The Jinakalamalipakaranam indicates that the kingdom of Haripunjaya was founded in A.D. 661-662 and fell in A.D. 1292 (Jayawickrama 1965, pp. 102 and 112). Both it and other chronicles of Northern Thailand give information suggesting that the area was inhabited prior to the establishment of the kingdom and that after its political demise it continued to be a center of religious activity. Indeed, the Tibetan, Taranatha, wrote in the 16th century that his spiritual teacher, Budhagupta, had traveled to "Haripunja," probably a corruption of Haripunjaya, where he found a great community of monks (Ray 1936, pp. 84-5).

This paper seeks to determine the type of ceramics produced in the Haripunjaya area, and their chronology and stylistic influences. Special attention is devoted to the so-called "Late Haripunjaya Wares" to determine whether or not they are related to the wares produced during the period of the kingdom and to ascertain whether the development of ceramics in the area parallels the history as written in the chronicles and by Taranatha.

The term "ceramic wares" refers to earthenware utensils except for one figurine, the discovery of which has been presented herein to show possible chronological continuity and also association between Haripunjaya and the Mons in Central Thailand.

The Clay Fabric of Haripunjaya Ceramics, Their Manufacture Prior to the Fall of the Haripunjaya Kingdom and Reported Kiln Sites

The clay used in Haripunjaya ceramics prior to the fall of the Kingdom in 1292 A.D. was of four main types. One was buff with tiny white and black inclusions and shiny mica flakes. This type of clay when fired retains its buff color unless under high heat when it becomes a light orange or pumpkin color. The second type was salmon with red inclusions. Unlike type one it appears not to have been used by itself but was always slipped, either with a coating of the buff clay or with a bright orange clay. It too contains many flakes of mica. The third type is gray with small black and white inclusions. The fourth type was a very fine bright orange clay, always used as a slip.

Most of the wares are very heavy and were made by coiling the clay to fashion the basic vessel and then beating the coils into the desired shape with a paddle on the exterior and an anvil held on the inside. Some of the wares, however, also bear marks of having been turned on some type of a wheel; the 12th/13th century bowl in Plate 10, for instance, has concentric circles on the base indicating that it is wheel made. Wares were decorated with slipped designs in red and incised, rouletted and imprinted designs.

To date there is no definitive evidence that Haripunjaya potters practiced the art of glazing. However, John Shaw in his Northern Ceramics presents vessels with a gray fabric and bearing a streaky brown or green glaze which may have been made in the kingdom (Shaw 1989, pp. 124 and 237).

Thus far only two kiln sites have been reported discovered. One is situated at what is presently Ban Wiang Hai, Soi 6, Wiang Yong Subdistrict, city of Lamphun. The other is at Ban Si Yoi, Ton Tong Subdistrict, city of Lamphun. The kilns are on opposite banks of the Guang River (Chanadavij 1989, pp. 81-90). Among the sherds found there by the au-
Thor are not only those of Haripunjaya kingdom wares but also a sherd with gray fabric bearing a rouletted design and a blackened exterior like that of Haripunjaya ceramics of the 17th century (See Plates 19, 22, 25 and 35). This discovery may indicate that production in that specific area continued at least five centuries after the fall of the kingdom.

Prehistoric Wares

The earliest ceramic artifact reported in the area of the Haripunjaya kingdom is a small bowl (Figure 1) excavated at Ban Wang Hai within the precincts of Lamphun. Sherds of the bowl were found in Phase 5 of Test Pit 1, at the foot of a skeleton with which iron implements also had been buried.
A nearby skeleton also possessed iron implements. The burials appear to be those of the Late Prehistoric or the Late Metal Age. The bowl is red slipped, has rounded sides and a lip which turns slightly inward. The fabric is a coarse buff clay (Fine Arts Department 1987, p. 44 and Plate 132). Phase 4 of the excavation of Test Pit 1 revealed sherds of a coarse-textured buff pot (Figure 2) with cross-hatched decoration, incised horizontal and raised bands on the body, a short neck and wide mouth (Ibid p. 44 and Plate 134). Wares similar to Figures 1 and 2 have been excavated in the Doi Saket District, Chiangmai. The two Ban Wang Hai vessels have been dated B.C. 300-A.D. 100 (Krairiksh 1990, p. 121, Plate 3.49).

Indrawooth, Krabuanseng and Narkwake have reported finding sherds of red-slipped wares with a buff fabric, sometimes with cross hatching and horizontal incised lines, in the lowest phase of their excavation at Ban Krabuang Nok located in the Khorat Basin. As in Ban Wang Hai the appearance of iron implements was significant and artifacts found in that phase have been dated B.C. 300 - A.D. 200. It would seem that potters in the Korat area were familiar with manufacturing techniques to the northwest and vice versa (Indrawooth, Krabuanseng and Narkwake 1990, p. 17).

Phase 3 of Test Pit 1 at Ban Wang Hai revealed two jars with round bottoms and everted mouths. The jar in Figure 3 is cordmarked and has a high neck while Figure 4 has almost no neck and a widely everted mouth. Both are related in form to late period Ban Chiang wares dated initially by Joyce C. White circa B.C. 200 - A.D. 200 (White 1982, pp. 73-4). However, more recently in her Ph.D. dissertation, White redated some late Ban Chiang wares to 2075 ± 410 B.P.; thus the wares from Phase 3 of Test Pit 1 Ban Wang Hai may date as late as the 4th century A.D. (White 1989, p. 284).

Thus far no wares dated between the 4th century and 7th century A.D., the latter time set forth in the chronicles as that of the establishment of the kingdom of Haripunjaya, have been found. However, the fact that the ceramics dating circa 4th century B.C. to circa 4th century A.D. have been identified supports statements in the chronicles indicating that the area was inhabited prior to the kingdom's establishment.

Excavation in 1985 by the Fine Arts Department in the Haripunjaya capital at what is now Lamphun revealed a clay figurine (Figure 5) of a stocky boyish male, nude except for a belt and what appears to be a necklace (Fine Arts Department 1985, Plate 10). Figurines of this type have been found at several Dvaravati sites in central Thailand, i.e. Chansen, U Thong, Lopburi and Dong Khon, and have been dated 7th to 8th century (Bhumadhon, 1987, p. 15 and Fine Arts Department 1991, p. 100). The discovery of the male figurine at


Plate 6. Detail of the mouthrim of Plate 5.

Plate 8. Earthenware jar with pedestal base, Ht. 27 cm., 12th century. Courtesy of the Chiangmai University Ceramic Research Project.


Plate 11. Jar with sloping shoulder and radiating star design, Lamphun area, Ht. 28 cm., 13th century. Courtesy of the Chiangmai University Ceramic Research Project.

Plate 12. Design in the bottom of Plate 12.


Plate 17. Nam ton with a globular body and high thin neck, mid-16th century, "Tak Finds." Ht. 20.5 cm. Private collection, Bangkok.

Plate 18. Nam ton of septagonal section, rouletted, Ht. 12.2 cm. Shwemawdaw Pagoda, Pegu.


Plate 20. Kendi, red slipped and burnished, Ht. 5 cm, late 16th century. Collection of J. Mello de Gouveia.

Plate 21. A kendi smoked, slipped, rouletted, and burnished Ht. 16 cm, first half of the 17th century. Private collection, Bangkok.

Plate 22. Sieve in the mouth of the kendi in Plate 21.

Plate 23. Nam ton, orange and beige, with distinctive scroll design, Omkoi "finds," Ht. 20 cm, mid 17th century. Private collection, Bangkok.
Plate 24. Nam ton, smoked, with inset mica, Ht. 19.5 cm, mid 17th century. Collection of Mr. and Mrs. Sorayuth Phataminvaphas, Bangkok.

Plate 25. Nam ton, with lacquer addition on the neck, Ht. 18 cm, mid 17th century. Courtesy of the Chiangmai University Ceramic Research Center.


Plate 27. Nam ton with rows of impressed double circles, mid 17th century. Private collection, Bangkok.

Plate 28. Nam ton of three colors with stopper, Northwestern Thailand "finds," Ht. 16.5 cm, mid 17th century. Courtesy of the Chiangmai University Ceramic Research Center.

Plate 29. Nam ton with bulbous swelling high on the neck, Tak "finds," 25.4 cm, mid 17th century. Private collection, Bangkok.

Plate 30. Nam ton with orange body and incised decoration filled with a black slip. Ht. 22.5, mid 17th century. Private collection, Bangkok.

Plate 31. Detail of Plate 30.
CERAMIC WARES OF THE HARIPUNJAYA AREA

Lamphun is very important since it constitutes tangible evidence linking Haripunjaya with the Mons in Central Thailand; a 7th century date would also help corroborate the 7th century founding date set forth in the chronicles.

A small bowl with an inward-turned mouthrim (Figure 6) was discovered at Lamphun and reported to have been used as a crucible (Fine Arts Department 1985, Plate 14). Rolled mouthrims of this type appear on wares from the Yanggan kilns in Guangdong Province, China. Many sherds from the Yanggan group have been found at Laempho and Muang Thong in Southern Thailand and have been dated to the 9th century A.D. (Srisuchat, Bronson, Srisuchat and Ho, 1989, pp. 16 and 23).

An earthenware jar with a buff slip over a salmon base was discovered at Wat Kukut, the site of a well-known pyramidal stupa in Lamphun. It has a high-footed cup base separated from a long tapering neck by a horizontal flange (Plate 1). Encircling the base of the neck is a rouletted design. Significantly the pot has an incised circle around the neck near the center and a flange at the top of the neck, below the mouth. The mouth rim unfortunately is missing but judging from later vessels it must have been everted. The shape of the cup-like base is similar to that of a Northern Song celadon ewer in the Cleveland Museum of Art dated late 10th/early 11th century (Mino and Tsiang 1986, Plate 52). The appearance of the rouletted design would also point to a date of at least the 10th century if not the 11th since such rouletted designs only became popular in Central Thailand circa the 11th century (Fine Arts Department 1989, pp. 56-64).

A jar of the Haripunjaya period has a globular base and long neck with three circles around the neck near its middle and a flange at its top (Plate 2). Both this jar and that in Plate 1 are related to a footed jar with a long neck excavated at Pong Tuk, Kanchanaburi Province, in 1927 and dated to the 9th century (Guy 1987, p. 26), and to two high-necked jar urns (Figure 7) with globular bodies excavated at Beikthano, Central Myanmar, which may be dated stylistically to the late 10th/11th century (contra Aung Thaw 1968, Figure 51).

Somewhat later, probably in the late 11th century, a stylistic change occurred. The encircling incised ring near the center of the neck is no longer present and a new design appears on the shoulders, that of the points of a radiating star. The points are incised in long triangles composed of three or four lines and then covered with a red slip. This may be seen on an earthenware jar found at Wat Phra That Haripunjaya and now in the museum at that wat (Plate 3).

During the early 12th century the body of the wares became much flattened as is seen in a footed earthenware jar of salmon clay with red inclusions covered by an orange slip. It has a small mouth (Plate 4). A jar with a globular body of similar shape and small mouth is depicted in a bas relief in the early 12th century Ananda Vihara at Pagan (Luce 1969, III, Plate 279b).

Of the same period is a jar of exceptional quality (Plate 5) found at Ban Pak Gong, Sarapi District, Chiang Mai, just north of Lamphun. The body once again is broad and globu-
lar but the neck is very tall and thin in comparison with those on other jars of the type. Long incised star rays decorate the shoulders of the body, while short incised lines appear within encircling lines on the neck. The flange is ribbed as is the flaring mouthrim. Both the area joining the neck and body and the everted mouth bear impressed double circles. In addition a feathery triangular design appears on the everted and the everted mouth bear impressed double circles. In flattened globular body and tall thin neck has been discov­ered in China.

Site during the kingdom of Haripunjaya, is surely from the red inclusions. The design is again influenced by early 12th century of highest quality and appears to depict the Birth of the Bud­

Pagan. Over it is a bright orange slip. The relief is of highest quality and appears to depict the Birth of the Bud­

Dha. The design is again related in shape and design to

A fragment of a plaque found at Wiang Takan (Plate 7), an old town south of Lamphun and an important moated site during the kingdom of Haripunjaya, is surely from the same period as Plates 4 and 5. The clay body is salmon with red inclusions. Over it is a bright orange slip. The relief is of highest quality and appears to depict the Birth of the Bud­

dha. The design is again influenced by early 12th century Pagan. In the halls of the Ananda there are four stone reliefs of the Nativity (Luce 1969, III, Plate 301). In each of the reliefs, Maya, the mother of the Buddha-to-be, stands to the left as in the Haripunjaya plaque, supported by her sister, Pajapati. A female attendant stands to the right with her right arm and hand lifted. In the Haripunjaya plaque a water pot, perhaps a smaller version of Plate 5, falls at the left. The Pagan reliefs differ in that no waterpot is depicted. Thus in this detail the Haripunjaya potter has followed another tradition.

A jar with a pedestal foot and tall neck (Plate 8) is related in shape and design to Plate 6 and may be dated to the 12th century.

Two other Haripunjaya period wares have pedestal bases and show Chinese influence. One is a bowl of buff fabric having a somewhat globular body and a flaring mouthrim (Plate 9). The sides of the body are decorated with red-slipped striations. The basic shape is similar to that of a Cizhou Song Dynasty vessel (Tregear 1982, p. 74, Figure 7). The other ware is a stem dish of buff clay (Plate 10). A red slip decoration of what may be lotus petals adorns the flaring lip. The shape of the stem dish resembles that of a 12th/13th century Song Dynasty cup stand (Ibid p. 96, Plate 102).

In the 13th century Haripunjaya potters changed the shape of the jars so that while the bodies continued to be globular their shoulders sloped. The radiating star design coupled with that of impressed double circles was still very present. A crosshatched pattern has been added. These designs appear both on the sides of the jar in Plate 11 and on the bottom (Plate 12).

The derivation of the radiating star and impressed double circle designs is not certain. The radiating star pattern appears on Khmer and Myanmar ceramics of the period while the double circle is seen frequently in borders of Pagan murals and decorates a Jayavarman VII Khmer bronze in the shape of Erawan now in Mandalay.

In the 13th century the designs on some Haripunjaya wares became both more complicated and more colorful. A 13th century pot retains the radiating star design but it has been moved to the lower portion of the body. Raised knobs within rouletted concentric circles adorn the waist of the vessel, and the leaves above are painted in red (Plate 13).

The potters of the Haripunjaya kingdom made not only ceramic jars and pots but spindle whorls, clay pellets and takrut (Plate 14). The spindle whorls of clay indicate textile production in the area. The pellets probably were used for shooting birds and small animals. The presence of the takrut, a holder for a small tightly rolled piece of cloth marked with cabalistic designs, symbols and letters, suggests Khmer influence since takrut in cylinder and other forms dated 9th-13th century have been found at the Buriram kilns in Northeastern Thailand (Thammapreechakorn and Pinsri 1990, p. 29, Figure 27).

"Late Haripunjaya Wares"

Ceramic production did not stop in the Haripunjaya area with the demise of the kingdom in A.D. 1292. A large earthenware burial urn with a three-tiered stupa-like cover topped with a finial (Plate 15) may date to the late 13th/early 14th century since the appearance of the burial pot with its straight sides is reminiscent of Chinese celadon wares of that period.

A fragment of an earthenware jar (Plate 16) can be dated to the mid-15th century because it has crosshatching and lotus designs like those used on Chinese and Vietnamese ceramics of that time (Krahl 1986, II, p. 539, Plate 645 and p. 527, Plate 637). The clay is salmon in color and has red inclusions.

By the mid-16th century the potters of the Haripunjaya area appear to have embarked on an extensive program of making unglazed bottles, known in Thai as nam ton, and kendis as well. Many of the nam ton have been found in the Lam­phun area leading them to be called "Late Haripunjaya Wares." They have also been found in Chiang Mai, Phayao, Kalong and burial sites in the Tak and Omkoi-Mae Tam areas (Shaw 1986, pp. 8-9). And sherds have been reported found in the Pegu area of lower Myanmar as well (Hein, Barbetti and Grave, 1989, pp. 11-12, Plate 4).

The "Late Haripunjaya Wares" range from ones with heavy bodies to those almost paper thin made from exceptionally fine clay. They were turned on some type of a pot­ter's wheel and kiln fired. Many were smoked as well as fired. A close examination of the wares reveals that the clay employed in making many of the wares was the same as that in those of the old kingdom. The buff clay was used in the bodies of some of the bottles and as a slip, while the salmon clay with red intrusions and the gray clay were employed to form nam ton bodies. The orange clay which was used in the
Haripunjaya period to slip bodies of salmon color with red inclusions was employed not only as a slip but also in the bodies of the vessels. Other departures were the use of brown, black and white slips, the burnishing and smoking of wares, the inlaying of slips within fine incised lines, the employment of mica to form designs and create a lustre-like finish, and a distinctive method of rouletting in combination with the slipping, smoking and burnishing of the vessels.

An early example of a nam ton, reportedly from the Tak "finds," is one with a globular body, high foot and tall thin neck (Plate 17). The body is of very fine orange clay which has been very carefully covered with an orange slip of the same color and texture. The neck is decorated with bands of black slip. Tiny circles have been incised between the two bands that mark the center of the neck and both they and the encircling lines have been filled with the black slip. The nam ton's shape and the neck decoration are influenced by a Chinese blue and white bottle design of the mid-16th century (compare Krahl 1986, II, p. 661, Plate 1033).

Of the same period is a bottle of septagonal section placed on a high foot (Plate 18) (Ibid p. 659, Plates 1024-8). Unfortunately its neck has been broken. The gray fabric is covered with a salmon slip with red intrusions, and, most importantly, mica. The nam ton appears to have been slipped while in the leather stage, rouletted, and then slipped in red, remnants of which remain, prior to being fired. This technique of slipping and then rouletting was used in Pagan. Evidence may be found in a large jar of the late 15th/early 16th century in the Pagan Museum (Plate 19). The septagonal section bottle in Plate 18 was photographed at the Shwemawdaw Pagoda, Pegu. Its presence there indicates that the Haripunjaya nam ton had either been exported there in the mid-16th century or carried back to Pegu by a member of Bayinnaung's invading Burmese army in or after 1558.

A kendi of the late 16th century has a body of fine orange clay like that of the nam ton in Plate 19 and a large mammiform spout. It is completely covered by a red slip. Impressed on the shoulder and near the base are rows of pikun blossoms. The pikun tree (Mimusops elengi Roxb.) grows in abundance in Northern Thailand and huge trees in the Haripunjaya region attest to its long association with the area (Plate 20).

Yet another kendi has a round body, long straight spout and a tall neck with a flange at the top. The round body was smoked; then a beige slip was placed on it and rouletted. This slip in turn was covered with an orange-brown slip. The body was then burnished and the vessel fired (Plate 21). The kendi has a sieve in its mouth (Plate 22). Its presence indicates that the nam ton was made especially for the use of Buddhist monks since they may possess a sieve to prevent their accidentally killing insects. The kendi may be dated to the first half of the 17th century by comparing its shape with that of a ewer of the period from Iran (Soustiel 1985, p. 290, Plate 314).

About the middle part of the 17th century nam ton of new shapes were introduced. The shapes were based on current Chinese styles (Kilburn 1988, Plates 61, 67, 72 and 86). The decorations on the nam ton and the techniques used to produce the wares, however, were decidedly not from China and appear at least in part to have been local; for example, the use of the pikun blossom as a decorative motif and other incised decorations with slip infill. Some of the motifs appear in the art of neighboring regions and it is hoped that a thorough study of them may be undertaken in the future.

One of the new nam ton types was based on Chinese double gourd bottles with the lower bulb globular and the upper pear-shaped. Many of the upper bulbs of the nam ton have bulbous swellings in the form of broad ringbands at the bottom and only rarely was a bulb of true pear shape achieved as in Plate 26. A nam ton "found" in the Omkoi area is of the double gourd type. Its thin walls are of orange clay. They are covered with a smooth orange slip which has been incised and the lines filled with a beige slip. The design on the shoulder is a distinctive scroll of swirling hooks. Lozenges decorate the bulbous swelling (Plate 23).

Of the same type is an especially well-crafted nam ton with a band of lozenges incised on the bulbous area of the neck and inset with chips of mica. A corresponding band appears on the shoulder. The mica probably was inset when the vessel was in the leather stage; then the bottle was smoked and fired (Plate 24).

Another nam ton of this shape is of special interest because lacquer was added to the neck after it was fired. The lacquer on the nam ton constitutes what appears to be the earliest evidence of the application of lacquer to ceramic ware in Thailand (Plate 25).

A nam ton well executed in the Chinese double gourd shape of the period is one with an orange body covered with an orange slip decorated with horizontal encircling lines of white slip. The upper bulb of the vessel is in the shape of a slender pear (Plate 26).

Related is a nam ton with a high base decorated with rows of impressed double circles like those found on the wares of the Haripunjaya kingdom. The base has been covered with a beige slip in which have been placed many flakes of mica. The red-slipped neck unfortunately has been cut (Plate 27). Yet another nam ton of the same shape comes from the "finds" in the mountains of Northwestern Thailand. Its orange body is covered with three types of slips, orange, brown and beige. The beige has been incised with designs which have been carefully filled with a dark brown slip. The vessel still has its stopper (Plate 28).

Chinese bottles of the period also had globular bodies with long thin necks in which a broad ringband was set near the top. A heavily-built nam ton of that type has bands of impressed decorations, including pikun blossoms, on its beige-slipped body (Plate 29).
A much-produced type of nam ton influenced by Chinese ceramic fashions was that with a globular base, sometimes with a flattened shoulder, and having a plain neck which tapered in pyramidal fashion to the top. On some bottles the neck rises abruptly from the base; on others a raised encircling line produces a softer effect, while on still others there is no visible sign of a joining between the neck and the body.

A nam ton of this type has an orange body with an orange slip which has been incised with decorative patterns of encircling lines and prancing animals. These incised lines have in turn been filled with a black slip (Plate 30). A damaged area of the body of this piece allows one to examine the fine orange clay under the slip (Plate 31). From the same period is a nam ton with a flattened shoulder decorated with impressed slip-filled pikun blossoms. Two registers of an incised arabesque design of double hooks filled with a white slip decorate the sides of the vessel. Bits of red slip still cling to the neck (Plate 32). Another nam ton of the period has an impressed pikun blossom and leaf design on the body which has been covered with a beige-orange slip containing many fragments of glittering mica. The slip has been burnished as has the red slip on the shoulder and long tapering neck. The nam ton comes from the Tak "finds" (Plate 33). Examples of nam ton where the neck and body joint is delineated by a distinct line are the black-smoked nam ton in Plate 34 and the buff-and red-slipped nam ton with impressed floral decoration in Plate 35. A nam ton of the period which has no visible sign of a joint between the neck and body is that in Plate 36. Unfortunately the neck has been cut and thus the total effect of the graceful sweep of line is no longer present. The nam ton in Plates 34 and 36 were reportedly "found" in the Tak area in 1987.

A slender jar of the mid to late 17th century has what probably are pikun blossoms impressed on a buff slip with a high concentration of mica flakes. The broken neck has been slipped in red and the complete vessel burnished (compare the shape with Krahl 1986, III, p. 961, Plates 1972-3) (Plate 37). Shards of a vessel with a similar floral motif and a buff slip with mica were excavated during the construction of an underground railway at site HKT 60, Hakata, Fukuoka City, Kyushu, Japan (Plate 38). They were reported by Mrs. Asako Morimoto and others at a meeting about trade ceramics held in Japan in 1970. One of the sherds was studied by Mr. T. Koezuka, Nara National Research Institute of Cultural Properties. The glittering crystals in the surface layer were identified by the X-ray diffraction method as mica. The red color is due to hematite, $\text{Fe}_2\text{O}_3$, iron oxide red (information courtesy of Professor Kazuo Yamasaki, Professor Emeritus, Nagoya University). The presence of sherds in Japan of what must have been a nam ton may be explained by the commerce between Ayutthaya and Japan during the mid to late 17th century. A recent study indicates that many Siamese ships loaded with goods reached Japanese shores between the period of 1650 and 1700 (Ishii 19, p. 10-11).

From the Tak "finds" as well come two very fanciful vessels (Plates 39 and 40) related in decoration and production methods to nam ton but which are probably sprinklers. They stand on tiny pedestal feet and have elongated bodies and high thin necks. The elegant vessel in Plate 39 has an orange body which has been slipped in beige and then covered with a brown slip. The slips on the body were rouletted and then incised with a lotus design. Lastly, the complete vessel was burnished. The body of the sprinkler in Plate 40 is decorated with applied lotus petals. Both may be dated to the mid 17th century on the basis of comparison with Chinese bottles of the period (compare the basic shape with bottles in Kilburn 1988, Plates 18 and 120). Also from the Tak "finds" is a small kendi with a globular body and bulbous spout. Remnants of a brown slip cling to the buff body. Unfortunately the shape of the top has been changed by a restorer. The kendi may be dated to the second quarter of the 18th century on the basis of comparison with a Chinese blue and white kendi (Krahl III, p. 1304, Plate 3358) (Plate 41).

That the production in the same area continued into the 19th century is indicated by the presence of a nam ton of thin orange body covered with a highly burnished orange slip (Plate 42). The vessel was reportedly found in a burial in Northwestern Thailand. Its globular body, applied rouletted designs on the shoulder and neck, and tall neck divided into two sections by a concave area, date the vessel to the mid-19th century. Henry Yule includes a drawing of a similar water bottle in his description of the appurtenances found in the Amarapura area in 1855 (Yule 1968, p. 160).

Somewhat later is a heavily potted nam ton of salmon clay with red inclusions. It is covered by burnished light pumpkin and orange slips (Plate 35).

The potters of "late Haripunjaya wares" appear to have stopped their production in the late 19th century. Presently potters in the village called Ban Nam Ton west of the old Haripunjaya capital at Lamphun produce wares the designs of which harken back to the 19th century. The wares are smoked, rouletted and burnished using basically the same techniques, but the clay and aesthetic results are not the same. Discussion with the potters reveals that they have been at the village for only some fifty to sixty years. They are unfortunately unable to provide information regarding the history of Haripunjaya wares: where the wares were formerly produced, why the production there stopped and whether there was a long hiatus in production prior to their production of nam ton and other types of wares.

Plate 33. Nam ton with pikun design, burnished body with mica, dark red slipped shoulder and neck, the Tak "finds," mid 17th century. Private collection, Bangkok.

Plate 34. Black smoked nam ton, Tak "finds," Ht. 20 cm, mid 17th century, private collection, Bangkok.

Plate 35. Nam ton with burnished red and buff slips and impressed design. Ht. 19 cm, mid-late 17th century, private collection, Bangkok.

Plate 36. Nam ton with orange slip and incised design of prancing ?deer?, Tak "finds," 19 cm, mid 17th century, private collection, Bangkok.

Plate 37. Nam ton with impressed pikun blossoms, Tak "finds." Ht. 15 cm, mid to late 17th century, private collection, Bangkok.

Plate 38. Sherd of a nam ton found in Japan, mid to late 17th century, photograph courtesy of Mr. H. Obata.

Plate 40. Sprinker with applied lotus petals, Tak "finds." Ht. 34 cm, mid 17th century, collection of J. Mello de Gouveia.

Plate 41. Kendi with bulbous spout and re-interpreted top, Tak "finds," 5.7 cm, 2nd quarter of 18th century, private collection, Bangkok.

Plate 42. Nam ton with burnished orange slip and applied rouletted design, Northwestern Thailand, mid 19th century, collection of J. Mello de Gouveia.

Plate 43. Nam ton with burnished light pumpkin and orange slips, 24 cm, 2nd half of the 19th century, courtesy of the Chiangmai University Ceramic Research Center.
Conclusions

Ceramic wares appear to have been produced in the Haripunjaya area for over two millennia; evidence has been found for their production from the 3rd century B.C. to possibly the 4th century A.D. and from possibly the 7th century until the late 19th century. This evidence of their production corroborates information in the chronicles that the Haripunjaya area was inhabited prior to the formation of the kingdom of Haripunjaya, may possibly substantiate the 7th century date given for the establishment of the kingdom, indicates that a variety of wares were made during the period of the kingdom, shows that ceramic production did not stop with the demise of the kingdom and that the flowering nam ton production in the 16th century coincides with Buddhagupta's statements that there was a flourishing community of monks in "Haripunja," presumably signifying Haripunjaya, at that time.

The clays used in the early wares were employed also in those of the centuries immediately following the demise of the kingdom of Haripunjaya and in the so-called "late Haripunjaya wares," confirming the supposition that the latter were connected with the Haripunjaya area and the wares produced during the Haripunjaya kingdom. While the term "late Haripunjaya wares" is still appropriate, they must be considered as being of the Haripunjaya area and not as wares from the latter part of the kingdom of Haripunjaya.

One of the significant elements in much of the wares, whether in the body or slip, was mica. It appeared naturally in much of the clay, but was deliberately added to the surfaces of "late Haripunjaya wares" to produce a shiny metallic effect. Slips were important in the wares of all periods, but especially on "late Haripunjaya wares" when they were rouletted or incised and slip filled.

The styles of wares produced indicate that Haripunjaya potters were very much aware of trends in neighboring areas and drew ideas from Khmer and Pagan designs and Chinese ceramic styles. Haripunjaya wares were related to those of Central Thailand and Beikthano in Central Myanmar as well.

The 16th to 19th century dating for "late Haripunjaya wares" indicates that ceramic production continued in the area much longer than has previously been thought. It suggests that wares of similar designs made at the Si Satchanalai kilns were of the same period and thus the production there also continued past the 16th century.

The fact that the "late Haripunjaya wares" reportedly found in the Tak and Omkoi-Mae Tun areas can be dated from the 16th into the 18th century indicates that the burial practices in the mountains of Northwestern Thailand lasted much longer than has been considered to be the case.

Finds of "late Haripunjaya wares" and sherds in lower Myanmar and in Japan may indicate that they were exported. It seems more likely, however, that they were merely transported and left there by traders, workers and soldiers who valued them not so much for their aesthetic beauty but as a vehicle to keep water cool. These may in turn have been the people who deemed it necessary to be buried with a nam ton to quench their thirst in the next life.

The author wishes to thank the various Thai National Museums and private collectors for allowing her to study their wares, thus making this article possible.
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