

**“HOW THE KHMERS BUILT THEIR TEMPLES”  
STAINED GLASS DOOR FOR PRASAT MUANG SING HISTORICAL  
PARK EXHIBITION HALL, KANCHANBURI, THAILAND.**

Overall dimensions 2 metres wide x 2.5 metres high.

Window designed, made and installed by Gerry Cummins and Jill Stehn 2016  
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# DESCRIPTION OF PRASAT MUANG SING WINDOW

## “HOW THE KHMERS BUILT THE PRASAT”



This window shows how Prasat Muang Sing was built by the Khmers in the 13<sup>th</sup> century.

Our intention is to suggest to visitors to the Exhibition Hall that they are looking through the window and seeing workers building the Prasat 800 years ago.

The foreground of the window shows the partly built central prang (1-1). It is being built of laterite blocks (2) which have been quarried nearby. The blocks have circular holes drilled into them. Pegs were inserted into the holes, so the blocks could be lifted by cranes.

To the left, a life size Khmer stonemason (3) is steadying a sandstone block. It is attached to a crane (4) by a system of levers and ropes. Unexpectedly, the sandstone blocks were lifted by pegs inserted *into the top of the blocks* (5). This block has been roughly chiselled. It will be lifted higher up the prang where other stonemasons will carve it into a finial. Original sandstone Khmer finials are on display outside this Exhibition Hall.

To the right, a Khmer plasterer (6) is working. He has been applying white stucco over the rough surface of the laterite (7). There are 800 year old fragments of original Khmer white stucco still visible on some walls of Prasat Muang Sing. The plasterer is incising grooves (8) into the fresh stucco so that the next finer layer of stucco can grip into the roughly applied under-layer. An example of incising is seen in a nearby display case in this Exhibition Hall.

Below where he is working, a highly skilled plasterer has created a beautiful Khmer Bayon style Apsara (9). There is no doubt that the Khmer plasterers were highly skilled because there are examples of their work in nearby display cases in this Exhibition Hall. The fine detail, even after 800 years of weathering, is truly amazing!

Other craftspeople have already started decorating the stucco Apsara. There is an earthenware pot of glue (10) on a bamboo platform below the plasterer's elbow. The glue was applied to the stucco and then real gold leaf was laid on the wet glue and brushed into shape. The bracelet on the Apsara's right arm (11) has already been gilded, and two gold leaves (12) are glued to the rococo decoration at the top left of the niche. They still need to be brushed into the wet glue on the stucco.

At the feet of the Apsara there are two earthenware paint pots, each with a freshly used paintbrush. The paint pot on the left (13) contains green paint. It has been used to paint the stems of the jasmine garland descending from behind the Apsara's neck, and to paint the stem of the Lotus she is holding. The paint pot on the right (14) contains red paint, which has been used to paint the Poinsettia petals at the ends of the garland, and thinly applied to provide the pink for the Lotus bud.

In Cambodia, to this day, women do the finishing work on sculptures that requires the most skill, delicacy and patience. The window intimates that the Khmers also recognised women's special abilities. There is a jasmine bracelet (15) to the right of the paint pots which the craftswoman has taken off while she delicately and expertly paints the Apsara's jasmine garland and the sacred Lotus.

In the background, work is also being done.

The west prang is seen from the inside (16), just as it can be seen today. To the left, the gallery is being constructed. Part of the wall has been constructed, and a celadon tiled roof (17) is being built over the corbelled gallery roof. The tops of the trees (18) growing on the bank of the Khwae Noi river can be seen in the background.

It is a big day at the top of the west prang! The workers are lifting the last of the carved sandstone finials into place. These sandstone finials can still be seen on the top of the prang today.

To the left, and on the lower level of bamboo scaffold, five very strong stonemasons (19) are lifting the top finial by ropes. The finial is lifted upside down (20) so that the ropes have a good grip around the carved stone.

Above them, the carved and very big middle sandstone block is being lifted into position by two cranes. There is evidence at Preah Khan temple in Cambodia that such big blocks were lifted by two cranes which would have worked in tandem.

The ten big guys – five on each crane – are pressing down, with all their strength and weight, on the levers of the cranes to lift the mighty sandstone block (21) into position.....***But wait! There is a problem!!!*** The locating hole carved in the bottom of the middle block (22) does not align with the locator stud of the sandstone block below it (23).

One worker (24) is trying to pull the block to the left by a rope, but he is also pulling it down while the workers above are trying to lift it up.

On the other side a worker (25), carefully balanced, is unsuccessfully trying to lever the stone into place with a bamboo pole.

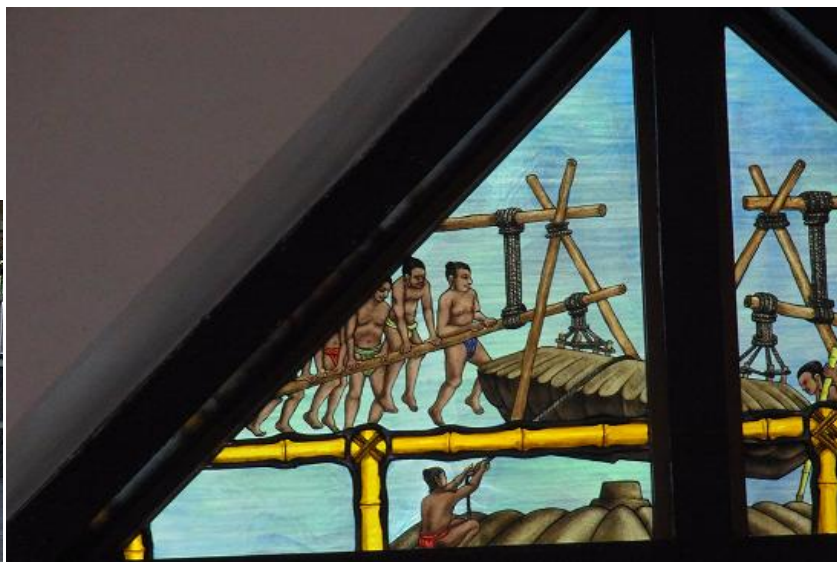
***No way!! It is not going to align!!***

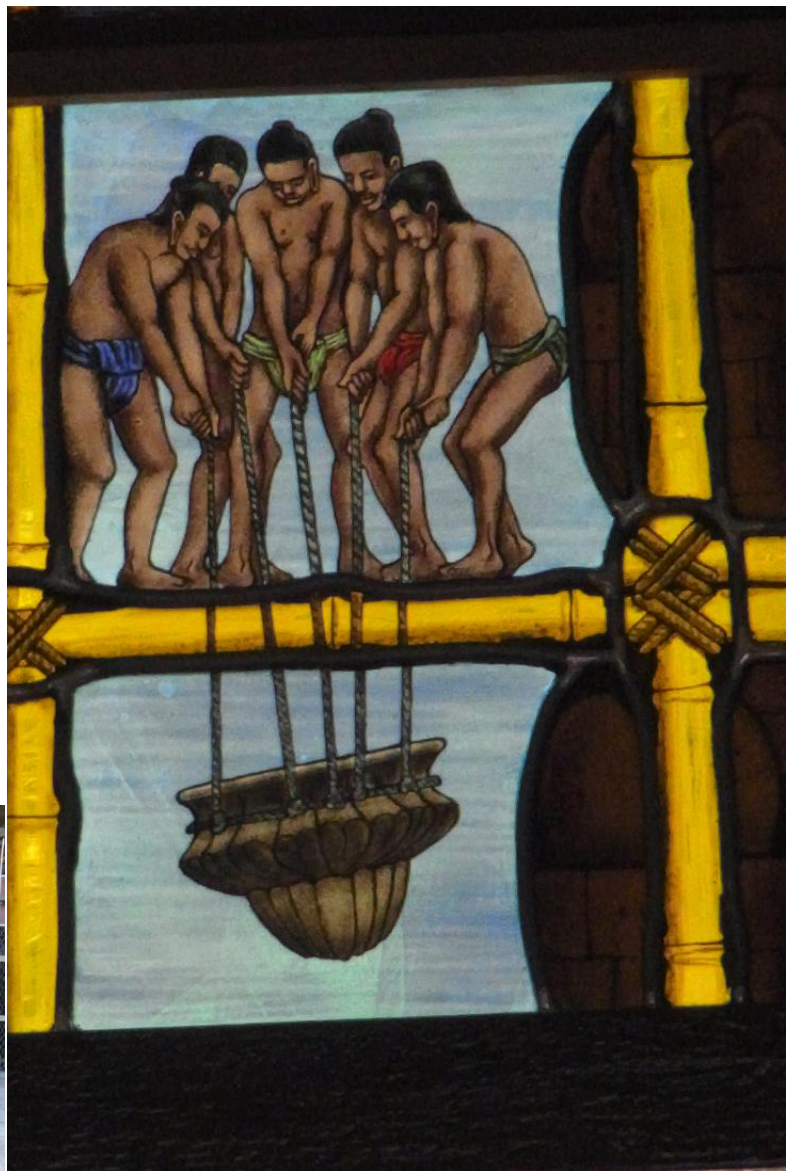
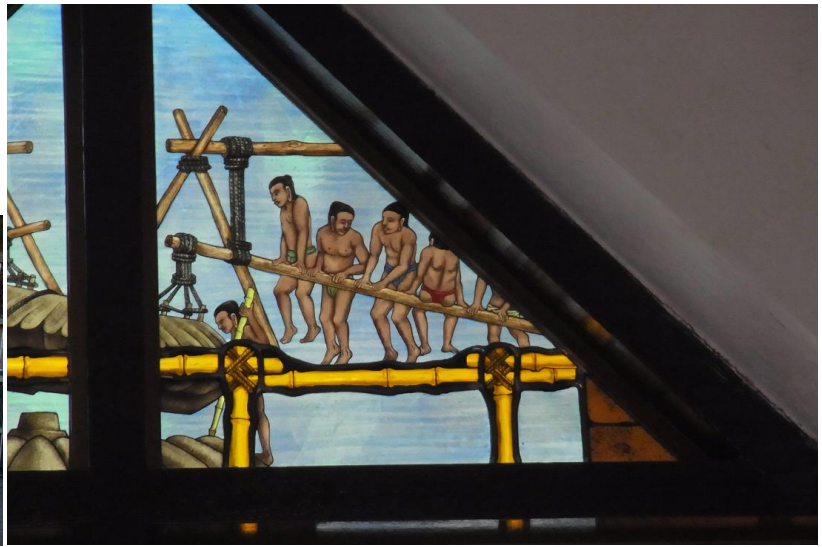
Above him, and pressing down with all his strength, is *the boss* (26). He is furious! He has just realised that the cranes are in the wrong place. They will now have to lower the stone, secure it, shift the cranes, and then lift the stone into the correct locking position.

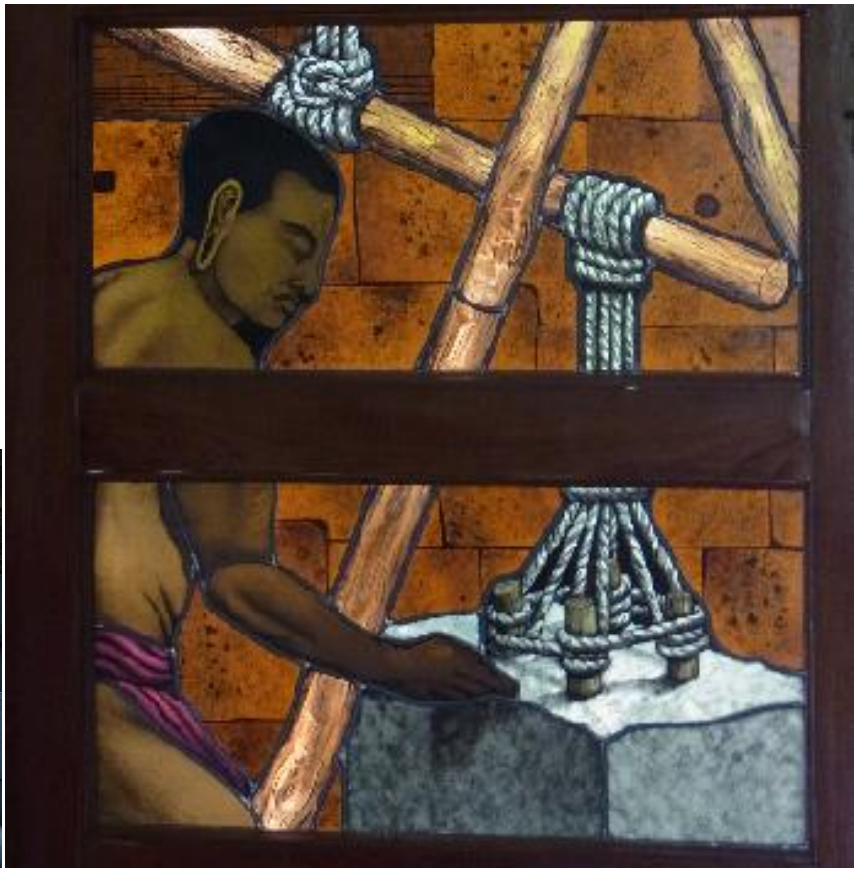
The two workers to the boss's right (27), seeing how angry he is, are saying to each other "Oh boy!! It is going to be a long hard day!" Next to them, "Mr Sumo" (28) is doing his job by simply sitting down on the lever!

## REFERENCE MATERIAL

The Thai Army came to the rescue for some of our reference material! The Army guys were very amused that we turned them into 13<sup>th</sup> century Khmer stonemasons!!







## RESEARCH

As this window was to be installed in one of Thailand's venerated and well preserved Historical Parks, it was important for us to thoroughly research the subject matter and document it.

We presented a folio to the Manger of the Historical Park with fifty annotated photographs on how we thoroughly established our research. Below are eight selected photographs from that folio.



Photos 2 and 3 are bas relief carvings from the 13<sup>th</sup> century Khmer Bayon Temple in Angkor Thom in Cambodia.

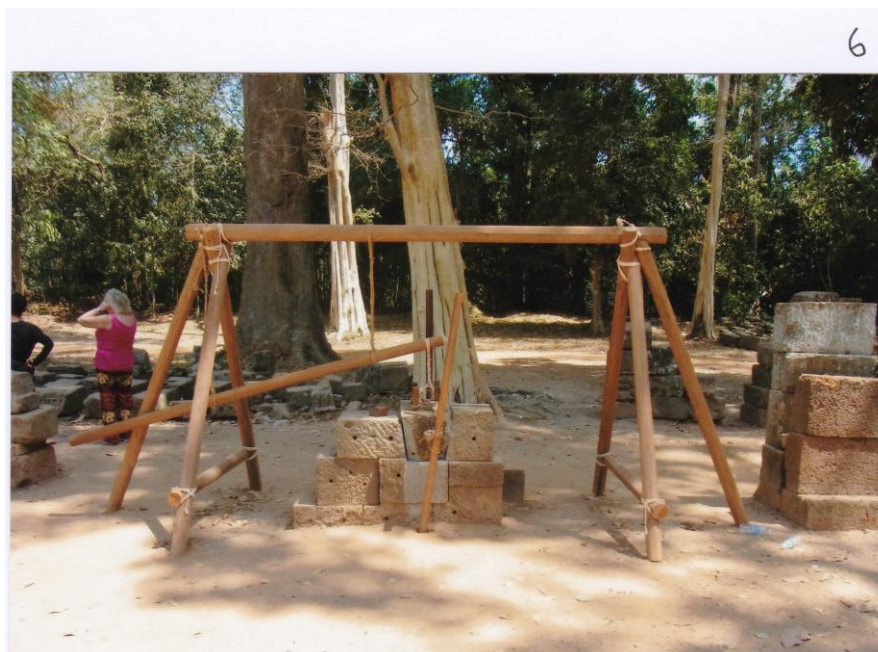


Photo 6 is a replica working crane built as part of a Japanese Conservation Programme.



15



Photo 15 is a finial from Ta Som Temple near Angkor Thom.

16



Photo 16 is the West Tower of Prasat Muang Sing in Kanchanaburi, Thailand. The much larger Central Tower which was originally behind the West Tower has long gone. This photo was used to establish the proportions between the Khmer workers and the tower.



Photo 21 is the Apsara we used as the model for the window. It is from the Bayon in Angkor Thom in Cambodia. It is one of thousands of female deities carved on the many temple walls.



Photo 29 is a jasmine bud garland used as reference material for the garland around the Apsara's neck. These garlands are still woven by the hundreds in Thailand. They cost 20 baht (AU80 cents).

51



52



Photos 51 and 52 show female workers doing beautifully delicate carving in a workshop in Siem Reap in Cambodia. The most delicate work is done by women because they are skilled and patient. We have intimated that a woman has been doing the most delicate paint work on the Apsara in the window.

### **The historical research was gathered from**

- C13th carvings on the west wall of the Bayon in Angkor Thom in Cambodia showing Khmer stonemasons operating a crane,
- a nearby life size working model of a crane at the Bayon,
- photographs taken by the artists of the walls and prangs at Prasat Muang Sing,
- examples of stucco statues in the Exhibition Hall at Prasat Muang Sing, and
- information gathered from books and the internet.

We particularly want to thank Madame Sermsuk, the Manager of the Prasat Muang Sing Historical Park for her invaluable assistance.

Gerry Cummins and Jill Stehn  
2017.