



Dragons in Singapore

By Lim Chey Cheng

The belly of the sleeping dragon

Dragons in Singapore? Yes indeed; lying in a secluded, forested area in Jurong are two – long-bodied and breathing fire. Called dragon kilns because they resemble the mythical beast's body, they are used to fire pottery and ceramic ware.

A dragon kiln, built with bricks and earth, has a sloping elongated tunnel, with a fire-box at the front end and a flue at the higher tail end, where smoke is emitted. Pottery pieces are fired inside the tunnel using wood for fuel. During firing, the crackling sounds of burning, rumbling noise of hot air, flames shooting from the fire-box and stoke holes, and smoke

escaping from cracks and chimney, make the kiln resemble a raging, fire-spewing dragon.

Dragon kilns (*long yao* 龙窑) originated in China more than 3000 years ago. In a 2005 excavation, archeologists found a kiln from the Shang Dynasty (1600 – 1100 BCE) in Fujian Province. This kiln, estimated to hold up to 100 pieces of pottery, is the earliest and best-preserved dragon kiln discovered in China so far.

The earliest kilns were only five to six metres long and were fired entirely by the fire-box at the lower end. A serious flaw with this design was the reduction in heat from the fire-box to the chimney end of the kiln, typically from 1200°C to 1000°C. Sometime during the Western Han Period (206 BCE – 9 CE), a solution was found by opening holes (stoke holes) for posting fuel into the sides. This boosted the heat in the upper parts of the kiln and gave the whole chamber a more even temperature.

With this improvement, longer kilns could be built and by the 13th century kilns over 100 metres long, capable of producing up to 100,000 pottery pieces at a time, existed. They had chambers as wide as they were high, averaging 2.2 metres, and a slope of between 12° to 22°. Dragon kilns spread across South China to Korea and then Japan during the Han Dynasty. Chinese immigrants brought the design to Southeast Asia, including Singapore, in the early 1900s. There used to be nine or ten such kilns here.

In the early days these kilns produced clay latex cups for rubber plantations, as well as pipes and other household items like bowls and flower pots. When the demand for rubber declined, the kilns suffered. The demand for orchid pots in the early 1970s gave the industry a boost, but competition from lower-priced Malaysian pots led to the closure of many kilns. By the 1990s there were only two dragon kilns left – Thow Kwang and Guan Huat. I wanted to see the 'dragons' before they too disappeared, so I paid a visit to the two kilns.

Thow Kwang Dragon Kiln was built in the 1940s. In 1965 it was bought by Mr. Tan Kim Seh, a Teochew from



Kiln firing box and altar

a family of several generations of potters in Chaozhou, Guangdong province. Mr. Tan passed away in 1980 and his eldest son, Teck Yoke, has been running the kiln since then, together with his wife Yulianti. At its peak Thow Kwang produced up to 5,000 pots and other items fortnightly. In the 1990s the kiln ceased regular operations and Thow Kwang switched to importing pottery from China, Thailand and Vietnam.

The kiln is about 30 metres long and 2 metres wide. The head with the fire-box is 1.2 metres high and its tail 2.6 metres. Above the fire-box is an altar. Before each firing, prayers with offerings of three kinds of living creatures – either animals or seafood – (*san sheng* 三生), together with wine and tea, are always offered to the kiln god (*yao shen* 窑神) to ensure success. I entered the dragon's belly through one of two openings. The inner wall is brick-lined although the outer wall is covered with clay. Light comes in through the 17 stoke holes and the holes in the fire-box.

During the firing process wood is burnt in the fire-box until the lower part of the kiln reaches the full temperature. The fire-box is then bricked up, leaving a small gap. Fuel is fed into the first stoke hole until this section reaches full heat. Then side stoking is transferred to the second hole, after which the fire-box is sealed. Air enters the chamber through the stoke holes. Stoking continues until the whole kiln is fired. All the holes are then sealed. The whole procedure takes between 18 to 24 hours and temperatures reach 1200°C or more. The cooling process requires just as much time. A longer kiln like Guan Huat's (43 metres) might take 36 hours to fire and 72 hours to cool.

Fly ash from the wood creates different and unpredictable effects on the fired pieces. This is where wood-firing differs from electric and gas kilns. Artists love the surprises which emerge on their finished work. Salt is sometimes thrown in for other effects.

Farther down the road, Guan Huat Dragon Kiln, built in 1958, ceased commercial operations in the 90s, but in 2004 was revived by Focus Ceramic Services. Focus launched Jalan Bahar Clay Studios to provide space for local artists to work with clay and do traditional wood-firing. Well-known Master Potter Iskandar Jalil had a studio there for several



The entrance to the belly of the dragon

years. Currently about 20 artists work there and firing takes place when there are enough pieces.

Since 2001 Thow Kwang has also had a group of artists who use the kiln for firing their works once or twice a year. Mrs Yulianti Tan also started workshops and tours for schools and community groups to educate the public and preserve the tradition of pottery-making and dragon kiln firing.

The fate of the two kilns is uncertain because the area is earmarked for development. Their leases run out in three years' time, but a group of supporters has started an online petition to save them. Mrs Tan is greatly disappointed that the heritage value of the kilns and pottery craft are not recognised by the authorities. After 30 years she is an artist herself, having imbibed "pottery-making blood" from her husband's family. She is "fired by passion" and fervently hopes to preserve the dragon kilns for future generations of Singaporeans.

Lim Chey Cheng has been an FOM member for 15 years with 13 as an active member of the ES! team. She retired from a consultancy career to spend more time with family and pursue her interest in travel, history, arts and culture.

Photos courtesy of Jerome Lim



Potter's hut at Thow Kwang