings (or rather, their periods of reign) are sometimes used to date past events; see T. Frasch, *Pagan: Stadt und Staat* (Stuttgart, 1996), pp. 92–93.

using more than one such continuous reckoning of time side by side.<sup>33</sup> Depending on the nature of the Pyu–Myanmar cultural continuum, this attitude towards the computation of time may have prevailed already during the Pyu period. This problem will be addressed below.

Secondly, the written evidence of the Bagan period demonstrates that the calendars in use at the time consisted of the Ajjana, Saka, Buddhist, and Myanmar eras. Of these four, two seem to have been imported from somewhere outside Myanmar—the Buddhist era, which probably came from Sri Lanka, and the Saka era, which could have come from either India or the Southeast Asian mainland.<sup>34</sup> Crucially for discussion of the dates on the Pyu urns, the Gupta era was not among the eras in use and, as we will see next, there is no evidence that the era was known or used anywhere outside India (and, more precisely, a rather limited area of north India) at all. More importantly, the circumstance of its creation and spread effectively preclude its use by the people of Sri Ksetra.

Regarding the Gupta era, if we ignore two spurious inscriptions dated to the years 5 and 9 of that era, the earliest reliable examples for its use are Candragupta's II Mathura pillar inscription (year 61) and the Udayagiri rock inscription (year 82). Two more epigraphs stemming from the reign of this king bear the dates 88 and 93. Candragupta is generally believed to have ruled during the second half of the fourth century CE; the era he used (possibly, he had created it as well) referred to the founder of the Gupta Dynasty, Samudragupta I, hence its commencement in 319/320 CE.<sup>35</sup> As stated previously, the first documented use of the Gupta era in India dates to the year 61 (380/381 CE) and, while the era may have advanced as far Rakhaing (Arakan), which borders on Bengal,<sup>36</sup> the 'late' use alone throws doubt upon the idea that the calendar could have been employed for the dates on the urns from central Myanmar: not only would its spread have required direct links and exchanges between north India and central Myanmar for swift transmission; it would also imply that the two urns of Harivikrama and Suryavikrama predate the earliest use of the era in India. The different readings of Blagden and U San Win make no difference for this matter. As this is hard to imagine, and as the Gupta era is never mentioned in any record from Myanmar throughout, we can effectively rule out the possibility of the Gupta era being used by the Pyus.

<sup>33</sup> This use of continuous eras also included the mastery of adjusting the difference between the solar and the lunar calendars by inserting an intercalary month roughly every third year. However, this problem can be ignored here, as it is irrelevant in determining which era the Pyu used.

<sup>34</sup> Eade, *Calendrical Systems*, p. 16. The first inscriptions from Southeast Asia dated in the Saka era were written around the early seventh century CE; see A. Griffiths, 'Early Indic inscriptions of Southeast Asia', in *Lost Kingdoms: Hindu-Buddhist Sculpture of early Southeast Asia*, (ed.) J. Guy (New York, 2014), pp. 53–62.

<sup>35</sup> See Manabendu Banerjee, *A Study of Gupta Inscriptions* (Calcutta, 1976), pp. 15–16; Dinesh Chandra Sircar, *Indian Epigraphy* (Delhi, 1965), pp. 282–287; R. Salomon, *Indian Epigraphy* (Oxford, 1998), pp. 182–187; H. Falk, 'Frühe Zeitrechnung in Indien', in *Vom Herrscher zur Dynastie: Zum Wesen kontinuierlicher Zeitrechnung in Antike und Gegenwart*, (ed.) H. Falk (Bremen, 2002), pp. 77–105; J. F. Fleet (ed.), *Inscriptions of the Early Gupta Kings and their Successors* (Calcutta, 1888) (Corpus Inscriptionum Indicarum 3). The era was used by the Gupta kings until Buddhagupta and was taken over after the sixth century and continued, for instance, by the Maitrakas rulers of Gujarat.

<sup>36</sup> The easternmost Indian region in which the Gupta era was used was Bengal: Ryosuke Furui, 'Ājīvikas, Mañibhadra and early history of eastern Bengal: a new copperplate inscription of Vainyagupta and its implications', *JRAS* 26.4 (2015), pp. 657–681 (inscription dating from GE 188/508 CE); A. Griffiths, 'Four more Gupta-period copperplate grants from Bengal', *Pratna Samiksha* (new series) 9 (2018), pp. 15–57 (two examples dating GE 159/479 CE and GE 198/518 CE); A. Griffiths, 'Three more Sanskrit inscriptions of Arakan: new perspectives on its name, dynastic history, and Buddhist culture in the first millennium', *The Journal of Burma Studies* 19.2 (2015), pp. 281–340. The dating of all three inscriptions puts the use of the Gupta era closer to the border of Myanmar but is 100 or more years later than the dates on the Pyu urns.

Interestingly, the conclusion is virtually the same if the possibility of the use of the Saka era is examined with similar rigour. The Saka era was first used at around the end of the first century CE in north-west India, within the realm of the Kushana rulers.<sup>37</sup> The year in which it commenced, 78 CE, probably refers to the accession of Kanishka I.<sup>38</sup> Unlike the Gupta era, the Saka era was used right from the time of this king for practical purposes, such as the dating of Buddha images or other dedicatory inscriptions. However, it was not until the fifth century CE that the era was more widely employed in both India and Southeast Asia.<sup>39</sup> The oldest Sanskrit inscription from Southeast Asia dated in the Saka era originates from Cambodia and bears the date 534 or 612 CE;<sup>40</sup> a little later, the era also came into use in the Srivijayan realm, in Java and Champa. The use of the Saka era on the Pyu urns would thus again have predated by several centuries any other inscription from Southeast Asia using the era and, in addition, it would have required direct contacts between the Pyu heartland of central Myanmar and north-west India. That apart, the use of the Saka era in Myanmar seems to be less problematic than use of the Gupta era, as the dates on the urns do not predate its use in India and the Saka era was in fact used during the Bagan period, even if only rarely. Still, the problem of direct relations for providing a swift transfer of a new calendrical system appears to form a considerable obstacle to the possibility of the Saka era being used on the Payagyi urns.

Before ruling out the possibility that the Gupta and Saka eras (or in fact any other calendar of Indian origin such as the Kalachuri–Chedi or the Ganga eras)<sup>41</sup> could have been employed for the dates found on the Pyu urns, two more related questions will have to be considered: Were the people of central Myanmar susceptible to Indian culture generally, and if so, to what degree? Space will not permit the whole debate about the ‘Indianisation’ or ‘Hinduisation’ of Southeast Asia to be presented in any detail here, but the position of Myanmar in this process will have to be briefly assessed. It seems important to note that Myanmar, despite her geographical proximity to India, with some difficult overland routes (across the Bengal–Assam–Manipur borders) and a much easier accessible sea route linking the two regions, was probably less influenced by Indian culture than any other region of Southeast Asia. This is not to deny that the people inhabiting Myanmar during the first millennium CE had come into contact with Buddhism relatively early (though probably not through Ashoka’s legates Sona and Uttara, who allegedly went to Suvannabhumi),<sup>42</sup> but surely before the third to fourth centuries CE.

<sup>37</sup> Satya Shrava, *The Dated Kushana Inscriptions* (Delhi, 1993).

<sup>38</sup> The commonly accepted starting point of the era, 78 CE (probably the year of Kanishka’s accession), has recently come under scrutiny, with 127 CE emerging as a more likely alternative. This question can, however, be ignored here, as the implications for the Pyu urns are the same.

<sup>39</sup> See Salomon, *Indian Epigraphy*, pp. 182–183; Sircar, *Indian Epigraphy*, pp. 280–281; Eade, *Calendrical Systems*, pp. 15–17.

<sup>40</sup> K.-H. Golzio, *Chronologie der Inschriften Kambodschas* (Wiesbaden, 2006), p. 13. Earlier but undated Sanskrit inscriptions may date from around 400 CE; see J. Bronkhorst, ‘The spread of Sanskrit in Southeast Asia’, in *Early Interactions between South and Southeast Asia: Reflections on Cross-Cultural Exchange*, (eds.) P.-Y. Manguin, A. Mani, and G. Wade (Singapore, 2012), pp. 267–268; and Griffiths, ‘Early Indic inscriptions’, pp. 53–62.

<sup>41</sup> Salomon, *Indian Epigraphy*, pp. 183, 187; Sircar, *Indian Epigraphy*, pp. 282, 286. Of the two, only the Ganga era (498 CE) would deserve closer investigation, as its area of origin and use—Eastern India—was also close to Myanmar. However, the Ganga era was rarely used even in India, as attested by a small number of examples, the distribution of which seems to have been confined to the realm of the Ganga Dynasty in modern-day Odisha (East India).

<sup>42</sup> Sao Saimong Mangrai, ‘Did Sona and Uttara ever come to lower Burma?’, *Journal of the Burma Research Society* 59 (1976), pp. 155–164. Also see Prapod Assavavirulhakarn, *The Ascendancy of Theravada Buddhism in Southeast Asia* (Chiang Mai, 2010), pp. 58–63. For a recent reassessment, see N. Revire, ‘Facts and fiction: the myth of Suvannabhumi through the Thai and Burmese looking glass’, *TRaNS: Trans-Regional and -National Studies of Southeast Asia* 6.2 (2018), pp. 167–205.

At that time, the first Buddhist monuments were built at Beikthano, imagery from Amaravati was transferred to Sri Ksetra, and monks there possessed seals written in a late Brahmi script.<sup>43</sup> A little later, probably in the first half of the fifth century, extracts from the Pali canon were copied onto gold foils in the shape of palm leaves.<sup>44</sup>

While Indian Buddhism, predominantly originating from the regions along India's east coast, is well attested in the Pyu settlements of central Myanmar from around the second to third centuries CE, Hindu sculpture, Brahmins, and Sanskrit are less common in Myanmar. There are a few sculptures of Vishnu and other Hindu deities,<sup>45</sup> but Sanskrit inscriptions are few and far between.<sup>46</sup> The largest number and best-known examples probably come from Arakan—not accidentally the area closest to India—where King Anantacandra left behind a long, four-sided inscription that displays many features of contemporary eighth-century Sanskrit epigraphy from India.<sup>47</sup> Sri Ksetra has yielded a Buddha image with an inscription in Sanskrit and Pyu<sup>48</sup> and a few votive tablets with Sanskrit texts as well as a mixed Tamil and Sanskrit inscription composed by a member of a South Indian trading guild residing at the city have come down from the Bagan period.<sup>49</sup> Lastly, there is a huge but heavily obliterated Sanskrit inscription that was recovered from the moat of Bagan in 1990. Still unpublished, it is now kept in a brick shed opposite Bagan's Tharaba gate.

This overview, brief as it is, may suffice to illustrate that Indian culture entered Myanmar mainly in the form of Buddhist culture, whereas Brahmanic cults and Sanskrit were rather marginal. The predominance of South and Southeast Indian culture, as manifested from the mid-first millennium CE in the form of scripts and sculpture, moreover suggests that the routes of transmission led across the Bay of Bengal rather than through the jungle tracks of north-east India and northern Myanmar, though this question certainly requires further exploration. Brahmins and their expertise—including literature and poetry, ritual, and astronomy incorporating the computation of time—appear to have been in small demand.

## Conclusion

No simple conclusion that could solve all points in the question raised above seems possible, and any attempt towards a solution will first have to disclose the assumptions on which it is built. First of all, the relationship between the four burial urns from the Payagyi—and the nature of the inscriptions on them and confirmation that they are indeed burial urns—and the urn from the Payahtaung will have to be defined. If the Payahtaung urn mentions a dynastic list in proper succession (and this may have to be

<sup>43</sup> U Aung Thaw, *Excavations at Beikthano*, pp. 52, 146; E. Moore, *Early Landscapes of Myanmar* (Bangkok, 2007), pp. 162, 164; P. Gutman and B. Hudson, 'A first-century stela from Sri Ksetra', *Bulletin de l'École Française d'Extrême-Orient* 99 (2012–2013), pp. 17–46.

<sup>44</sup> H. Falk, 'Die Goldblätter aus Sri Ksetra', *Wiener Zeitschrift für die Kunde Süd- und Ostasiens* 41 (1997), pp. 53–91.

<sup>45</sup> Luce, *Phases*, pp. 55–56, pls. 49–50; P. Gutman, 'Vishnu in Burma', in *The Art of Burma: New Researches*, (ed.) D. Stadtnier (Mumbai, 1999), pp. 29–36; also see Nihar Ranjan Ray, *Brahmanical Gods in Burma* (Calcutta, 1932); and Nihar Ranjan Ray, *Sanskrit Buddhism in Burma* (Amsterdam, 1936).

<sup>46</sup> As Bronkhorst has pointed out, the writing of Sanskrit presupposes the presence of Brahmins, so a lack of Sanskrit inscriptions would also indicate few Brahmins in exalted positions; Bronkhorst, 'Spread of Sanskrit', pp. 263–271.

<sup>47</sup> E. H. Johnston, 'Some Sanskrit inscriptions of Arakan', *Bulletin of the School of Oriental and African Studies* 11.2 (1944), pp. 357–385.

<sup>48</sup> Luce, *Phases*, p. 51. The inscription is now no. 16 in the inventory compiled by A. Griffiths et al., 'Studies in Pyu epigraphy, I: State of the field, edition and analysis of the Kanwet Khaung Mound inscription, and inventory of the corpus', *BEFEO* 103 (2017), pp. 43–205.

<sup>49</sup> E. Hultsch, 'A Vaishnava inscription from Pagan', *Epigraphia Indica* 7 (1902–1903), pp. 197–198.

read in either descending or ascending order), the dates on the Payagyi urns would have to be adjusted accordingly. Secondly, the dates of the Payagyi urns will have to be identified. It has been suggested here that, if the two full sets of dates refer to the length of reign and the date on which the person named died, then it would seem logical to see them as being younger than those with less comprehensive dates. However, this is by no means the only possible interpretation.

However, the main concern of this article was a reconsideration of the calendars employed for these dates. As demonstrated, both historiographic tradition and the earliest available evidence agree that the computation of time in Myanmar has always been achieved by way of continuous eras commencing from a set starting point. It is consequential, then, to assume that the dates on the Payagyi urns are also stated in such a manner rather than in regnal years—even though this latter possibility cannot be fully ruled out. It has also been shown here that four calendrical systems have been in use in Myanmar over the millennia, viz. the Ajjana, Buddhist, Saka, and Myanmar eras. The Gupta era, and in fact any calendar of Indian origin apart from the Saka era, seems not to have ever been in use in Myanmar, and moreover evidence for the use of the Gupta era in India practically rules out the possibility that it has been used for the Payagyi urns. The reason is that it would have had to have been used simultaneously with—or, rather, before—its first documented use by Candragupta in mid-fourth-century India. By and large, this finding holds for the Saka era as well, for which a handful of first- to second-century dates are known to exist but which also came into wider use only from the late fourth century CE. In addition, if the early dates on the Payagyi urns are to be taken as being from the Saka era, their transfer to and use within Myanmar at this early stage would require supporting evidence such as religious or economic contacts between central Myanmar and north-west India.

As the Buddhist era, which had approximately reached the year 900 by the time it was established in fourth-century Sri Lanka, can also be excluded, the spotlight is once again thrown on the Myanmar era of 638 CE as the most likely calendar used by the Pyu people (also ruling out the existence of a now lost Pyu era preceding this calendar). As demonstrated, rulers in Myanmar could have established a new calendrical system by determining a—probably auspicious—starting point and this ‘Pyu era’ (as it may be termed for the moment) could have been (mis-)understood as the Saka era by the time the earliest chronicles were written. However, as the Myanmar calendar also commences in what is usually seen as the Pyu period in Myanmar history, it seems difficult to see why another era would have been established by the same people probably a few centuries earlier, only to be replaced soon after by the ultimately lasting Myanmar era. And it is also difficult to understand why this era was later practically forgotten—so much so that later chroniclers such as U Kala assumed that it must have been the Saka era. In light of all that, it still seems the best bet to assume that the Pyu people of Sri Ksetra were using (and probably created) the Myanmar era to record when some of their rulers had died.

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