Construction of a Chinese River Junk

As Worcester wrote, “No chapter in the history of China is so incomplete as that concerning ships and sailors” (1947; 4). With sparse and scattered primary sources and a lack of compiled artistic representations of Chinese ship types, it is no surprise that Ship Model 52940 was incorrectly labeled upon acquisition. Although the museum categorized it as a barge, its construction gives evidence to its identity as a leisure junk that would have travelled the rivers in China.

As I previously concluded in my last blog post, it is likely that this model represents a vessel from around 1000-1600 C.E. Although the Chinese had long used sails and masts as a means of propulsion at that time (Worcester, 1947), it is very clear that this junk was propelled by oars. Both the absence of any wind-capturing technology and the presence of conical shaped hats indicate that oarsmen provided the power necessary to move the junk. Interestingly, though, the model was not accompanied by any oar replications. Yet, the vertical posts sticking out of the edge of the deck near the bow could be the remnants of fulcrum points that the oars could rest on (Fig 1, photo by author). Although oared vessels were not often seen around Shanghai, they were a common feature throughout the Chinese rivers. If speed or efficiency were the primary concerns of this ship, perhaps it would have been outfitted with sails in order to fulfill its purpose; however, this leisure vessel was not built for an economical purpose and can afford to be propelled by oars.
When I originally assessed the model, I was confused at the absence of a rudder. Even a team of oarsmen would have a difficult time maneuvering this vessel without a rudder. While some river vessels don’t necessarily need one, such a large boat on one of China’s wide rivers would. Since there is such a clear opening in the deck at the stern for a rudder, it’s possible that this model was originally outfitted with one, but at some point it broke off.

The stem of the vessel is narrow and streamlined, perfect for cutting through the water. Even though this junk travelled along rivers instead of on the open sea, the hydrodynamic nature of the stem probably made the task of rowing such a large junk much easier.

While these construction aspects indicate that this model was a leisure vessel, the most obvious clue is the elaborate deck structure. Adorned with gold detailing and carved designs, this multi-roomed cabin takes up the majority of the deck space. For the sake of balance, the hull of the vessel must sit fairly deep in the water. Despite its deep hull, though, the lack of a keel makes this vessel flat-bottomed with a shallow draft. Not only is this classification emblematic of Chinese river vessels, it is characteristic of a particular style of ship: the junk (Worcester, 1947).
One key pointer to this model’s identity as a junk is the bulkhead, a wall that compartmentalizes the hull of a ship. Worcester (1947) asserts that while junks often differ in design, the principle structural feature of a junk is the bulkhead interspersed with timbers. This largely provides strength and support for the junk. Although they were initially obscured, once the wooden pieces that make up the deck were removed, I could see this structuring in the model’s hull (Fig 2, photo by author).

![Figure 2](image)

Apart from the bulkhead, the most puzzling aspect of the model is the hull. There is not any kind of visible planking. The hull is instead carved out of a seamless piece of wood. While the Chinese were the first to make watertight vessels, even low-planking junks had about five planks, which were softened and made flexible (Worcester, 1947). Without any planking, it is difficult to know what kind of fasteners may have been used on the kind of junk this model represented. While other Asian depictions of boats indicate that the planks could have been joined with wood or copper fasteners (Damian, 2010), there is also evidence that the Chinese used iron nails (Worcester, 1947).
I was slightly disappointed at the thought that the model does not perfectly match a real junk’s construction. Chinese carpenters took a particular pride in their craft; they even celebrated the carpenter god, Lu Pan, who was mythologized and said to have mastered shipbuilding so thoroughly that he was named the Grand Supporter of the Empire during the reign of Yung Lo (Worcester, 1947). Still, despite the discrepancies, there is no doubt that the junk (an ironic English name) was carefully and beautifully made. That careful detail, reflecting the centuries of Chinese conscientiousness, provides evidence for the ship’s purpose as a leisure vessel and identity as a junk.
Works Referenced
