Bezaisen-type vessels were also known as sengoku-bune – which translates to 1,000-koku ships. The *koku* is a Japanese unit of volume that was originally used to denote a quantity of rice equal in weight to 150 kilograms or 330lbs. The larger bezaisen-type vessels, which I believe our model to be, once transported up to 1,000 *koku* of rice or other goods of equivalent weight – about 165 tons – to and from Japanese ports. The construction techniques that are observed on the model not only make it identifiable as a bezaisen sailing ship, but also serve distinct purposes related to the ship’s intended use as a merchant vessel that would’ve sailed between Edo and Osaka.

Japanese ships are built from the bottom up, but instead of a solid keel, they utilize flat planks that form what is called *kawara* to create the base of the boat. Garboard strakes, or pieces of wood that support the base, called *nedana* or *kajiki* in Japanese, are fixed to the *kawara*: fixed to these are more strakes called *nakadana* (Damian 2010: 81). Together, this construction creates a wide and roughly flat base for the bezaisen vessels. This hull shape maximizes cargo space and makes the vessel ideal for transporting goods (Fig. 1, Adachi 1998:104). For fasteners on the bezai-type ships, *kugi* were pieces of metal hidden on the interior of the planking, while *kazugai* were staple-shaped pieces that were exposed (Damian, 2010: 112). On our model, it is difficult to determine if these different sections that form the base of the hull are accounted for, as well as the fasteners, but the ship does appear to have a flat bottom as it stands straight up while resting on the table. An issue that could arise with the flat-bottom is if the vessel ran aground: bezaisen
vessels lacked a barrier in the form of a keel to absorb the impact, and a hole could be ripped in
the ship’s base – something that is not conducive to transporting goods.

Characteristic of *bezaisen* vessels, the model has a large stem post with typical *bezaisen*
decoration (Fig. 2, photo by author). The long-hanging tassel, called *nagasagari*, makes the ship
identifiable to other ships as a merchant vessel (Damian, 2010: 93). Some *bezaisen* vessels also
would have had round metal plates that serve the same purpose, but this is absent on the model.
On the model, a lighter metal – presumably copper – covers the tip and outer edges of the upper
portion of the stempost. The more decorative and lighter colored metal would’ve been more
characteristic of a pleasure vessel than a merchant ship, but this may have been an artistic
interpretation by the artist who built the model. Regardless of color, the covering also might have
protected the stem from damage while docking.

An important feature of the model that led me to believe it is a *bezaisen* is the distinct
gridlike railing pattern. This railing design was “typical of those ships on the Edo-Osaka trade
routes” (Damian, 2010: 191). The railing rests on throughbeams that protrude out beyond the
hull. Due to the lack of diagonal slats, I can confirm the hypothesis from the first post that this
ship is not a *higaki-kaisen* – a more specific regional variation of the *bezai*-type vessel. Another
superstructure rests in the bow of the boat: a *goshaku*, or removable section of the hull planking
aft of the stempost that makes for easier access (Damian, 2010: Glossary). I imagine the *goshaku*
would’ve made the loading and unloading cargo from the vessel much easier – something that
would’ve been important for a merchant at the time.

As far as propulsion for the ship model, two sails can be seen – one mainmast and one
smaller foremast. According to Damian, this is another distinct characteristic of the *bezaisen*
(2010: 68). *Bezaisen* sails were quite efficient: they could sail with a leading wind or sail into it
by using a sailing maneuver called tacking (Ishii 2009). The agility and increased speed of *bezaisen* compared to a ship that required rowers was advantageous to many merchants at the time. In addition, fewer crewmembers were required which meant more room for storage and less money spent on wages.

Another characteristic that Damian describes of *bezaisen* vessels is that they have an open stern through which the rudder can be shipped, or raised and lowered (2010: 68). I don’t know if this is possible on our model, as the raising and lowering of the rudder appears as if the closed area at the stern of the vessel would block upward movement. Despite this, other aspects of the *bezai*-type rudders described are validated, such as the claim that they were “taller than they are long, they curve sharply down from the rudder stock and have a reinforcing timber along the edge” (Damian, 2010: 151-152). These characteristics are visible in Figure 3 (photo by author). In addition, the arrows in fig. 3 point to what are called *chiri*, or protective planking around the rudder. *Chiri* may or may not be present on *benzai*-type ships. It is also expected that they are narrower than what can be seen on this model, but the slight exaggeration could be attributed to the artistic freedom of the model builder. As far as advantages these aspects of the stern provided for merchants in particular, I’m afraid not very much as these were just standard building techniques at the time.
Figure 1 (Adachi 1998:104)-(red text edits made by author): This cross section demonstrates what the hull of a *bezaisen* vessel would have looked like.

Figure 2 (photo by author): The tassel (*nagasagari*) and metal covering on the stempost can be seen here.
Figure 3 (photo by author): The arrows point to the protective planking around the rudder, called *chiri*. In addition, one can see the curve of the rudder stock, and the reinforcement wood along its edges.
Works Referenced


