


Art and Sculpture of Bagan Period: Women in Bagan Sculpture



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[*Abstract*]

This paper will reveal the legacy of women in the Bagan Period (10th to 11th century A.D.) traced through the early evidences of female figures that could only found in the stones of KyaukkuUmin and in the terracotta of Shwesandaw and Phetleik temples. There have been some writings on the women of the Bagan Period from different perspectives. The role of women from the Bagan Period mentioned in different records and as empowerment of Myanmar Women in the past will be analyzed. Through these female images and other unearthed artifacts found in Bagan, portrayals of womanhood in Myanmar early sculpture will be studied. The role of women in the Bagan will be observed by looking closely at what remains of the sculptures, as well as the craftsmanship applied to the works, which are usually in terracotta, wood, or stone.

Keywords: Bagan sculpture, Buddhism, female empowerment

I . Introduction

A study on art is presumably based on the aspects of aesthetics and art history as well as religious studies. Sometimes art works are mythical and metaphysical rather than representational. Sometimes they are found to be generic, social or individual. In most of the Asian countries, art is related to folk wisdom, myth and literature. It is the metaphysical reality that in its imaginative form or image which becomes accessible to man for his contemplation, worship, and artistic treatment.

Another common characteristic of Asian art is animism. The sun and moon, bodies of water, entire forests and mountains, and all living things are usually considered gods out of collective fear and awe. Trees and plants have become objects of worship since the time immemorial. Great ideologies, concepts, and beliefs made Hinduism, Buddhism, Christianity and Islam to be as religions. Indian culture can be seen in Pyu, Rakhine, Mon, Bagan, and latter periods. Sriksetra reveals that Indian cultural influence may be seen in the appearance of Vishnu the Hindu high god of Brahmanism, which made Vaisnavism flourish. A comparative study of art works coming from the Buddhist tradition of India, China and Myanmar explores the emergence of life in the region. They art works may be interpretational, historical, or chronological, in relation to Buddha's birth story.

Chinese Buddhist art gradually developed a superb blending of spiritual impersonality and transcendence with human charm and elegance. Artists created frescoes for the dynasty, in their treatment of ethereal Avalokitesvaras and Amitabhas of the Chinese paradisiacal dreamland, and in their rendition of realism and transcendence.

Indian Buddhist art accordingly reveals the transcendent reality in the manifoldness of the phenomenal world in life, in all its levels, depth and breadth. It embodies a sense of the intertwining exuberance and voluptuousness of life, abstract and concentrated. It is at once sensuous and symbolic, luxuriant, and poised. The love of the dignity and opulence of man, the

thought and power of god, the delight and suppleness of woman, are all shaped in Indian sculpture and decoration by a serenity and harmony inspired by supernatural myth and metaphysics. Indian Art stresses the interconnectivity of all the arts: architecture, painting, and sculpture.

Moreover, Buddhist and Hindu philosophies form a background to Indian artistic thought. It is also significant to note that the various invaders of India also contributed to the unique culture of India. Hindu Art is known as religious and focuses on naturalism and expresses unity in all life forms whereas Buddhist Art focuses on spirituality, calm, by way of transcendent images of Buddha, and Bodhisattvas that reveal renunciations of worldly pleasures.

II. Bagan and Its Art Works: An Aesthetic View on the Artistic Objects

Bagan and its sculptures have been selected for this paper because of the concentration of art works in the locality. Bagan, situated in the Mandalay Region of Myanmar, is situated in the Chin Twin River and 20 miles along the east bank of the Ayeyarwaddy River. According to the Glass Palace Chronicle and the Great Chronicle, the ancestors of Bagan came from the 19 villages of Yon-Hlut-Kyun (Island of the Hare's release) founded by King Thamudarji, who knew the capital Thiripyitsaya, founded by King Thelegyaung (334-387), the 7th King of Bagan Dynasty. The later was transferred to Tampawaddy (Pwasato), built by Thaiktaing (516-523), 12th King (Glass Palace Chronicle 1999:118-219). As described by the Books of Glass Palace and MaharYarZa Win, King Pyinbya founded present-day Bagan City Wall, and was the 34th King of the Bagan Dynasty in 874, when it transferred to the capital city from Tampawaddy (Pwasaw). By epigraphic evidence, the reign of Anawrahta (1044-1077) founded the Bagan Dynasty which collapsed in the reign of Sawmunnit (1325-1369) (Than Tun 2002: 135-154).

Bagan is covering a tract of land measuring about 16 square miles, its land covered by the monuments, stupa, temples,

and monasteries. The number has been pegged by the Archaeology Department at 2,834 (Pichard 1994). 378 monuments are protected, conserved, and are being monitored by the same department.

The early Bagan period monuments were built mostly in the 11th centuries A.D. (MyoNyunt 1999: 19). Even when the Bagan Dynasty fell, the city still flourished and the building of structures continued. It is interesting to note that only religious monuments are found in the area and not a trace of ancient public buildings. It is assumed that the King's palace, or that of royal families, ministers, court people, lawyers, and local people, were built using wood and bamboo. The materials being perishable might explain why the structures vanished.

The exterior of monuments were decorated with stucco carving, glazed plaques, and stone carving, while the interiors with mural painting. The mural paintings not only aimed to decorate but also to enlighten the people about Buddha's principles, life (547 *Jataka*), and the eight epics of Buddha life. Moreover, the figures of Divas, *Grudha*, animals, and various lotus arabesques were also painted (MyoNyunt 2011: 117).

The art of wooden sculpture also developed in the Bagan Dynasty. There would be various wooden sculptures in Bagan but they would not withstand time. Rarely could we find remaining wooden pieces inside bricks of the temples. Evidence of wooden sculptures may be found on the door of the North Side of Shwezigone Stupa. There are 15 wooden sculptures, and one of them is damaged. 7 figures of men and 7 figures of women sculptures are depicted dancing and playing musical instruments.

Stucco curving is very rare in Early Bagan period due to wear and tear, vandalism, and earthquake. Stone and metal craft are also part of the sculpting. There are free-standing and relief sculptures in Bagan Dynasty. Free-standing sculptures like a bronze alloyed standing Buddha is on display at the Bagan Museum. They are of average heights. Also very rare in Bagan sculpture are the two types of high reliefs and low or bas reliefs. Relief sculptures are set against a flat background, for example,

glazed plaques about Jatakas, or stone carving on pillar oval moldings and terraces. Both types of sculptures have stucco and stone carvings (Luce 1970a: 130-224). Both Theravada and Mahayana sculptures are carved on Bagan religious buildings.

III. Female Sculpture Shaped by Mahayana and Tantric Beliefs

Buddhism in Bagan evolved from Sriksetra (Pyu Era), where Theravada Buddhism co-existed with Hinduism (Than Tun 2012: 88-92). Moreover, in early the Bagan era, Tantric¹⁾ Buddhism from northern India was introduced in Bagan. The ways of A-Yee-Kye Monks in Tha-Ma-Htee were derived from Tantric Buddhism (Duroiselle 1999: 82; Pho Latt 2008: 14-19). However, by the time Anawrahta (1044-1077) obtained the Three Pitakas from the Mon king Manuhal, Theravada Buddhism was adopted at Bagan. When Theravada Buddhism gained primacy, other beliefs such as Tantric and Mahayana Buddhism gradually faded from Bagan culture (Le May 1954: 51-52). When Mahayana beliefs flourished in Bagan, the worshipping of the female Diva was introduced. As Mahayana interfaced with Hinduism, the worship of Sarasvati (the consort of Brahma) began. Statues of Sarasvati were carved with palm-leaf and lotus placed on his left hand, his right hand in the Varada Mudra position, signifying offering, giving, compassion, and sincerity (KumudMohan 2014: 9-12). Although the statue of the Sarasvati cannot be found in Bagan Era, it was seen in a Mural painting in Abeyadana Temple and in Kyansittha cave Temple (Than Tun 2002: 2-7).

Moreover, the stone inscription of King Kyansittha regarding the founding a royal capital stated that a golden statue of Siri Diva²⁾

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- 1) Tantric belief is considered an inferior sect, derived from two sub-beliefs of Mahayana. The tantric sect is believed to practice witchcraft, spells, and charms. It is not certain where Tantric belief originated but it was widespread around 10 A.D. The combination of the spiritual energy of man and woman is called Tanta. The belief came down from ancient Indian savages who based their faith on the sexual intercourse of the male and the female.
 - 2) SiriDivā was called as KyāikSri in ancient Mon language. In Hindi she was called Laksmi (Luce 1970: 203)

(Consort of Vishnu) was carved and kept in the palace (Chit Thein 1965: 40).

Also, Siri Diva was sculpted on top of a perforated stone window of the Bagan Nan Paya (Luce 1970b: plates 122c, 123b) <Figure 1>. Other statues of SiriDiva were located on both sides of the entrance of the KyaukkuUmin cave temple, together with guardians also sculpted in stone. The statues stood on the lotus, their left hands holding a *Kalasa* pot. The figures are well-proportioned and svelte. The statues stand about 38 centimeters. Only the head of the statue and the *Kalasa* pot can be found on the left side of the entrance because the stone is detached <Figure 2>. This kind of sculpture may also be seen at Hindu temples in West Bangal, India. Professionals assess that the sculpture follows the Pala style of East India (Luce 1970b: plate 315) <Figure 3>. *Siri* means full of graceful power (TheinHlaing 2000: 177), and as it is full of auspiciousness, these figures were placed at the palace, the entrance of caves, or tunnels of pagoda.

<Figure 1> Sri Diva



Location: on the top of the perforated stone window at Nanpaya Temple

<Figure 2> Sri Diva



Location: Diva at the side entrance of Kyaukku Umin Cave Temple (West Jamb of Kyaukku Umin Cave Temple)

<Figure 3> Guardian sculptures



Location: At the Hindu Temple at West Bangal (Old Burma, Plate 315)

In Bagan, there was the worship of one of the Divas of Tantric faith, Parvati (the consort of the Shiva). Mahayana Buddhism regards Parvati as an important Diva. Parvati's statue

is carved as standing or sitting on a lotus, the lotus flower shooting up through the stalk in the figure's left or right arm. The standing statue of Parvati found in Bagna was cast in bronze. The height of the statue is 2 feet and 6 inches. Although the left hand and arm were damaged, the right hand is intact. The body is a tri-figurine called a *tribinga*. It wears earrings, an arm band, and a waist strap. Specialists estimate that the statue was sculpted in between the 11th and 12th centuries. That statue used to be at the Bagan Museum but is now lost (Ray 1936: 45-46) (Luce 1970b: 196, plate 447b) <Figure 4>. The bronze statue of seated Parvati can be found in the Magawe District, in the Myothit Township, Mahnawgone village <Figure 5>. The statue is 3 inches in height. It posed in Varada Mudra, sitting on a lotus with the right hand stretched out downwards. The left hand is on the chest, with the tip of the thumb touching the tip of the ring finger. The rest of the fingers are up, in a pose as if giving a sermon (Dhamma). The flower of lotus shoots up through the stalk of the lotus from the left or right arm (Luce 1970 Vol. 3: Plate 447c). The statue of Parvati found in Magwe looks like the figure in the mural painting at the Apeyadana Temple (Mya 1968: 75, figure 27).

<Figure 4> Saravasti Bronze Statue Sculpture



Location: Bagan

<Figure 5> Saravasti Bronze Statue Sculpture



Location: Magway (Old Burma, Plate 477c)

Indian influence has definitely traversed all of Asia. It spread from as far as Bactriana, Cambodia, Japan, Java, and has also spread by way of land routes to Afghanistan, Assam, Manipur, Upper Myanmar, passing through the Himalayas to China and Tibet, where Indian cultural influences flourished (Mukerjee 1959: 27).

IV. Female Sculpture and Theravada Buddhism

For Indian sculpture, the dualism of the masculine and feminine aspects of all phenomena in the cosmos and the human mind is stressed. It underlies the mythopoeic and pictorial outlook of life in India. Indian art and literature always highlight the permanence and movement in nature and the severity and tenderness in human character as rhythms or accents of existence. This explains the strange combination of opposites, of classical balance and harmony with pliancy and abandon, in Indian sculpture as in poetry and drama. Indian sculpture has produced idealized,

ethereal, yet thrilling figures that miraculously blend masculine dignity and vigor with feminine passion and tenderness, subordinating human attributes, including sex, to an abstract and supernatural type. Illustrating these virtues are Siva, Vishnu, the Buddha, Bodhisattva and Devi in India, Java, Thailand and Cambodia.

The Buddhism that entered Bagan from the Indian Peninsula through Sriksetra was deemed to be Mahayana Buddhism because of Bagan paintings and sculptures, portraying Buddha images accompanied by the Bodhisattva. Many terracotta tablets with Nagari and Sanskrit inscriptions were also found. However, by the time Anawrahta (1044-1077) obtained the Tipitaka of the Pali Canon from the Mon king Manuhal, Theravada Buddhism was already in practice at Bagan. Mon culture, from that point, was largely assimilated into Myanmar culture based in Bagan. When Theravada Buddhism gained extensive following, Tantric and Mahayana Buddhism gradually faded from Bagan (Le May 1954: 51-52). In relation to this, the Buddhism found in Thaton and Sriketra was said to have come from the east of the Indian Peninsula, where Mahayana Buddhism flourished in places like Kalinga, Telinga, Anadhra and Amaravati. Later, when Buddhism vanished in East India, Theravada Buddhism moved to Sri Lanka. Eventually, Southern Theravada Buddhism dominated the region. These show that the Buddhist history of Pyu, Mon, and Myanmar was shaped by Mahayana beliefs (TeikSoe 1976: 75-87; Pho Latt 2008: 36).

During the Bagan Era, female sculptures related to Buddhism include scenes from Buddha's life like the Nativity, the dream scene foretelling the birth of Buddha, and the scene where the female figure asked the king Suddhodana for his son Rahula's inheritance were created. The statues of the Nativity scene may be found in the Ananda Temple, Myin Gabar Gubyaukge Temple, and Stone Cave tunnel. The earliest-dated statues are found at Ananda Temple (11th Century) <Figure 6>, Myin Gabar Gubyaukge Temple (12th Century) <Figure 7>, and Stone Cave Temple (13th Century) <Figure 8>. The Mother Maya statue at the Stone Cave Temple is incomplete.

<Figure 6> The Nativity Scene



Location: Ananda Temple (Sand stone relief sculpture gilt by the later donor and pagoda trustees)

<Figure 7> Sand stone relief of the Nativity Scene



Note: Myin Kabadubyauk Nge Temple.

<Figure 8> The Scene of Nativity



Location: Kyaukku Umin Cave Temple (Old Burma, Plate 141a)

In the Nativity sculpture, Mother Maya and Stepmother Gotami were favorably sized. Gotami came with a female attendant. The weak Mother Maya held the branch of Sal tree with her right hand, her left arm leaning on the shoulder of sister Gotami, helping her and giving her strength. As the Buddha was born from the right side of the abdomen, he emerged sitting cross-legged on the right waist of her mother Maya.³⁾ The face of mother Maya was staid and the sister Gotami was smiling. The images of Mother Maya and Stepmother Gotami wore craggy head bands and big earrings. Their hair were combed back and engraved with floral designs. They were also wearing bracelets, necklace, and belts. The beautifully pleated belt hang at the fringes. The sculptures had curvy breasts, thighs, and knees emphasizing beauty (Luce 1970a: 157).

The hair knots and ornaments such as head bands, earrings, necklace, arm bands, wristlets, belts, and anklets, reflect the female ways of the Bagan Era.

3) Prince Siddhartha was said to have been born from the right side of the waist, according to the Mahayana tradition. The Hindu on the other hand say that he was born from the mouth, chest, and legs. (Ashin Oakkahta 2014: 46).

The depiction of the Nativity scenes from the Bagan Era and from India, Andhra, and Amaravati [(3rd Century A.D.) now in British Museum, London] are different. In Amaravati, the birth of Buddha depicted the mother Maya holding the branch of the Sal tree as the Buddha was being born from the right side; and the four guardians caught him with the golden net and Stepmother Gotami paid respects by putting her hands together and raising them to her forehead as she sat beside Maya (Kramrisch 1955: 219, figure 8) <Figure 9>. In the Bagan Era, the Nativity scene was molded in bronze, found in a relic room of the Shwesantaw Stupa. The sculpture was 4.25 inches high and 2.25 inches thick. The sculpture depicts mother Maya on a lotus flower, together with her sister Gotami Buddha was on her side. The right hand of Maya used to hold a Religiosa flower, but it was destroyed and lost. The crested headdresses, ornamental ear plugs, and necklaces are still visible (Luce 1970b: 159, plate 433d) <Figure 10>.

<Figure 9> The Scene of Nativity by Amaravati



Location: Now in British Museum, London

<Figure 10> Bronze Standing Buddha crowned in Nativity Groups



Location: AnawWatat Lake (Old Burma, Plate 433c)

The dreams of mother Maya and the scene of where she addresses King Suddhodana were to be seen in Arnanda Pagoda. The dreams include Divas carrying her Anaw Watat Lake <Figure 11>; she sleeping on a divine bed with four Diva Queens in the golden palace of Anaw Watat Lake <Figure 12>; she being carried by four Diva Queens and bathed in a suitable place at Anaw Watat Lake to cleanse her human essence <Figure 13>; and the four guardian Divas of the world guarding the royal chamber of Maya during the pregnancy to Lord Buddha <Figure 14>. In the scene where mother Maya addresses the King Suddhodana about her dreams <Figure 15> and in the scene where she tells the king that she wanted to go to Davadaha to give birth <Figure 16>, Maya's figure was depicted with a crested headdress, big ornamental ear plugs, bracelets, arm ornaments, necklaces, and waist ornaments, as in the scene of her giving birth to the Buddha. The waist ornaments were beautifully sculpted with many fringes. The Divas were also sculpted beautifully.

<Figure 11> The dreams of mother Maya are; Divas carrying mother Maya to Anaw Watat Lake



Location: AnawWatat Lake (Old Burma, Plate 278 c)

<Figure 12> Mother Maya sleeping on divine bed of four Diva Queens in the golden palace



Location: AnawWatat Lake (Old Burma, Plate 306a)

<Figure 13> Mother Maya



Note: Mother Maya was carried by four Diva Queens and was bathed in a suitable place of Anaw Watat Lake to cleanse the human essence (Old Burma, Plate 278d)

<Figure 14> Maya



Note: The four guardians Divas of the world guarding the royal chamber of mother Maya during her pregnancy for Lord Buddha (Old Burma, Plate 280a)

A dream scene involving mother Maya may also be seen in Nagayon Temple. The sculpture was made of sand stone, and displays four Divas Queens posted at the feet of the sleeping mother Maya <Figure 17>.

<Figure 17> The scene of Mother Maya dreaming (11th Century)



Location: Bagan Museum

The head of the mother Maya, now displayed in Bagan Museum, and was earlier found in Temple no. 820 and dated 11th AD is incomplete. The hair knot and crested headdress broke off from the head. The hair knot pointed backward (Chignon) and the crested headdress had many pointed ends. The face of mother Maya was round and the lips seemed to smile <Figure 18>.

<Figure 18> Head of Mother Maya



Note: Head of Mother Maya Stucco carving found in Pagoda No. 820 from Bagan (11th Century)

The sculpture of Rahula asking his inheritance, a Bagan Era artifact made with sand stone, was found in Nagayon Temple <Figure 19>. It is now displayed in Bagan Museum. The sculpture was ruined. Rahula and Yasawdayar stood at the sides of Lord Buddha. The heads of the Buddha and Yasawdayar were broken.

<Figure 19> The scene of Rahula asking for inheritance



Location: Bagan Museum

V. Conclusion: Women in Bagan Sculptures

Buddhist belief in the Bagan Era basically shaped a society that did not discriminate women. In religious practices, women had the same opportunities as men, except for becoming Buddha. An exceptional case however was noted in a stone inscription by Saw Mi Phwar, the aunt of King Nara Siha Pate. Written in A.D. 1265 and found in Ku Tha temple at Phwar Saw village in Bagan, it contained how she had prayed to become Buddha (Ku Tha Pagoda Temple Inscription, line 10, obverse).

Women could become monks like men. There are women monks who would be prefixed as “Thakhin” and the sacred

monks who would be prefixed as “Hte”. Those female monks could go to religious ceremonies together with male monks and perform religious functions (Khin Khin Sein 1986: 232-233). Buddhism basically placed women as equal to men.

As Mahayana doctrine informed Buddhism in the Bagan Era, women in Bagan Era included Mahayana images in their donated pagodas and temples, especially in the mural paintings. The famous temples and pagodas were Abeyadana, Thambula, Ku Tha, and Su Taung Pyae. The Mahayana doctrines were not so common in that Buddhist monument; Thanbula temple contained the Mahana Bodhisattva and Shkti. Only Sarasvati and Parvati were included as Hindu Divas (Mya 1986: 86-107).

The sculptures from Bagan are similar to those of India. The face and body structures however are distinctly in Myanmar style. Although Mahayana doctrine has been in much practice, Mahayana women sculptures and mural paintings were rarely seen. Few Mahayana women sculptures have no prominent gender. Mahayana doctrine may be seen as not completely overwhelming Theravada Buddhism.

In Indian classical art, feminine beauty has been described in this manner: “full breasts that resemble blooming lotuses and inverted golden pots... rounded and symmetrical thighs that resemble plantain-stalks,” and “slender waists that resemble the middle of an altar”. The swell of the full bosom in contrast with the thinness of the waist also makes the female figure appear “as if (it is) breathing” (Mukerjee 1959: 240-241).

Nevertheless, the image of women in Bagan era can be seen in the sculpture of Mother Maya and the scene of Nativity which do not really focus much on the serene charm and purity of the female nude. The shape of the body is willowy and the ornaments and head crest showed the style of the royalty of the Bagan period. In another way, the sculpture of Mother Maya is the symbol of female perfection in the Bagan era. Although very few female sculptures were found in Bagan, the ones that were found showed the concept of beauty, like the female relief sculpture of Umadati Jataka no. 530 in West Phet Leik temple,

which was beautifully composed. The figures also resembled styles coming from India and Ceylon—their peculiar coiffure, clothing, and ornaments reveal these influences. What is missing however is the articulation of the role of women in the Bagan Period. These works which were part of the emergence of Buddhism in Bagan provides a clue for this ongoing research.

References

- Ashin Oakkahta. 2014. *Mahayana Buddhism (Sin Pyai Tharthana)*. Yangon: Thein Htun Press.
- Chit Thein, U. 1965. *Collection of Ancient Mon Stone Inscriptions*. Yangon: Archaeology Department.
- Duroiselle, Charles. 1999. *The Art of Burma and Tantric Buddhism, ASI, 1915-16, Glass Palace Chronicle (Hmannan), Part I*, Yangon: Ministry of Information.
- Khin Khin Sein, Daw. 1986. *Bagan Culture, Administration and Society*. Yangon: Sarpaybeikman Press.
- Kramrisch, Stella. 1955. *The Art of India*. London: The Phaidon Press.
- Le May, Reginald. 1954. *The Culture Of South- East Asia*, London: George Allen & Unwin Ltd.
- Luce, G. H. 1970a. *Old Burma Early Pagan, Vol. I*. New York: J.J. Augusting Publisher, Locust Valley.
- _____. 1970b. *Old Burma Early Pagan, Vol. III*. New York: J.J. Augusting Publisher, Locust Valley.
- Minbu.AungKyaing. 1997. *Bagan Architectures*. Yangon: AungChantha Press.
- Mohan, Kumud. 2014. The unfathomable Indian woman. *India Perspectives*, 10 September-October.
- Mukerjee, Radhakamal. 1959. *The Culture and Art of India*. London: George Allen & Unwin Ltd.
- Mya, U. 1986. *Apeyadana Temple*. Yangon: Archaeology Department.
- MyoNyunt, U. 1999. *Art and Architectures of Bagan Temples*. Yangon: Yaung Sin Press.
- _____. 2011. *Mural Paintings in Bagan from Three Pitakas*. Yangon: Department of Archaeological Research and

National Library.

Pho Latt, U. 2008. *Ancient Culture and Cultural Places, A Week Lecture in Bagan*. Yangon: Myawaddy Press.

Pichard, Pierre. 1994. *Inventory of Monuments at Pagan, Vol. 1-8*, Italy: GraficheMalani.

Ray, Nihar-Ranjan. 1936. *Sanskrit Buddhism in Burma*. H.J. Paris, Amsterdam.

TeikSoe, 1976. *Introduction to Buddhist Art*, Yangon: Chin Twin Press.

Than Tun. 2002. *Ancient Myanmar Chronicle*. Yangon: Innwa Press.

_____. 2012. *Myanmar Traditional Culture, Khitsansar 2003-2004*. Yangon: Seikkuchocho Press.

TheinHlaing, U. 2000. *Ancient Myanmar History Dictionary*. Yangon: University Printing.

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