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TECHNIQUES THAT  
SUPPORT JAPANESE  
PERFORMING ARTS

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# Biwa

Japanese  
short-necked  
lute

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琵琶

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Biwa Craftsman  
**Katsuyoshi  
Ishida**



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Independent Administrative Institution  
National Institutes for Cultural Heritage

Tokyo National Research Institute  
for Cultural Properties

The *bima* comes in a variety of types. For example, there is the *gaku-bima* used exclusively in *gagaku* court music, the *heike-bima* that *bima* musicians called *bima-boshi* strummed while reciting the “Tale of the Heike,” the *moso-bima* played by wandering blind monks mainly in Kyushu, and the *satsuma-bima* and *chikuzen-bima* which descended from the *moso-bima*. Hardly any other instrument in Japanese history has diversified as much as the *bima*.

At the same time, however, only a very few *bima* makers exist today who can undertake the entire manufacturing process of all types of *bima*, from the selection of materials to their finish. Katsuyoshi Ishida is one such craftsman who has inherited the valuable techniques of crafting *bima*.



“*Bima* are made using patterns, but each school of *bima* music has its preferences as does each performer. I gain a sense of the sounds they each prefer by paying frequent visits and listening to their performance.”

—— Katsuyoshi Ishida

#### Final adjustment of a *satsuma-bima*

Final adjustment is made to the distance between the frets and strings by actually stringing the instrument and pressing down on the strings with the fingers. The *bima* is completed only after repeatedly shaving the frets, pressing down on the strings, and strumming the strings with the *bachi*, or plectrum, to verify the distinctive, complex reverberation called *samari*.

# Sound

The *gaku-biwa*, used exclusively in *gagaku* court music, is relatively large. It is normally played in arpeggio style by strumming the strings of a chord one by one in a rising or descending order. The *beike-biwa*, in principle, is played during intervals between sections of a narrative story. The *satsuma-biwa* is suited to playing powerful sounds and gallant music that require strong movements with a large plectrum, while the *chikuzen-biwa*, in contrast, is characterized by graceful and feminine qualities. Because the *biwa* is used to achieve a diverse breadth of music, the size of the instrument, the balance of its parts, and the materials used, all differ according to the type of music. *Biwa* craftsmen must possess the techniques to respond to this diversity as well as to the preferences of individual performers.



Ishida not only produces *biwa*, but he is also a performer of the orthodox school of *satsuma-biwa*.

# Technique

Ishida is the fifth-generation owner of Ishida Biwa Store, practically the only *biwa* store that exists today. Even with generations of knowhow and time-honored tools under his belt, he makes untiring efforts to further his craftwork, such as by directly discussing necessary matters with each performer and personally visiting suppliers himself when procuring tools and materials. Furthermore, Ishida draws his greatest strength from his being a worldwide performer of the orthodox school of *satsuma-biwa* himself, as this enables him to understand the perspectives of both *biwa* maker and performer and use the knowledge to his advantage.

## Crafting a *satsuma-biwa*

### Carving the shell

Authentic *biwa* are made of mulberry wood, but zelkova wood is also used at times. Ishida says mulberry from Mikurajima of the Izu Islands is the best, as it is fine-grained and sufficiently large. After rough-cutting a wooden board into shape using an electric saw, a chisel is used to hollow it out. This is strenuous work, because the wood is hard, but Ishida plows on, occasionally tapping on the wood with his finger to verify its thickness by its sound.



### Attaching the tie and post

The tie that spans the width of the shell conveys the vibrations of sounds so they resonate inside the shell via the post that supports it. It also provides the framework for attaching the soundboard. Grooves are carved using a saw and chisel so that the shell and tie, and the tie and post, connect perfectly with each other before gluing them together.



### Joining the shell and soundboard

The soundboard is steamed and slightly curved before it is joined to the shell to make the body of the *biwa*. The two parts are joined together, fitted into a formwork that is tightened with vises, and left to sit for about two days after filling all gaps with a wedge. Once they settle into shape, the soundboard is glued to the shell, secured in place once more, and left to sit for four to five days. Thereafter, the surface of the soundboard is hand-planed while tapping on it with a finger to verify its overall balance. The degree to which it is planed has an important bearing on the quality of sound of the instrument.



### Electric saws

Mulberry and zelkova lumber that are milled into boards at a sawmill and left to rest for ten years or so are cut into shape using an electric saw. Ishida is flexible in employing such electric machines, and uses three types of electric saws according to each purpose.

### Vises



The first step in the discipline of crafting a *biwa* is to make original vises. Vises are needed to hold the body of the *biwa*, the tuning pegs, or other parts of the instrument in place so they do not move. They are custom-made by combining mulberry mill ends and bolts in a fashion that is easy to use.



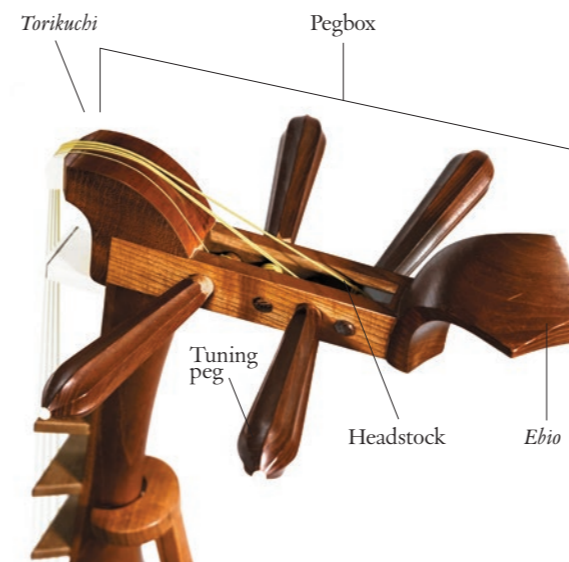
### Files

The number of different types of files used to craft a *biwa* exceed all other tools. From the rough planing of surfaces to the fine adjustment of intricate parts, files of various shapes and roughness are used. Most of them are handmade by file craftsman Toshio Fukazawa (now retired). His files are made to accommodate the distinctive shapes of musical instruments and to suit each specific purpose, and are thus indispensable to the crafting of *biwa*.

# Tools

### Patterns

Patterns are like the medical records of individual performers. They embody the processes of crafting and repairing the *biwa* repeatedly in response to the needs and demands of each performer.



### Crafting and assembling the headstock, ledge, and tuning pegs

The headstock is carved using planes, files, and chisels, and the end (called *ebio*) is shaped to resemble a shrimp's tail and polished with sandpaper. The holes for inserting the tuning pegs are made using an electric drill while verifying their angle. Making the holes at an angle allows the pegs to be secured firmly in place. A hot iron heated in a brazier is then used to temper the holes to prevent the pegs from moving even when strong tension is applied to the strings that are wound around the pegs. The pegbox is made by opening a hole with an electric drill, picking it with a chisel, and shaving and shaping the inside of the hole with a file. The ledge, called *torikuchi*, is covered with smoked bamboo to make the path of the strings slide well. The smoked bamboo is shaved from the inside until only a thin surface remains and softened by boiling it from water. It is then temporarily fixed into shape with strings, left overnight, and thereafter glued onto the ledge. Smoked bamboo has become difficult to obtain today. The tuning pegs are carved into octagonal shafts with a plane, rounded out using a small file and chisel, and polished with sandpaper. An ivory decoration is then glued into a hole made at the tip of the pegs with a gimlet.



### Crafting the decorations – *Hangetsu, barasuji, kesagake*

The soundboard is decorated with a crescent moon-shaped ivory decorations called *hangetsu*, literally meaning “crescent moon.” Using an engraving knife, shallow recesses are made in the shape of the *hangetsu* and a sound hole is opened in the center of them before inlaying the *hangetsu* with glue.



Two decorative lines called *barasuji* are created on the soundboard. They are grooves carved in the soundboard inlaid with a narrow strip of whalebone attached with glue. The whalebone is cut into a narrow strip with a hacksaw.



A decorative engraving called *kesagake* is carved on the backside of the shell. A pattern is laid on the surface to mark the position, and an incision is made with an engraving knife before it is carved using a chisel. The engraving is given a smooth finish with a file and plane.

Crafting the tailpiece

The tailpiece is an important element that holds the bottom end of the strings. A sound hole called *ingetsu* is hidden underneath it. There are said to be several tens of different types of tailpieces, as the shape of the tailpiece varies according to the genre of *bima* music, the performer, and to the maker of the instrument. The tailpiece is ornately decorated using ebony and ivory, by first carving shallow recesses for them and attaching them with glue. The decorations are intricately crafted using a hack saw and various types of files, sandpaper, and chisels.



Assembling the headstock



The top end of the neck is first carved to create a projection, and two notches are made at the tip with a saw. The headstock is attached to this projection and temporarily fixed in place by inserting wedges. Thereafter, the headstock is reattached with glue, and the excess portion is cut off. The wedges are said to prevent warping and to stabilize the sound of the instrument. The nut is then attached to the joint of the neck and headstock, again using glue.

### Attaching the tailpiece to the soundboard and printing the craftsman's name

A groove marking the position of the tailpiece is carved in the soundboard, and a small supporting stay is made using a saw and chisel. Using an engraving knife, a hole is made where the supporting stay, tailpiece and soundboard join together. To determine the height of the tailpiece, a string is actually threaded to verify the tension and make minute adjustments by shaving the bottom of the tailpiece. Before gluing the tailpiece in place, Ishida prints his name on the backside of the tailpiece.



### Finishing – Nut, first fret, other frets

The strings rest on a nut called *itokuchi* (also called *shogen* or *jogen*) made of ivory. By actually stringing the instrument, shallow guide grooves are engraved in the nut with a file while adjusting the distinctive reverberating sound of the strings called *sawari*. The first fret (ivory) nearest the headstock is provisionally placed on the fretboard, height-adjusted by filing it, and attached with glue. In the same way, the other frets, made of magnolia wood, are placed on the fretboard. They are shaved with a plane while verifying their height by sight and their pitch by ear before attaching them with glue.



### Adjusting the *sawari*

The pitch of the instrument is also tuned using a tuner. Then, fine adjustments are made so that the distinctive *sawari* sound is sufficiently produced, by holding down the strings with the fingers to produce sounds and shaving the surface of the frets with a chisel. Lastly, the *bima* is held in proper position and played with a plectrum for a final check.

### Tools

In addition to files, Ishida also uses a variety of chisels, planes, and saws of different shapes and sizes. Rulers for drafting lines and glue for attaching parts together are also essential tools.



Chisels

### Materials

Materials essential to crafting *bima* include mulberry, preferably from Mikurajima, smoked bamboo, magnolia, and ivory, ebony, and whalebone for the decorative elements. In addition to these, paulownia, rosewood, and quince are used in other types of *bima*, and boxwood and ivory are used to make the plectrum that is used to play the *bima*.



Smoked bamboo

These tools and materials as a whole support Ishida's *bima* crafting technique.

*Bima* Craftsman

## Katsuyoshi Ishida

- 1967 Born in Tokyo as the first son of Katsuo Ishida (fourth-generation Fushiki Ishida), holder of the Selected Conservation Technique of “Crafting and Restoration of *Bima*”
- 1990 Apprenticed under his father in the second-floor workshop above Ishida Biwa Store in Minato-ku, Tokyo for five years after graduating from university
- 1996 Commenced the crafting and restoration of *bima* on his own in Sakado-shi, Saitama by renovating the warehouse that had been used to store materials into an atelier and residence

Studies under Seishu Suda to master *bima* performance skills. Performs in and outside of Japan as a performer of the orthodox school of *satsuma-bima*. A member of Nihon Biwagakukyokai (Japan Biwa Music Association).

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