Lime Pots – Southeast Asia 11th–13th century

By: THL Gemma Evangelista Borgia

BACKGROUND:

What are Lime pots?

Lime pots are small ceramic containers for powdered lime (calcium oxide). They are used and continue to be used in southeast Asian countries like Vietnam and Thailand. They are generally made of stoneware and often wheel thrown. Once thrown on the wheel, they are shaped and modeled into stylized animal or plant forms. A small hole is left in the top or in the side of the pot. Most pots have a small conical shaped lid covering the hole although over time they are lost or broken.

According to Asian Art Museum (https://searchcollection.asianart.org/collections):

"Today people get together over a cup of coffee or tea to be social and to get a buzz of caffeine. In many parts of South and Southeast Asia, people once chewed a betel, a mild stimulant and psychoactive substance that may have antidepressant qualities, for the same purposes. These traditions continue today both in Asia, and in Asian diasporic communities around the world."

The pot would be passed around to guests who would use a spatula or moistened finger to take the amount of lime required out of the pot. This was then smeared on a betel leaf, together with slices of areca nut and often extra flavorings such as clove and cardamom, folded into a wad, and chewed.

The lime pot symbolizes the home and would occupy a central place in the social life of the household. According to tradition, if the lime pot was broken, it would bring bad luck.

In Vietnam, they are often referred to as "Ong binh voi" (Sir lime-pot) instead of an impersonal pronoun "cai" or "chiec" (thing, it) "chiec binh voi". When one becomes unusable which occurs when the lime builds up, calcifies and blocks the hole, they are placed by the side of secular banyan trees, shrines or temples as a sign of respect.

MY PROJECT:

The Lime pots I have reproduced are from museum examples. Each pot is first wheel thrown and then I have hand sculpted the extrusions and intricate details on each pot.

I used an electric wheel to create the initial rounded form. This is a reasonable accommodation since I have a bad right knee and would not be able to use a kick wheel. I have used a kick wheel at my old studio in San Diego but donated it when we moved since I would no longer be able to use it. In period (11-12th Centuries) they would have used a kick wheel or a stone turntable to create the base oval form. They would then hand build/sculpt the details and handles as I did.

My examples were then bisque fired to cone 05. Glazed and high fired to cone 6 in oxidation in an electric kiln. Use of the electric kiln is a reasonable accommodation since I do not have access to a wood fired cross draft in ground kiln which is what they would have used to fire the period examples.

In period they used large, mostly cross draft kilns. examples have been discovered in Thailand which date to the period in question. According to Dawn Rooney and Micheal Smithies in "The Khmer Kilns of Ban

Ya Kha": "These kilns are in three parts - a fire box, a chamber for the wares and a chimney- and were of the cross-draft type which gave sufficient draft to draw the gases downward and enable the flow of heat to be changed to obtain a more even temperature. These kilns are believed to date from the eleventh to thirteenth centuries". It is hypothesized kiln technology was brought in from China. The cross-draft kiln technology allowed for the wares to be fired to the high stoneware temperatures and allowed overall even heating of the wares.

I used several commercial glazes that are food safe to replicate the glazes found on the wares.

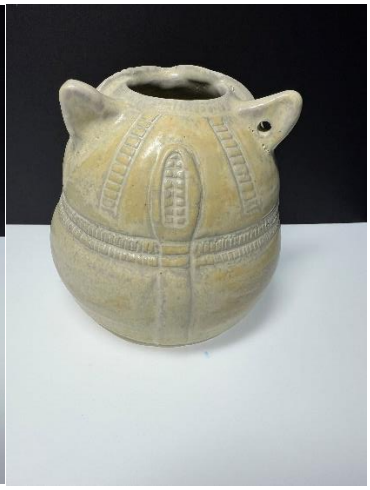
During the period, these jars would have been glazed with a dark brown glaze (Temmoku Glaze): This glaze, often described as mottled chestnut brown to black, was a common characteristic of wares from the Angkor period, dating from the 11th to 13th centuries. The lustrous, rich brown color was a result of a high iron content in the glaze.

Celadon like glazes were also used. Colors were cream sometimes with splashes of green created using iron oxide in a reduction atmosphere. See TERMINOLOGY below for an explanation of Caledon and Temmoku glazes.

PERIOD EXAMPLES and MY RECREATIONS:


Lime Pot in the Shape of Cat
Period: Khmer Empire (802–1431)
Culture: Thailand (Buriram Province)
11th–12th century
Metropolitan Museum of Art
https://www.metmuseum.org/art/collection/search/73809

My Recreation of the period example:

Lime Pot in Shape of Bird

Date: Late 11th century
Region: Cambodia
Medium: Stoneware
Asian Civilisations Museum
1 Empress Pl, Singapore 179555

https://www.roots.gov.sg/Collection-Landing/listing/1068165

My Recreation of the period example:

Covered Lime Pot in the Form of a Rabbit

Period: Angkor period
Date: second half of the 12th century
Culture: Thailand
Medium: Stoneware
Metropolitan Museum of Art
On view at The Met Fifth Avenue in Gallery 248
https://www.metmuseum.org/art/collection/search/37436

My Recreation of the period example:

Elephant-shaped lime pot
Date: Late 12th-13th centuries
Region: Cambodia
Medium: Stoneware
Asian Civilisations Museum
1 Empress Pl, Singapore 179555
https://www.roots.gov.sg/Collection-Landing/listing/1065023?taigerlist=collections

My Recreation of the period example:


Lime pot

Asian Art Museum
Chong-Moon Lee Center for Asian Art and Culture
200 Larkin Street
San Francisco, CA 94102
https://searchcollection.asianart.org/objects/21921/lime-pot
Place of Origin: Vietnam
Date:1500-1600
Materials: Glazed stoneware

My Recreation of the period example:


My Lime Pot Recreations as a Group

Picture from Vietnam Pictorial showing the vast sizes and varieties of Lime Pots.

https://vietnam.vnanet.vn/english/tin-tuc/binh-voi-in-vietnamese-culture-126484.html

TERMINOLOGY:

Stoneware: Stoneware is fired at higher temperatures (2000°F - 2370°F) than earthenware (typically below 2000°F) and lower than porcelain (around 2381°F to 2455°F). Stoneware is nonporous, unlike earthenware, which is more porous and is more durable and chip-resistant than earthenware.

Stoneware requires refractory clay able to withstand temperatures of up to 1280 degrees Centigrade (2192 degrees F) without melting to the point that wares begin to deform or melt, and the means to provide those temperatures. Due to critical chemical changes (including loss of chemical water and crystallization) that occur in clay at higher temperatures, stoneware needs to be fired in controlled conditions, including a regulated temperature gradient.

Celadon: Celedon is a type of transparent glaze, often with small cracks.

Celadon glazes are often built on a clear glaze base, which usually includes Silica (SiO_2): Acts as a glass former, providing the main structure of the glaze. Alumina (Al_2O_3): Helps to stabilize the glaze and prevent it from melting too easily.

A reducing atmosphere (lacking oxygen) is essential for celadon glazes to develop their characteristic color. In this environment, iron oxide is converted to a form that produces the desired green.

Tenmoku glaze: The primary components of a Tenmoku glaze typically include metal oxides, silicates, and other minerals. The specific proportions of these materials determine the final look of the glaze. Iron oxide is essential for the dark brown color. Silica (SiO_2) acts as a glass former. Alumina (Al_2O_3) enhances durability/stability and Feldspar is a flux used to lower the melting point of the glaze.