

SECTION 5: THE WORK OF THE PICTURE PAINTER (*makieshi*):

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INTRODUCTION:

Japanese craftsmanship is famous the world over. However, due to the importation of cheaper, mass-produced items and the high prices charged by Japanese artisans, these valuable skills are not being passed down through the generations as freely as before. In this website we are attempting to document some of the traditional Japanese craft techniques before they are lost forever. We have researched wood, lacquer and metal working skills, using the making of a Hikone butsudā to illustrate them. As one of over 90 traditional craft products designated as worthy of preservation by the Ministry of Economy Trade and Industry (METI), we feel that the Buddhist family altar or *butsudan* is a good way of demonstrating these skills. Within the METI designation, 15 areas were chosen for their high quality traditional butsudā. Hikone was one of the first cities to be selected, and given its long history in *butsudan* making it must surely be a particularly suitable example.

This section on *makie* deals with the 5th of the traditional skills involved in making a *butsudan* (see general introduction). *Makie* pictures of the kind we will be describing here are often seen on plates and dishes available in many department stores. Although there are many modern cost-cutting practices available, we shall be looking

at several time-honoured techniques commonly found on high quality DKH (*dentouteki kougei hin*) *butsudan*, especially those made in Hikone. *Makie* add another element of elegance to the types of *butsudan* we have been discussing in this website.

As before, thanks to many hours spent with *makieshi* team Funakoshi Yukio and Hiroko, we hope we have captured some elements of the artisans' characters and have been able to portray effectively their modern work situations. With this in mind let us proceed.

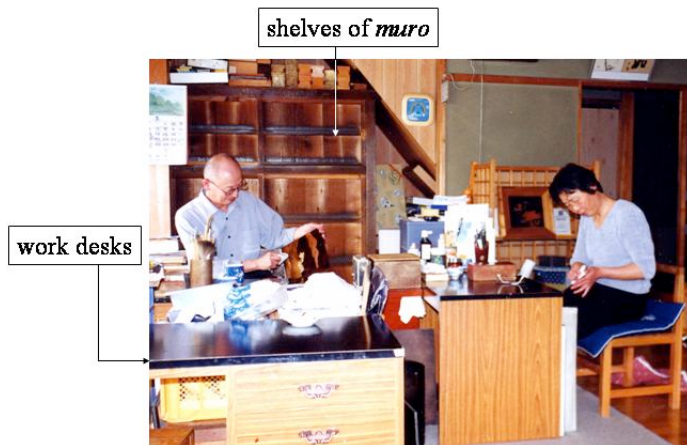
After the lacquering work is finished, the individual pieces are sent back to the merchant (*toiya*) who then distributes them for gilding or to have lacquer and gold pictures (*makie*) added. The fifth process in *butsudan* production is thus the work of the picture artisan or *makieshi*. This consists of drawing pictures in lacquer, applying gold powder, then adding coloured lacquer and highlighting details with fine lines where desired.

The parts most commonly decorated with *makie* are lower sections of the *shouji* and the fronts of small doors and drawers inside the *butsudan*. Because of their delicacy, *makie* are never seen on the outside of the *butsudan*.

When the *makieshi* gets the boards from the *toiya* they will already have been lacquered. As mentioned in the previous section on *nuri*, they may have either highly polished *roiro nuri* or unpolished *tatenuri* finishing. All styles of *makie* can be put on boards finished in either of these ways. However the artisans have very distinct views about which is best.

“*Roiro* is easier to work on,” says *makieshi*, Funakoshi Yukio. “Of course, on the *roiro* board *makie* will be more vivid (alive). The picture will be clear. It stands out better. The contrast between the black board and gold powder will be good. If you do the polished style of *makie* (*migaki makie*), the picture will be very shiny because the board is completely flat. After applying raw lacquer (*kiurushi*) and then polishing, results with the *roiro* board are better. A *tatenuri* board doesn't give such a good result. It is an indescribable difference, but even you (laymen) would recognize it. Only *roiro*-lacquered boards will show the lustre, nobility and elegance which are the characteristics of *urushi* lacquering.”

Unlike the workshops of the artisans we have discussed previously, that of *makieshi* husband-and-wife team, Funakoshi Yukio and Hiroko, is rather neat. There is plenty of light and some examples of their work hang on the walls. Their tools and materials are kept in the drawers of their work desks arranged in the middle of the room. Here, they sit companionably (usually) opposite each other, working on their different projects.



Makie photo 01.a: Yukio and Hiroko in their workshop

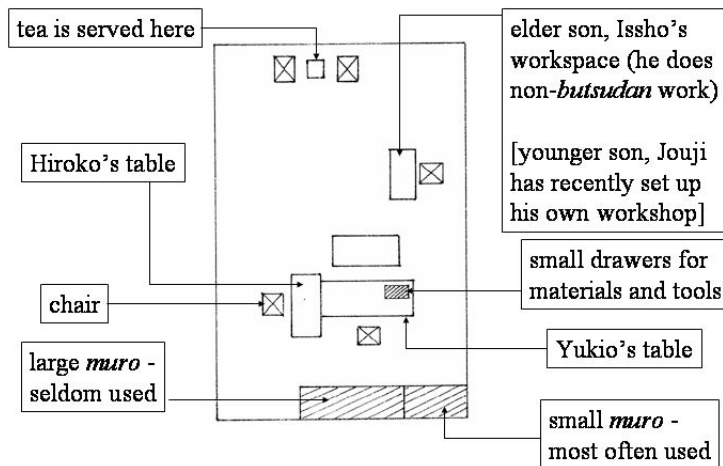


Yukio polishing a piece of *migaki makie*, showing receding hills of different shades of gold

Hiroko cleaning a *makie* board - one of their non-*butsudan* works in the background



Makie photo 01.b: detail of Yukio and Hiroko



Makie figure 01: layout of Funakoshi workshop

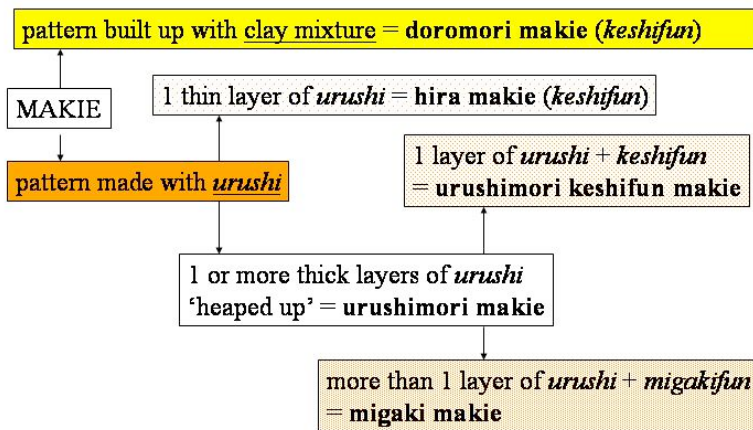
Although it is common for wives to help with their husbands' work, especially in the past when *butsum* were in great demand, these days, the Funakoshi couple are the only ones working together as artisans. "More or less, I guess," says Yukio, "all the *makieshi's* wives are helping their husbands. Even if they don't draw pictures they may clean the *makie* boards ready for drawing or tidy the workshop etc." However, he adds perhaps a little proudly, "My wife is the only woman *dentou kougeishi* (DKS) in the Hikone *butsum* industry."

Yukio began to teach Hiroko in the boom period, when the pressure for his work was greater than he could manage. Naturally, over the years she has developed her own style and this is especially apparent when they do non-*butsum* *makie*. Hiroko says, "My husband's advice is good, but I resist it. He gives a lot of advice but if I follow him, my pictures will be just like his pictures. When I help him with *butsum*, it is his work and that is OK. But when I'm doing my own work I want it to be mine." The pictures they make reflect their own personality. Yukio says, "Hiroko's pictures are too cluttered. She draws too much. They are too decorative." His are simpler and less cluttered. Hiroko says, "This is none of your business! This is my work!"

As with the crafts we have already discussed, there are many variations of technique and terminology amongst individual artisans and even amongst the merchants. We will examine the different styles of Hikone *butsum* *makie* in detail later but first, here is a simplified overview.

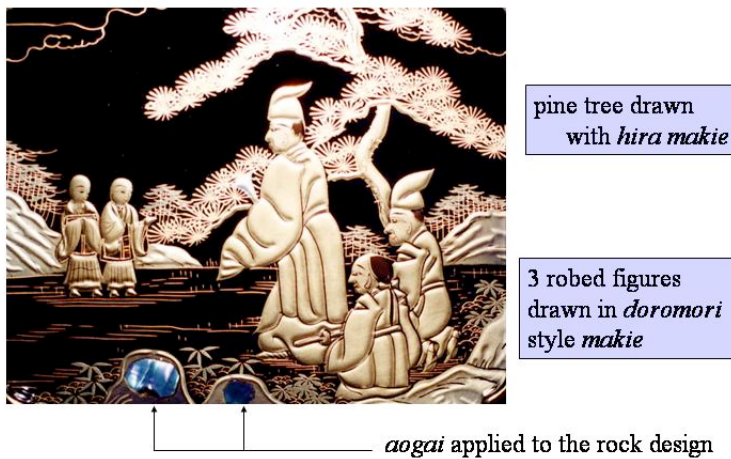
5.1 STYLE: (see flow chart fig.02)

For Hikone *butsum* *makie* there are two basic styles that can be labelled in many different (and overlapping) ways. Most simply, they can be named for the materials used to make the picture. Those that are built up with a clay-like substance (*doro*) are called *doromori makie*. However, another popular style is to create the pattern with *urushi*. In this case, where the design is flat it is called *hiramakie* and where the pattern is more rounded or 'heaped up' it is called *urushimori makie*.

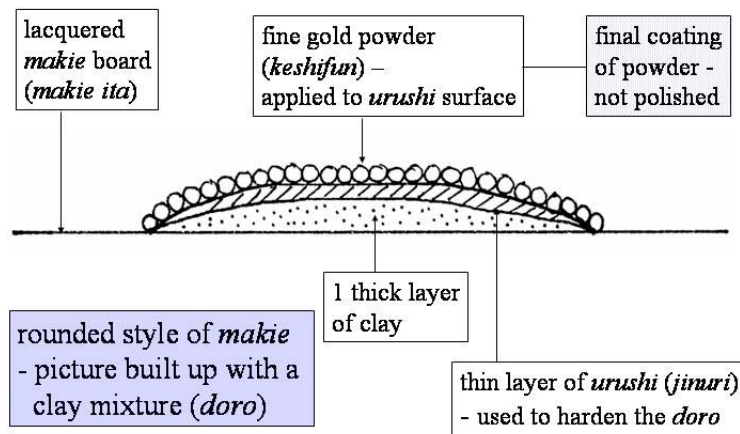


Makie figure 02: overview of types of *makie*
(nomenclature as used by Hikone artisans)

Firstly, the *doromori* style is prepared with *doro* which, although a little runny, can be mounded and moulded to some extent and is thus good for depicting such things as figures with flowing robes. It will be powdered with the finest grade of gold powder (*keshifun*) and may thus also be labelled *keshifun makie* (see *makie* fig. 02 and materials section).

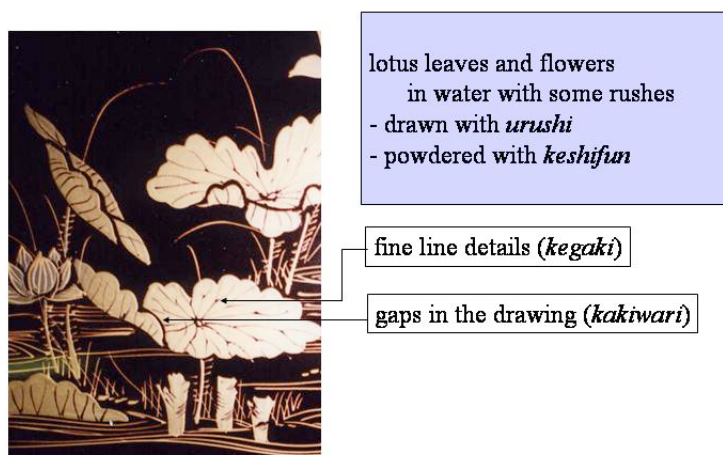


Makie photo 02: example of *doromori makie*

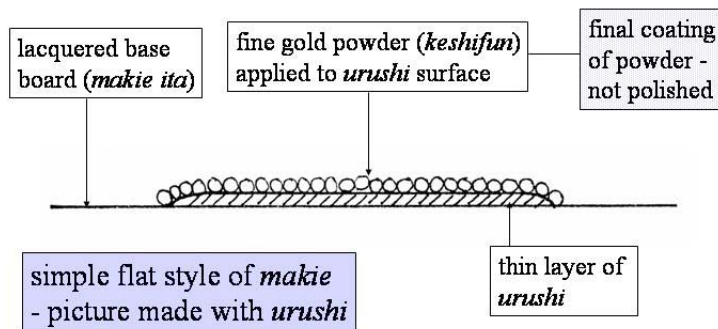


Makie figure 03: doromori makie

Secondly, if the initial outline is drawn with *urushi* and then the design is filled in, making a single flat layer, it is called flat (*hira*) *makie*. When gold powder (*kinpun*) is applied, the result is a simple, unpretentious black and gold picture that might well be the preference of some customers. Since this also uses the very fine *keshifun*, it may be called *keshifun makie*.



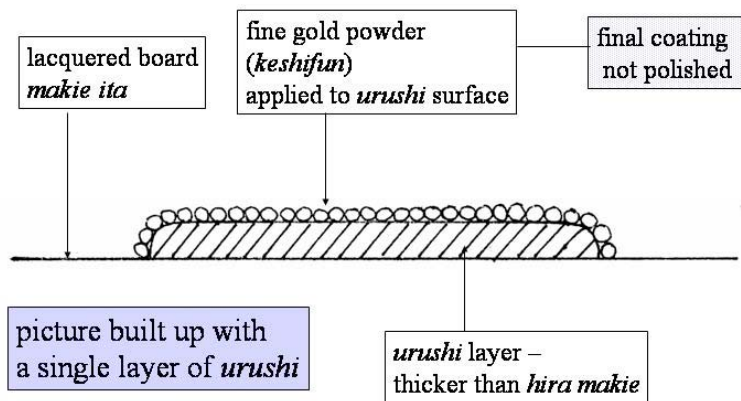
Makie photo 03: example of hira makie



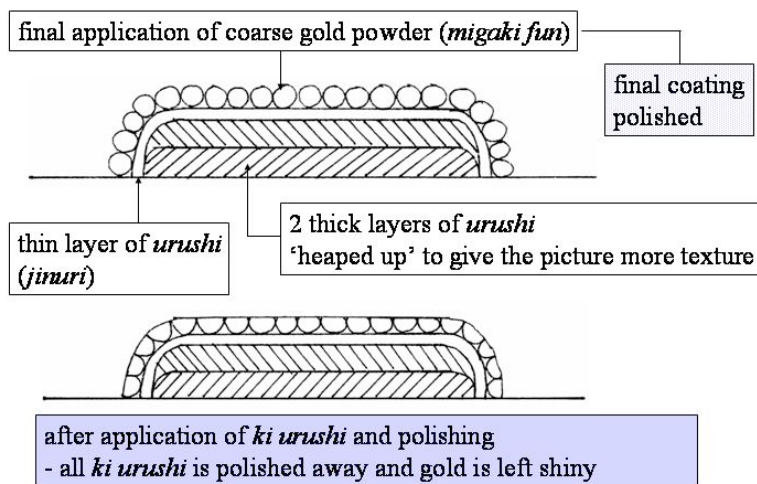
Makie figure 04: hira makie

However, mounding or ‘heaping up’ one or more layers of *urushi* (*urushimori*), using different colours of lacquer and textures of gold, demonstrates more effectively the proficiency of the *makieshi*.

Urushi and *doro* styles of picture making are different enough in terms of abilities and materials that artisans are usually adept at only one of them, the choice depending on taste and the image they wish to create. “The end result is determined more by the skills of the artisan, than the particular style,” says Yukio. Yet, as a craftsman proficient in the *urushimori* method, he adds, “*Doromori* also requires skill and the quality of the work can be very good. But it is easier to do. With the *doromori* technique the finished pattern looks flatter, on the whole. In *urushimori* it is possible to ‘heap up’ (apply) *urushi* in layers and after each layer has dried, make the edges more smooth or gradual by grinding with charcoal. This way you can get more variation in depth.” It is used especially for high quality items or for the robes of figures.

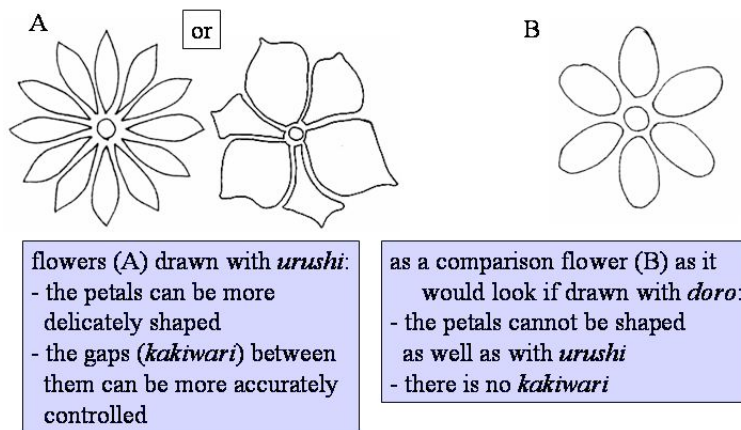


Makie figure 05: urushimori keshifun makie



Makie figure 06: migaki makie

A further aspect of the *urushimori* style is that components of the picture, such as overlapping flower petals or mountain ranges, are separated from each other by tiny gaps (*kakiwari*). Yukio explains, "If you try to do *kakiwari* with *doro*, you can only make a wide gap because it is runny." He thinks that *urushimori* is more delicate and expresses a deeper quality. "The difference between the two methods is that I can draw more detailed patterns with *urushimori* technique. Thus this style is ideal for scenes of nature, such as mountains and rivers, as well as flowers.



Makie figure 07: stylised appearance of flowers drawn with *urushi* (A) or *doro* (B)

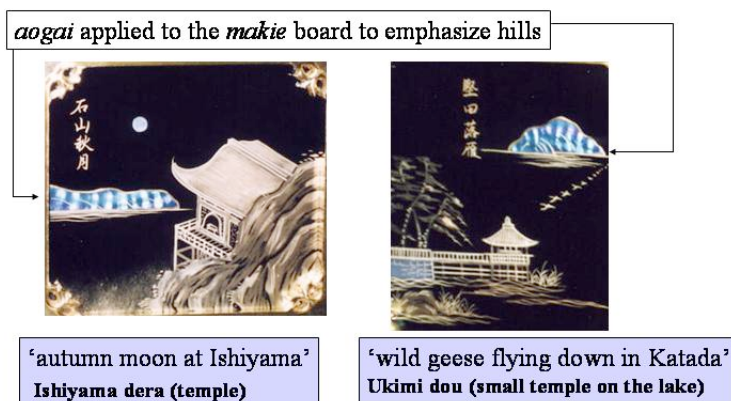


Makieshi, Nakagawa Tatsukichi (DKS)
using *urushimori* style
to produce a flower design
on a black lacquered makie board.
This will be used at the bottom
of the inner lattice door (*shouji*)

Makie photo 04: *urushimori keshifun makie* – showing delicacy of design

“I can’t say which is better quality,” he continues. “The difference in quality in *makie* depends on the skills of the artisans. There are some who do good finishing work with *doromori* while there are others who do poor finishing work with *urushimori*.”

Lastly, to further confuse the naming issue, the work can be labelled for the type of gold powder used (see *makie* fig. 02). *Urushimori makie* when powdered with *keshifun* may also be called *keshifun makie*, in the same way as the *doromori* style. On the other hand in cases of the highest quality *butsudan*, a coarser grade of powder (*migakifun*) may be used and the work will be called *migaki makie* (see materials section). This style is considered superior in that it displays the *makieshi*’s skills maximally.



Makie photo 05: examples of *migaki makie*:

[2 scenes from ‘Ohmi hakkei’– ‘8 spots of scenic beauty in Ohmi (Shiga) Prefecture’ - *makie* by Nakagawa Tatsukichi (DKS)]

One of its main advantages is that, because the gold is coarser and polished, it is more durable and likely to withstand natural wear and tear throughout the life of the *butsudan*. Yukio explains, “With *migaki makie*, raw lacquer (*kiurushi*) is applied, over the powder, over the whole *makie* board surface before it is polished (see *makie* fig. 06). *Kiurushi* is Japanese produced, never imported raw lacquer. When I do *migaki makie*, I apply *kiurushi* at the end with cotton wadding. I use only a thin layer and remove the excess by rubbing with very fine polishing powder (*migakiko*: see materials) made from the whetstone from Gunma Pref.” If *keshifun makie* were to be polished, the powder would rub off, so the resultant unpolished picture is much more fragile. Even everyday dusting must be done carefully. About the durability of the *migaki makie* style Yukio says, “When they are sent for repair (*sentaku*) even after 50 or 100 years the *migaki makie* will still be intact. The highest quality *butsudan* uses Japanese cypress or zelkova board with *roiro* lacquering and *migaki makie* is done on it. In that case, the carvings and ornamental metal fittings are done by hand. In this way, the *butsudan* has the highest quality components. If I do this kind of work I know that all the other work will be of the highest quality.”

There are certain standard skills used to produce either *doromori* or *urushimori makie*. Also there are some procedures the artisan can employ for special effects. These include the quality of the gold powder, the use of other colours of powder, the use of thickened *urushi*, for example, to make the rough texture of tree bark. Details of these aspects will be discussed in the section on processes after the tools and materials have been dealt with.

Before moving on to the next section, it is worth mentioning here that although it is most common, *makie* need not be done on black lacquered boards. *Karaki* style *butsudan*, as preferred by followers of the Zen sect, are often made of ebony. Because of the high quality of the wood and the simplicity of the Zen ethic these are given little further adorned and although *makie* is quite unusual, it is not unheard of. Another variation is to have the *makie* applied to lacquered boards where the grain is showing (*mokume dashi nuri*). This is very rare and used only for very high quality *butsudan*.



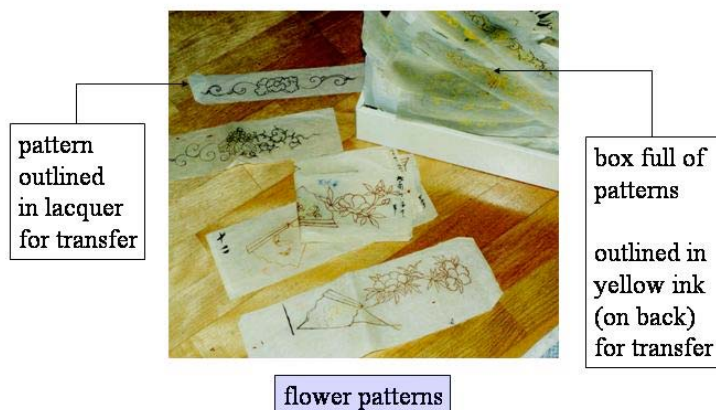
type of *makie* found on
karaki style butsudān
- typical of Zen style

Makie photo 06: *makie* on plain lacquered wood

5.2 PATTERNS:

As with the other artisans, patterns are the Funakoshi family treasure, thus we might find Yukio or Hiroko picking through stacks of paper, in search of something to be adapted for their latest commission. “A lot of our work is ‘flowers with birds’ (*kachou*) pictures,” explains Yukio. “This is the family tradition. Our patterns have not changed for hundreds of years. In the case of *butsudan makie* we don’t usually change the patterns.”

He isn’t sure how many patterns he has. “I’ve never counted them but I guess I have 200 to 300. Some of them are from my father’s day. I have studied sketching and I often make new patterns. I draw a rough sketch with pencil and then draw the finished pattern with a pen. Then I put the yellow ink (*kiou*) directly onto sheets of paper and transfer the patterns onto the *makie* board. Any kind of thin, strong Japanese paper (*washi*) is OK to make patterns. Either *ganpishi* (FN.1) or typing paper from the stationers is good. Patterns can be reused many times.”



Makie photo 07: paper patterns

Although many artisans can draw nature scenes and human figures with equal skill, it often happens that they come to prefer one or the other as their careers progress. The Funakoshi's younger son, Joji, who has just become fully qualified and set up his own workshop says, "The *butsudan* shops my father works for want him to do birds, flowers, scenery. But I do both human figures and scenery. I do 'flowers with birds' and 'mountains with water' (*sansui*) equally because I receive orders equally. In the case of figures, each artisan's work will be different even if the theme is the same," he continues. "There are various ways of drawing and types of composition, like in the scene called '*Kawagoe no myougou*'. In this story, the Joudoshinshuu priest Shinran is disseminating his religious beliefs. He is on one side of the river. An old lady is on the other side, holding up a piece of paper. He draws with his brush in the air and the scripture appears magically on her paper. There are many possibilities for such a story. From this point of view, figures are more interesting to me."

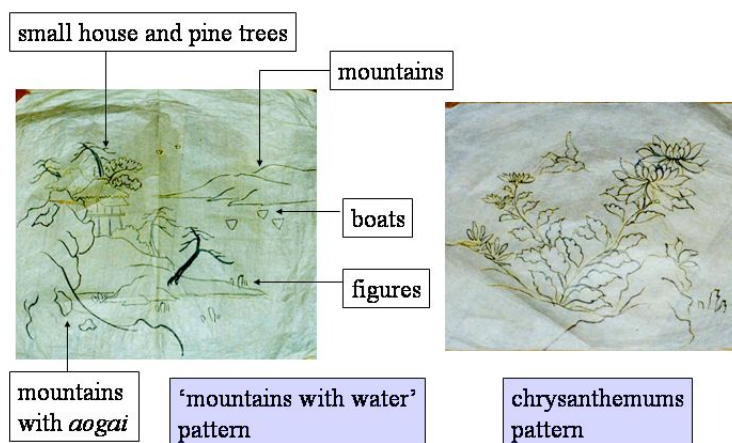
When asked whether flowers or figures require more skill, Joji says, "That's a difficult question. For figures, you can express the theme in various ways, in terms of composition and expressions on peoples' faces. Drawing expressions on faces is most troublesome. I want to draw respectful faces but it's very hard. On top of that, people may get an impression other than what I wanted to create. But then again, flowers are not drawn in *makie* work, as I would sketch them from nature or books. But rather I change the arrangement to suit my mood or the theme and type of *butsudan*, and of course taking into account the limitations of the *makie* techniques. Human figures and 'flowers with birds' all have their particular difficulties."

"'Mountains with water' are easy to draw," adds Hiroko, "because there are not many gaps (*kakiwari*). Flowers are difficult because there is a lot of *kakiwari* (see *makie* photos 17 & 18) where the petals and leaves overlap."

"In my case," says Yukio, "many of my patterns are landscape pictures, moon or flower and bird pictures. Each artisan has his specialty. I wouldn't say I never do figure pictures. But it isn't my preference."

Many of the Funakoshi patterns include autumn flowers. When questioned about whether these plants express the progression of time or uncertainty of life, a good subject for a Buddhist altar, Yukio thinks a little then says. “Well, if I’m asked I would probably say ‘yes’.” However, mostly it doesn’t really matter to him.

“I usually accept an order simply designating ‘flowers with birds’ or ‘mountains with water’, then I decide what kind of pattern on my own.” He can choose the details of what he wants to do. The chrysanthemum, peony and iris are popular flowers. However he has no favourites. Flower groupings don’t necessarily have any significance. “When the design of ‘flowers with birds’ (*kachou*) is used, each panel will have either, or a combination of both,” he explains. “However, if I get an order for a picture with specific flowers or birds, all the *makie* will be done with those. In such cases, almost all the orders are for peonies or chrysanthemums. I guess it is because these two kinds are representative of Japanese flowers and are the ‘king of flowers’. They are gorgeous and elegant representatives of traditional flowers.”



Makie photo 08: patterns

Yukio likes the combination of iris and winter camellia but it has no special meaning for him. However, he has done ‘flowers with birds’ pictures for the lower part of the *shouji* and here he has birds and irises on one side and birds and small camellias on the other. Perhaps almost subconsciously, he has used these to represent the passage of time, since irises bloom in late spring and early summer while camellias bloom in winter. “When several kinds of flowers are combined, there is no rule for which flowers to be placed on the right or left,” he says. “But I try to make the flowers on the right and on the left slant towards the centre so as to face each other.”



Left side –
irises with
bird looking right



Right side –
winter camellias with
bird looking left

Makie photo 09: irises and camellias (also see
photos in section on processes)

“Occasionally, when a customer particularly designates a pattern, I do as I am told,” he says. “They designate the pattern only for traditional very high quality (DKH) *butsudan*.” Sometimes he is asked for ‘Eight Scenes of Ohmi’ (see *makie* photo 05) or famous spots in Kyoto, including such temples as Kinkakuji, Ginkakuji and Kiyomizudera. Then there are times when he is asked to do fan-shaped patterns (see *makie* photos 06 & 16) or ‘treasure pictures’ such as a mallet (which you shake and your dream comes true), or money (oval and made of gold), or a bag of rice, or a cloth bag with treasure. In cases such as these, each design is specified for a particular place on the *butsudan*: for instance, an ox-drawn court carriage for *nekodo*, treasure picture for *naka hikidashi*, lotus and water (*rensui*) for *daiwa hikidashi* and fan-shaped picture for *koshiita* (*makie* at the bottom of the *shouji*).

Yukio gives two examples of where he was asked to draw something very unusual. “Someone built a new house and garden and had a new *butsudan* built. He sent pictures of the house and garden and I made designs for the *makie*. Also, someone went to Koyasan and prayed and brought a postcard of the temple and asked me to do *makie* for the *butsudan* based on the postcard. Usually I do scenery and birds and flowers, so this was unusual and I enjoyed it very much.”

As with the skills we have already discussed, the issue of copying is a serious one. Naturally there is a fine dividing line between copying, modifying or simply getting an idea from another artisan’s work. It is difficult to visit an exhibition and look at many examples without picking up ideas and carrying them to your own work. Joji says, “I refer to other *makieshi*’s designs. And some *toiya* have other *makieshi* copy my designs. It is reciprocal.” However the artisans are not happy when they see exact copies of their work that have clearly been mass-produced abroad.

We will now touch on the tools and materials used by the *makieshi* and then move on to details of the processes.

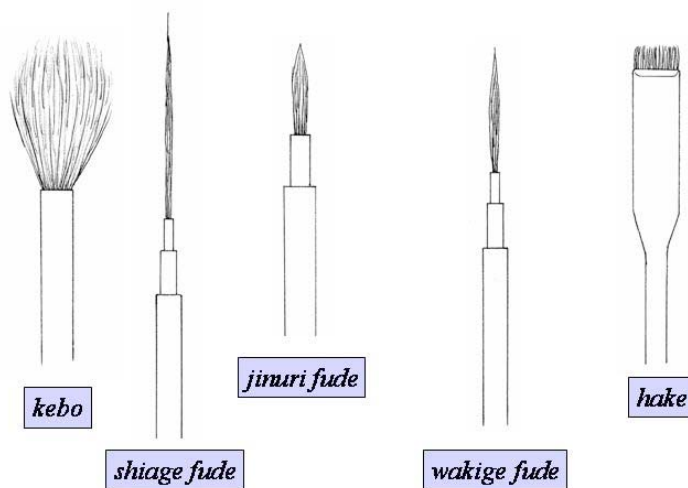
5.3 TOOLS and EQUIPMENT:

Muro:

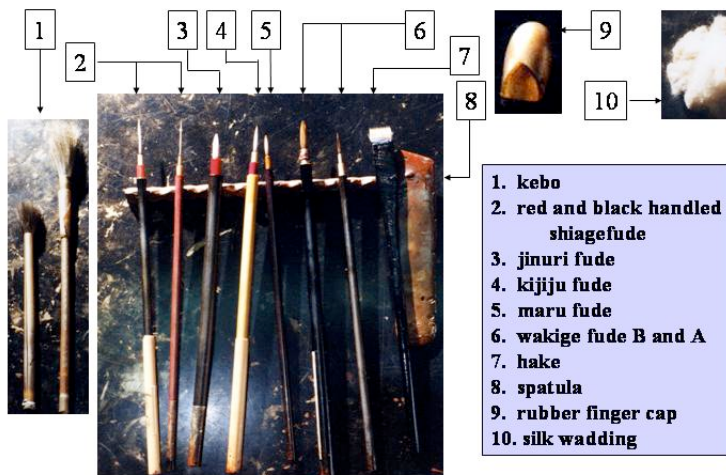
As mentioned in the previous section on lacquering, the *muro* is a constant atmosphere chamber for controlling the ‘drying’ (hardening) of lacquer. In the *muro*, conditions of just over 25 degrees C and 70 to 80 % moisture are ideal. “I only wipe inside of the *muro* with a wet cloth and close the door. I don’t have anything to control humidity, and the temperature is the same as the workshop. The workshop is air conditioned in summer and heated in winter in daytime. At night the switch is off. So the temperature is quite variable. This fluctuation isn’t as important as it is for a *nurishi* because the pieces are smaller. But a temperature thermostat would be better.”

Brushes and other tools used for everyday work:

The following brushes are for the *urushimoriage* style, which is the Funakoshi specialty. Yukio says, “These are enough for most of the work. It is difficult to get the materials for making the expensive brushes because we don’t see rats running around the house anymore.”



Makie figure 08: brushes for everyday work



Makie photo 10: tools for urushimori makie



- red and black handled *shiage fude* for drawing fine hairlines
- yellow handled *kijiku* fude for drawing soft curved lines and outlining pattern on paper
- hake for applying *ki urushi* before polishing

Makie photo 11: drawer of brushes



Yukio keeps a small set of drawers on his work table

for:

powders – top 3
brushes – middle 2
pots of *urushi* – bottom

Makie photo 12: small drawers for materials and tools

1. **Kebo:** *Kebo* are made of the longest fur from the back of a horse and they come in various sizes. From the middle to the tip, the brush is supple. At the base, near the handle the hair is tightly packed so it is stiffer. They are used for dusting off the picture before applying *urushimori*.

2. **Shiage fude:** Finishing brushes (*shiage fude*) have long, thin bristles for drawing fine details (*kegaki*). They are colour coded in red and black. The red-handled one (*akajiku*) is finer than the black and is made from the back hair of a tomcat. It is stiffest and is used for thicker lines. The black handled one (*kurojiku*) is coarser. It is made from the back hair of a female cat and it is most supple of all the brushes made from cat hair. It is used for curved lines. “I use these brushes to draw lines of leaves or water lines,” explains Yukio.

Basically, the brush is shaped so that the tip 2mm is very sharp and the rest is bulbous. The bulbous part stores the liquid *urushi*, which drains down into the tip as the work proceeds. Lines must be drawn using only the last 0.5 mm of the brush. They are always drawn from the top to the bottom of the design, never sideways. So the board must be turned when working. If too much *urushi* is put on the brush the line will be uneven (depth and width) and will not dry quickly and evenly. If *urushi* is powdered when too wet, it will squeeze through the particles of gold powder.

3. **Jinuri fude:** Base-lacquering brushes (*jinuri fude*) are for filling in rather than drawing lines. They may also be used to apply coloured *urushi* (*irourushi*) to an area. Both the handle and bristles are a little wider and flatter than a line-drawing brush and come in various thicknesses.

4. **Kijiku fude:** Yellow handled brushes (*kijiku fude*) are made with the supple back hair of a male cat [or some say the fur of rabbit, fox or *tanuki* (raccoon dog)]. The suppleness is between that of the red-handled (*aka*) and black-handled (*kuro*) ones. They are for drawing soft, curved lines, or initially outlining the design on the paper pattern with yellow paint (*kiou okime*) or lacquer (*urushi okime*) Sometimes for *urushi*

okime, an even thinner brush (*nejigawari fude*) is used. “I use it when I want to draw a thin line. Yellow handled, *kijiku fude* are used for *kiou*,” says Yukio.

5. Maru fude: *Maru fude*, with thin bristles, are used for writing letters, for example writing the person’s posthumous Buddhist name on the funerary tablet (*ihai*) that will be put in the *butsudan*.

6. Wakige fude: *Wakige fude* are made with the back and side hair of rats. They are used only for outlining and for filling in, in the *urushi moriage* process (they are not used for *doromori*). Specifically, *wakige fude A* is used to draw the thin lines of the pattern, such as outlines of flowers and scenery, after transferring them from the paper to the *makie* board. *Wakige fude B* is used for filling in the spaces within the outline. This is probably the most important brush for *makieshi*.

Interestingly Yukio says that he has heard, although he isn’t sure, that these brushes are made from rats’ whiskers. “A material supplier told me that ship rats run around, therefore their whiskers are strong and supple and good for this kind of brush,” he says, adding “This is the most expensive of all *makie* tools: 40 to 50,000 yen.” According to an NHK programme aired in January 2002 and Wajima *Makieshi Kumiai*’s December 2004 newsletter, *makie* brush makers are suffering from the lack of rats’ fur. Recently it is becoming very difficult to find the special kind of rat with the most suitable back hair for their brushes.

7. Hake: Flat brushes (*hake*) have short bristles. If they are to be used for *jinuri*, they are made of cat’s back hair. If they are to be used for applying *kiurushi* before the final polishing of *migaki makie*, they are a combination of the back hair from a racoon dog (*tanuki*) and a black horse.

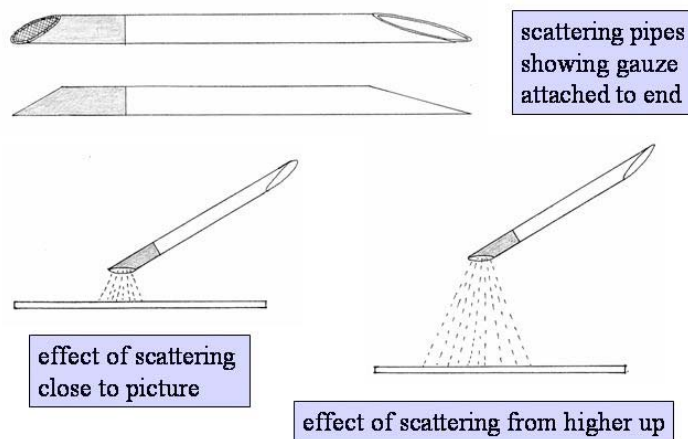
8. Spatula: Spatulas for cleaning brushes and for mixing *urushi* are made of whale baleen. “Whale baleen is good because it’s flexible and doesn’t snap. I buy a shoehorn made of whale baleen at an ordinary store and shave it to make a spatula,” says Yukio. “I cut a piece off the shoehorn. Then smooth it with a whetstone and it is more or less square in cross section. In addition to whale baleen I use cypress and spindle tree (*Euonymus sieboldianus*) and make it the same way as *nurishi*.”

9. Rubber finger cap: As he gets ready to demonstrate his technique, Yukio explains, “I always put this cap on my little finger and use it against the board to steady my hand and prevent oil from my skin getting onto the board. This one is made from an old-style teat from a baby bottle. Now the style has changed and it’s not suitable for use, so my wife uses a finger cap from a stationer’s. She said it’s not very good but there is no alternative so she has to use it.”

10. Silk wadding: This is used to daub fine qualities of gold powder onto the lacquer painting.

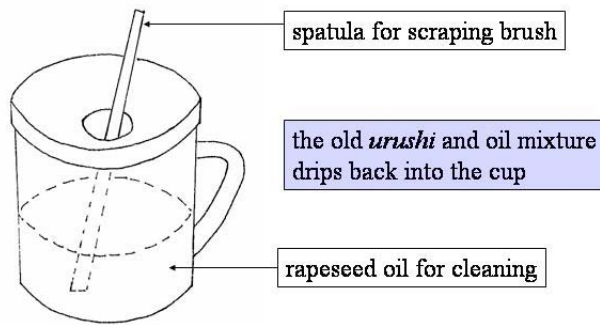
Makie scattering pipes: Gold may be applied using a pad, as with the finer powders; but to spread coarser powder or filings onto the picture, scattering pipes (*tsutsu*) are used. Yukio sometimes uses them for *butsudan makie*. He uses his father’s pipes, but also makes some of his own. “You can get good reeds all around Lake Biwa,” he says. “Artisans make them by cutting the ends of reeds, birds’ bones or bamboo, at an

angle and covering the cut end with gauze. The size of the holes in the gauze determines the coarseness of the powder to be applied. The distance the pipe is held from the picture determines the spread of the powder. Usually, although not always, the artisan holds the pipe almost horizontally, slanting it a little, with his right thumb and forefinger. The hemp gauze covering the cut surface points downward. The pipe is moved gradually over the work, while being tapped with the middle finger, which controls the powder output (see *makie* photo 28). Tapping strongly causes the powder to be spread densely onto an area and gentle tapping produces more sparse distribution.



Makie figure 09: scattering pipes (*tsutsu*) for application of gold

Cup for cleaning the brushes: A pottery cup covered by a cone-shaped lid with a hole in the centre contains rapeseed oil that can be used to clean brushes for about two months, before it becomes too *urushi* laden. The brushes are dipped through the hole into the oil. Then Yukio uses the spatula made of whale baleen, which is hard but flexible, to scrape off *urushi* mixed with oil that then drips back into the hole. If he does not do this, the *urushi* will become hardened on the brush and he could never use it again.



Makie figure 10: equipment for cleaning brushes

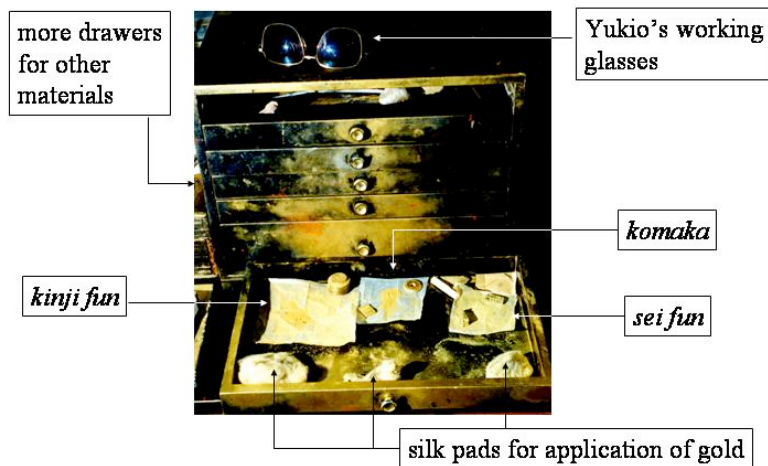


Yukio scraping old *urushi* off a brush with a spatula
the *urushi* will drip into the pot
this can be reused for about 2 months

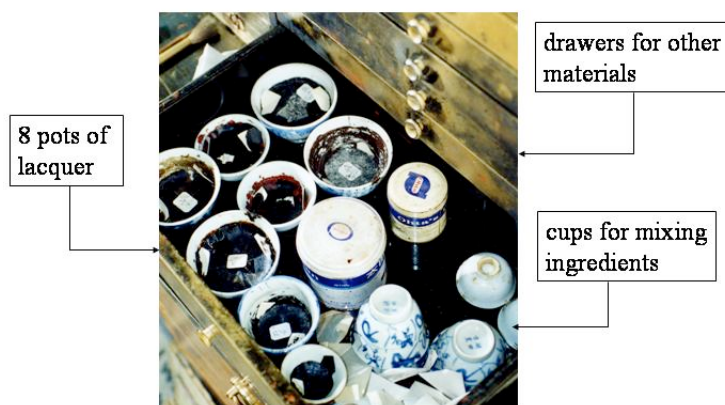
Makie photo 13: brush cleaning equipment

5.4 MATERIALS:

Like their brushes, Yukio and Hiroko Funakoshi keep their powders and lacquers in the drawers of their work desks. There is a drawer to keep different types of gold powders and silk pads for their application. There is *keshifun* for *kinji* (base application), *komaka* for powdering fine lines, and *seifun* for special effects. The powders are sold in small amounts, wrapped in paper and stored weighted down to keep the powders from escaping in case of a draught. There are more drawers for pots of lacquer and other materials.



Makie photo 14: drawer with packets of fine gold powders made from gold leaf (*keshifun*)



Makie photo 15: pots of lacquer and other materials

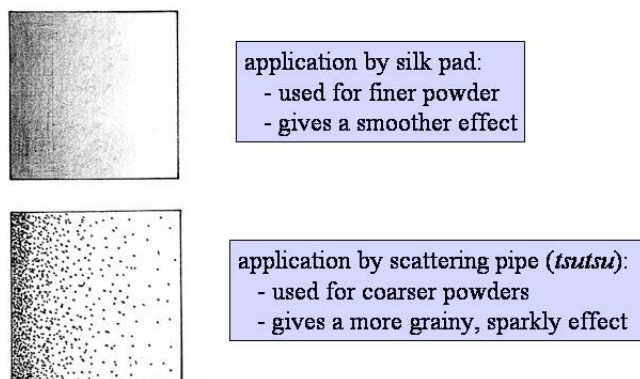
Although the foundation of any picture is lacquer or clay, it is with the subtle and skilful use of powders that the artisan accomplishes the sophisticated effects we can see in the works of DKS *makieshi*. Therefore, we will start our description with these. As described below, silver (either aluminium or platinum) and gold metallic powders are made either from leaf or by shaving a block of the metal. Pigments are powdered stone. Even grinding powder, although not an integral part of the picture, is made by grating crystal whetstone.

5.4.1 POWDERS:

Metallic powders:

There are many kinds of powders (*fun*). They are classified according to the kind and quality of the material (such as gold of purity 90% or above), and the source and

fineness of the particles (whether it is powdered gold leaf or filed gold blocks). For *butsudan makie*, Yukio and Hiroko use gold powder (*honkin*) and aluminium powder (*arumifun*), but tend not to use silver powder (*hongin*) because it tarnishes. As usual each artisan as well as each gold merchant has different names for particular materials. Further, depending on the fineness, *kinpun* may be applied by silk pad or scattering pipe (see tools).



application by silk pad:
 - used for finer powder
 - gives a smoother effect

application by scattering pipe (*tsutsu*):
 - used for coarser powders
 - gives a more grainy, sparkly effect

Makie figure 11: showing effects of different styles of powder application (also showing gradations – depending on density of application)

Gold Powders (*kinpun*):

More than 95% of gold comes from Kanazawa and its production will be discussed further in part 5: gilding. As described in the section on style, *keshifun* is used for unpolished *keshifun makie* and *migakifun* is used for polished *migaki makie*. Gold powders can either be made crumpling gold leaf or shaving gold off a block. We will talk about gold made from a block first. Then we will explain other types of powders used to create special impressions.

A. Powders (*fun*) made from gold block:

Migakifun: This powder is made by filing a block of almost pure gold, then sifting it through different grades of sieve. Therefore the quality is always the same and it is classified from 0 to 20, where grade 0 is the finest and grade 20, the coarsest. As mentioned in the section on style, *makie* can be ‘ground’ or sanded only when powders of about grades 4 to 20 are used. Finer powders, below grade 4, would come off during the grinding process. The powders graded more than 4 (or perhaps 5), are sprinkled through a scattering pipe (*tsutsu*), while those below that are applied with silk wadding. The scattering technique is used only rarely on *butsudan* and mainly for creating special effects.

a) *Yakihiragoku* is the finest *migakifun* and is used most often for *butsudan makie*. It is not numbered but it is finer than grade 1 so can be regarded as 0. Some *makieshi* think different brands give different or ‘prettier’ results, but Yukio doesn’t agree: “I think they are the same. They are the same price,” he says.

b) *Yakimaru* (may also be called *maru fun*) is graded from 1 to 20. For *butsudan migaki makie* Yukio uses from grades 1 to 5.

c) *Aomaru* is also graded from 1 to 20 and has the same quality and purpose as *seifun* (bluish) used in *keshifun makie*. For *butsudan migaki makie* grades 1 to 5 are used.

Hiramefun: This powder is made by filing a gold block and then crushing the particles to flatten them. *Hiramefun* gives a more sparkling appearance. It is coarser and stands out more than *migakifun*. It has a different grading system from the others. It is graded from 1 to 13, where 1 is the finest. For *butsudan makie*, usually grades 1 to 3 or occasionally 4 to 6 are used and for these a *makie tsutsu* is needed for application. Coarser powders might help create a very special effect and then a 'needle' is used. This 'needle' is actually a sharpened willow chopstick, where, according to Yukio, "We lick the tip of the 'needle' and pick up a piece of *hiramefun* and put it on the half dry *urushi*."

B. Powders (*fun*) made from gold leaf:

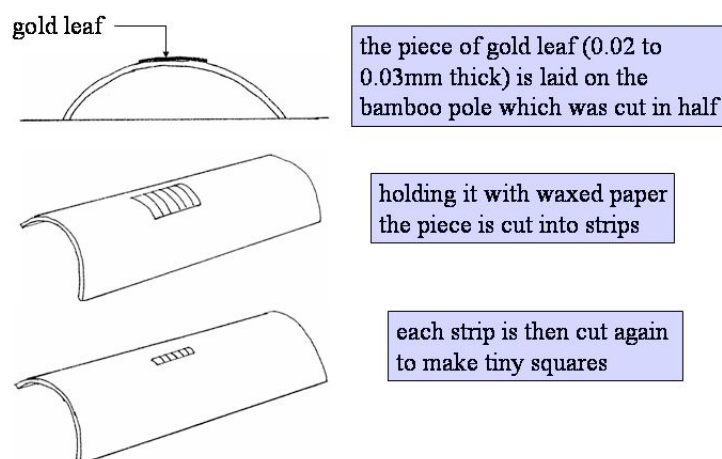
Keshifun: This powder, which is applied by a silk pad, is made from the cut edges of gold leaf after it has been pounded thinner than paper (0.002mm) and cut to a square shape (see next section: gilding). It is not graded for its fineness, but rather for its purity, which depends on the quality of the initial gold leaf. Generally, grade 1 gold is almost pure and grade 4 is lower quality with some impurities. The following three types of *keshifun* are most commonly used for *butsudan makie*.

a) *Kinji* is used in the first application of gold powder. It is made from grade 1 gold, with a purity of 98%, and is thus bright yellow in colour.

b) *Komaka* is used at the end, after the fine details (*kegaki*) have been drawn in. It is made from grade 4 gold, with a purity of 90%. Its impurities give it a whitish colour making the *kegaki* lines stand out brightly, (although looking at *kinji* and *komaka* side by side, it is difficult for the layman to see any difference).

c) *Seifun* is bluish and contains copper. "I use it for special effects, to give a different impression to the design," he explains. "For example, on the bodies of birds flying in parallel, I apply *kinji* for the body and on the tail I apply *seifun*." He does not know how much or what kind of impurities there are, but he thinks this is probably a secret of the leaf maker.

Kirikane: This is thin slices of gold thicker and bigger than *hiramefun* and applied with a 'needle'. To make these, Yukio uses leaves that are between 0.02 and 0.03mm thick (compare normal gold leaf which is about 0.002mm thick: see gilding section). "In the past *makieshi* used to cut it by themselves," explains Yukio. "I sometimes buy several pieces of 5cm sq gold leaf and I still cut it by myself. I can buy it by the length or weight. I put it on top of a piece of bamboo, cut in half lengthways, and hold it with waxed paper so my fingers won't stick to the gold and so the leaf won't move. And I cut it with a razor."



Makie figure 12: cutting kirikane

Now the gold leaf seller cuts *kirikane* by machine according to the size we order.” When placed on the top of rocks or embankments it gives a gorgeous look, for especially high quality *migaki makie*.

‘Silver’ Powder (*arumifun* and *platinumfun*):

In actual fact, none of the silver coloured powders used for *butsudan* are actually silver. This is because silver tarnishes and the *makie* would never stand up to the polishing necessary to keep it clean. Therefore platinum powder (*platinumfun*) is used for the highest quality of *migaki makie*. For ordinary *butsudan makie*, Yukio uses aluminium powder (*arumifun*) in places to be silver coloured. Interesting effects can be obtained when these powders are either scattered directly onto the *urushi* surface or mixed directly in with the *urushi* before application.

Pigment powders:

“Besides *bengara* (oxide of iron) and vermilion (cinnabar, mercuric sulphide),” says Yukio displaying a box of colours, “I use green, blue, yellow (*sekiou*, orpiment) [orpiment and water makes *kiou* (see *nuri* section)]. These are made from powdered stone. I don’t know what other kinds of materials make pigments. Maybe some of them might be synthetic. I can make any colour of *urushi* using these five pigments. For example purple comes from red and blue.”

Polishing powder:

Migakiko (polishing powder): “I shave the finest whetstone, which comes from Gunma prefecture, by myself and make the polishing powder. I shave it with a sheet of glass slowly and get less than a sake cupful a day,” says Yukio a little wearily. “I can’t polish well with the polishing powder on the market. Which means I can’t get good lustre. When I polish, I’m careful not to polish too much so as not to remove the gold powder.”

5.4.2 MATERIALS FOR BUILDING PICTURES:

Lacquer and lacquer based materials:

Urushi based pictures are made mainly with a mixture of 50% *hakushita urushi* + 50% *bengara* (red oxide of iron). When gold powder is put on top of this reddish colour, it gives a particularly warm glow to the surface. However pigments, as described previously, can be added to make *irourushi*. Raw lacquer (*kiurushi*) is used to harden the rather soft clay-like material of *doromori makie* and to make *sabi* (also see *nuri* section). *Sabi* is a thickish material made from 40% *tonoko* + 60% *kiurushi*. Yukio makes it by feel rather than by recipe. It is used in *migaki makie*, for creating texture.

Clay-based materials:

Doro is a clay-like material made by mixing *tonoko* 1kg and *nikawa* 200g and water 300cc. It is used only for *doromori makie*.

Shells:

Simplicity is the keynote of high quality *butsudan makie*. Thus, over and above the expert use of lacquer and powders we have already mentioned, only pieces of very thin shell are used to enhance the designs. Shapes such as flower petals can be cut from paper-thin mother-of-pearl (*aogai*) and applied to a lacquered surface. Any shells with a pearly lustre, such as nautilus, abalone (*awabi*), pearl oyster shell or rarely Mexican shells, can be used. A piece of *aogai* with dimensions of about 10cm x 3cm costs 600 to 800 yen. The designs are transferred onto the shell, with liquid yellow pigment (*kiou*) and then the piece is cut out with a needle. Before attachment the shell looks whitish, but when it is applied to a black *makie* board it takes on a bluish sheen (see photos 05 & 27). For *migaki makie* they are polished and have a very high lustre. In the case of *keshifun makie* they are not polished, and have a more matt finish.

5.4.3 OTHER MATERIALS:

Camphor: It is used to keep *urushi* runny and make it easy to apply, especially in *kegaki*.

5.5 TECHNICAL PROCESSES:

Having touched on *makie* techniques in the introduction to this section, we will now go on to discuss the processes in detail. As a reminder, as described in the flow chart, figure 02, *makie* can be divided into the following styles:

1. ***Doromori makie*** where the picture is built up with a clay mixture.
2. ***Urushi styles*** where the picture is made with an *urushi* mixture. It is further divided by shape:

- a) ***Hiramakie*** is flat.

b) *Urushimori makie* is ‘heaped up’, meaning the *urushi* layer is thicker. Then, it is further divided according to how many layers of *urushi* are applied and the type of gold used:

i) *Keshifun makie* uses a single layer of *urushi* and a fine grade of gold powder and is not given a final polish.

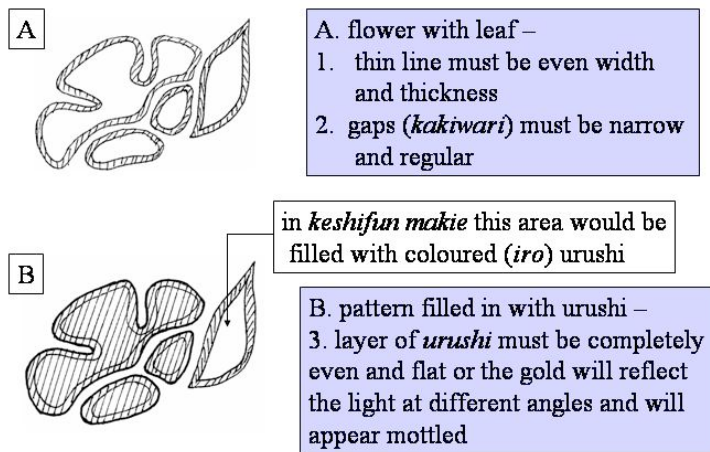
ii) *Migaki makie* uses more than one layer of *urushi* and is gilded with a coarser grade of powder, thus allowing for a final polishing stage. Additional techniques may be used with this style.

Before embarking on the details of how the picture is made, it is interesting to consider some problems encountered by the *makie* apprentice. As with the *nurishi*, there is a possibility that they and even their family members can experience an *urushi* allergy. This is especially so if the house and workshop are joined together. Joji, who has just set up his own home workshop and whose wife has had some trouble, explains rather graphically, “You can have an allergic reaction even to *urushi* in the air. The skin becomes itchy and red and you develop a rash and blisters and liquid will come out.”

In addition to allergies, Hiroko remembers one of the tougher aspects of her apprenticeship, “The practice is to draw straight lines with an even thickness. I repeated this over and over again. With a *makie* brush you can draw only vertical lines from top to bottom, you can’t use the lacquer brush horizontally. To draw a curved line, we always put the *makie* board on the left hand, with the brush in the right, and turn the board, instead of changing the angle of the brush. Consequently drawing even straight vertical lines from top to bottom is the basis of the *makie* technique. Joji did this for about 6 months. He had to practise it only for that short period because he had already done it to some extent at senior high school when he worked for the family business. My husband said he practised this for years at the beginning.”

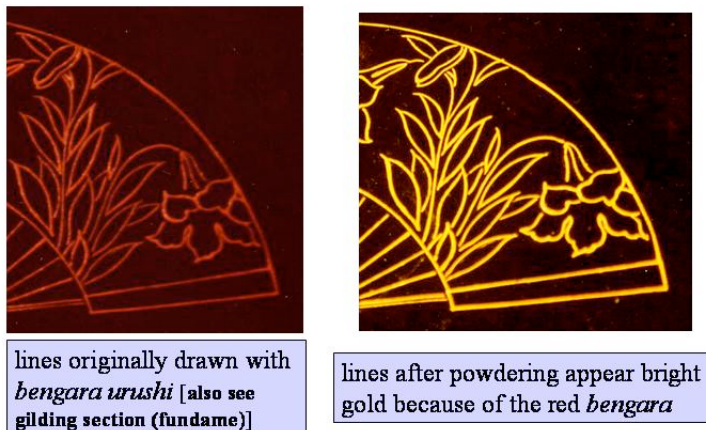
General skills

Initially let us look at what the *makieshi* consider to be their basic skills. For the techniques that use *urushi* to make the picture, namely *hiramakie*, *keshifun makie* and *migaki makie*, the following three skills are the most important. The finishing hairline drawing, described last, is important for all types of *makie*.

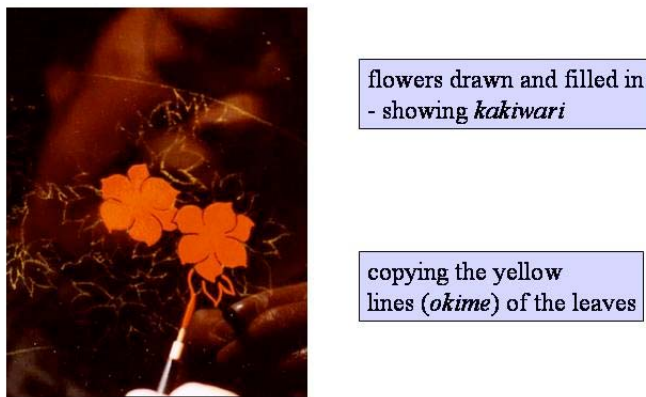


Makie figure 13: three general techniques for *urushimori makie*

Firstly, after the design has been transferred from the paper to the *makie* board, it must be outlined using a mixture of *hakushita urushi* and *bengara*. Care must be taken so that the width and thickness of the line are uniform (see *makie* fig. 13). [NB: some artisans refer to the line drawing as *jigaki* and filling in as *jinuri*. Yukio and Hiroko call both of these processes ‘*urushimori*’ or ‘*urushi moriage*’, because in fact they are done as one process. In the Funakoshi workshop the *jinuri* process is used particularly for *migaki makie* (see relevant section)].

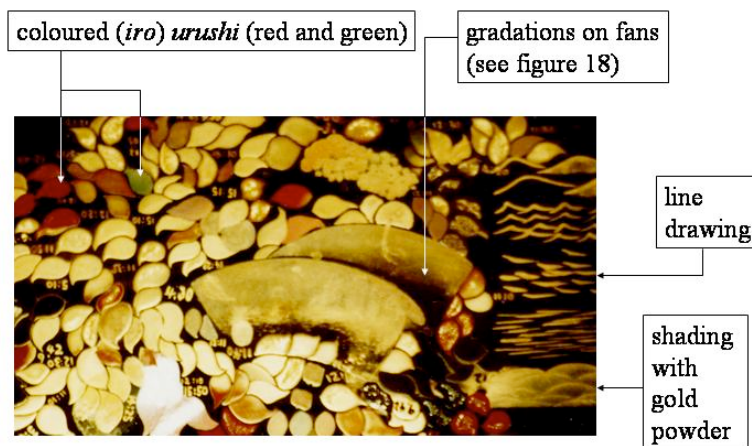


Makie photo 16: showing the regularity of the initial line drawing



Makie photo 17: doing line drawing of *urushimori*

Secondly, in the case of *urushimori makie*, where the segments of the design are separated by narrow gaps (*kakiwari*), the main skill is to keep the width of these gaps absolutely even (see *makie* fig. 13). *Urushi* will not be applied to these gaps, so they will appear as black lines after the picture has been powdered with gold (see *makie* fig. 27). This technique is considered to be one of the most difficult for *makieshi*.



Makie photo 18: practice board showing gaps (*kakiwari*) between leaves

Thirdly, when spreading the *urushi* into the outlined areas (see *makie* fig. 13) the brush should be loaded to exactly the right amount and used with a constant pressure to get an even thickness. In other words it is essential that the layer of lacquer is level. The powder is applied to the *urushi* when it is still a little tacky. If the *urushi* layer is uneven it will not have dried evenly in the *muro* and will not be uniformly tacky. Therefore wetter areas will pick up more powder and on drier ones the gold will not stick well. As the picture continues to dry the resultant gold colour will be variable. Hiroko says, “The *urushi* layer must be flat to get beautiful *kakiwari*. The *urushi* must

be even, otherwise, when the gold is added, it reflects the light in different planes and you can see the shading.”

A last important general skill is that of drawing the fine finishing lines (*kegaki*). This, hairline drawing is practised by the artisans of all four types of *makie*. At the end, details will be added to such things as flower petals, leaf veins, tree bark, grass embankments and bird feathers. A little pot of kerosene or camphor is kept near the work and the brush is constantly wetted with it to keep the *urushi* and *bengara* mixture liquid. When the gold powder is daubed onto the reddish line the gold colour will stand out beautifully.



Yukio drawing fine details on water lily pads

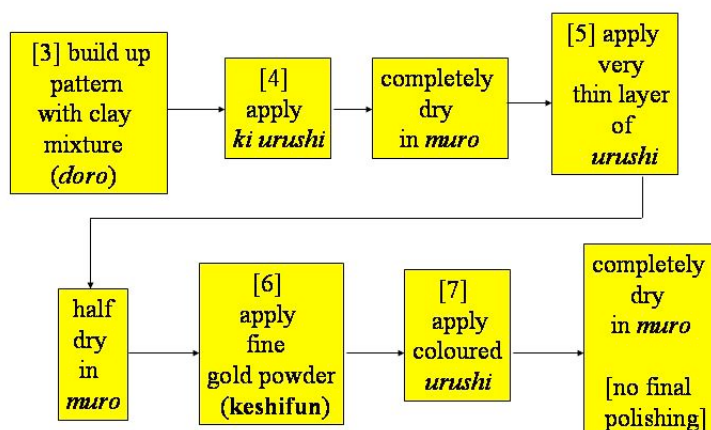
Makie photo 19: Yukio doing *kegaki*

Another traditionally trained DKS (see main introduction) *makieshi*, Nakagawa Ryukichi, says that even after years of experience he still feels stress and his shoulders ache (see *makie* photo 04). “When you draw a line you should stop breathing. I have stiff shoulders doing difficult parts, working for many hours. Delicate lines such as the centre of the flowers and stamens need concentration.”

Now let us look in detail at the three most commonly used styles for high quality *butsudan makie*. The flow charts shown are overviews of the processes and are meant to highlight the differences between the styles. In general, the beginning (*okime*) and end (*kegaki* etc) processes are very similar for all styles.

(5.5.1) *DOROMORI MAKIE* (see *makie* photo 02 and fig. 03):

The description here is as given by Funakoshi Yukio and his son, Joji, and thus may vary slightly from the processes used by other artisans. The following flow chart gives an overview of the processes. For clarity, not all processes are described in figure 14. Rather the numbers, such as [3], match those used in the text.



Makie figure 14: flow chart of *doromori makie* (*keshifun makie*) (unpolished)

1. **Transferring the rough sketches (*okime*):** After drawing the design on thin paper as described in the patterns section, it is traced on the reverse side, with a brush, using a paint (*kiou*) made by dissolving yellow pigment (*sekiou*) in water. Then the paper is placed yellow side down onto the *makie* board. With a wooden spatula or a roll of bamboo bark, it is pressed firmly enough to transfer the pattern onto the black board, where the yellow colour stands out clearly (see *makie* photo 20).

2. **Making the clay mixture (*doro*):** To make *doro*, a lump of *tonoko* (about 1kg) is put in a bowl with 300cc of water where it is ground and mixed well. It is then combined with 200g of animal glue (*nikawa*). The result is the same as *tonoko shitaji* used for the lacquering process.

3. **Building up of primary clay material (*doromori*):** *Doro* is built up with a brush in the empty spaces within the initial outlines. “*Doro* is soft but not sticky like *urushi*,” explains Yukio, “so we can easily heap the patterns. So making the pattern doesn’t require as much skill as *urushimori makie*. And we can’t do *kakiwari*.” It is dried at room temperature for 1 to 2 hours. Then more layers may be added and at that time thin pieces of shell (*aogai*) may be attached to make the design stand out. Finally it is dried naturally for about 15 hours.

4. **Applying and rubbing *kiurushi*:** Next, a cotton wool pad is saturated with *kiurushi*. Then it is rubbed firmly over the surface of the *doro* once or twice. This is to harden the heaped *doro*. It is dried in the *muro* for 3 to 6 hours or overnight and the next process, applying *urushi* over the hardened *doro*, is begun the following morning.

5. **Applying *urushi* (*jinuri*):** *Jinuri urushi* is a mixture of 70% *hakushita urushi* + 30% *bengara* (red oxide of iron) [or alternatively, 55% *sukihakushita urushi* (JIS3) + 15% *nashiji urushi* + 30% *bengara*]. A little camphor may be added to keep the mixture runny. It is applied thinly and evenly, with a brush (*jinuri fude*), over the hardened *doro*. The surface must be very even and there must be no dust. It is dried in the *muro* for 2 to 5 hours until it gets half dried (tacky).

6. **Applying gold powder:** While the *jinuri urushi* is still sticky, gold powder (*keshifun*) is tamped on using silk wadding formed into a round ball about 5 to 10cm in diameter. Then it is dried in the *muro* for about 8 hours or overnight, until it is completely dry.

7. **Applying coloured lacquer:** A mixture of 80% *nashiji urushi* (JIS 1: see *nuri* footnote 5) + 20% pigments (see materials) is used to make coloured *urushi*. This mixture is applied with a *jinuri fude* in the previously untreated parts of the pattern, where colour is desired. It is allowed to dry completely for about 8 hours.

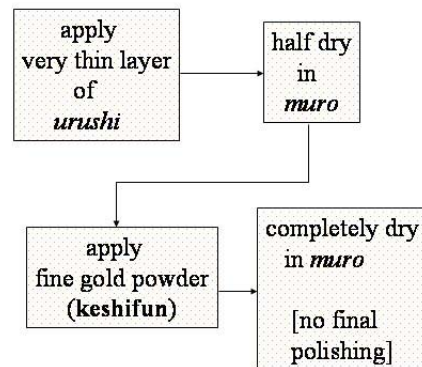
The application of *jinuri urushi* (stage 5) can be done either before or after that of the coloured *urushi* (stage 7). The main idea is that, if gold powdering is to be done, the *urushi* coat must be left only partially dry. When both are finished, the work is completely dried before going to the finishing stages.

8. **Hairline drawing (*kegaki*):** Fine details are drawn in with a *hakushita urushi* and *bengara* mixture, and then gold powder is applied to highlight features of the picture. The red of the *bengara* makes the gilding stand out (as seen in *makie* photo 16)

9. ***Kegaki* finishing:** In *doromori*, it is not possible to express the delicacy of the pattern with *kakiwari*. Rather, features such as the folds in a priest's robe (see *makie* photo 02) are enhanced using coloured or black lacquer lines, which will not be gilded. *Jinuri urushi* and *kuro hakushita urushi* (JIS3: see *nuri* FN.5) are mixed and used to make the design distinct. Finally, the work is thoroughly dried in the *muro* for about 5 hours.

(5.5.2) URUSHIMORI MAKIE

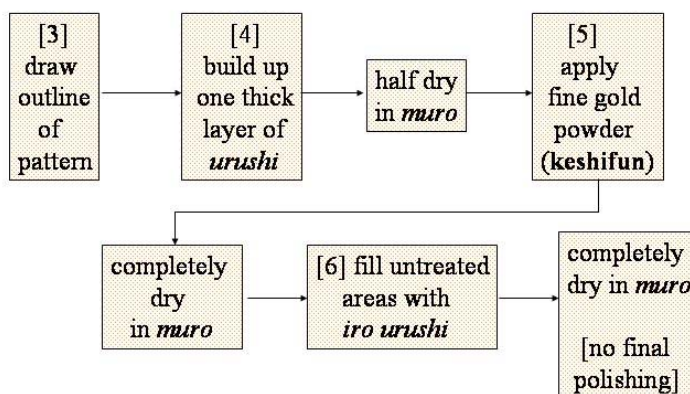
Now let us turn to the techniques using an *urushi* mixture to make the design (*urushimori makie*): *keshifun makie* and *migaki makie*. As mentioned before, the flat style (*hiramakie*) will not be discussed in detail here because it is generally not used for DKH *butsudan*. However a flow chart clearly indicates the simplicity of the style.



Makie figure 15: flow chart of *hira makie* (*keshifun makie*) (unpolished)

(5.5.2.A) URUSHIMORI KESHIFUN MAKIE (see makie photo 04):

This style of *makie* is left unpolished when completed. It is not given a final coating of *kiurushi* and sanded down, so it is quite fragile and great care must be taken, throughout the life of the *butsudan*, especially with everyday dusting. Other than this, both styles of *urushimori makie* have many features in common. For an overview of *keshifun makie* processes, see *makie* figure 16. As before, it is a summary so not all the processes explained in the text are shown in the flow chart. The numbers, such as [3], refer to the stages as mentioned in the passage.



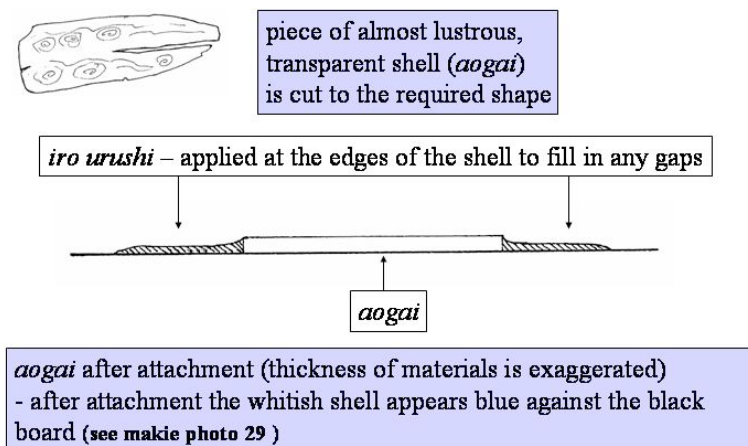
Makie figure 16: flow chart of *urushimori keshifun makie* (unpolished)

1. **Transferring of rough sketches (*okime*):** This process is the same as described in *doromori makie*. Yellow orpiment powder (*sekiou*) is dissolved in water to make *kiou*. Then it is used, with the *kijiku fude*, to trace the drawing on the underneath of the thin paper. “To transfer the design, I put the pattern yellow side down on the board and rub

over it heavily with a small piece of bamboo sheath (bark), rolled up and tied with elastic. We call both the transferred pattern and the transferring process ‘*okime*’,” explains Yukio. “The reason why we use orpiment is that its yellow colour is visible. It stands out, on the black *makie* board. Also, it is easy to correct the pattern because the yellow lines rub off easily with a soft brush. We can use *urushi* to transfer the patterns. But I use *kiou* when I am quite familiar with the pattern, for example a traditional one or one I have used many times. And I can easily change the design according to need. I do the ‘heaping up’ process thinking how I can make the design come alive by arranging flowers, leaves etc. So I might suddenly decide to bend a leaf instead of making it straight.” The advantages of doing *okime* with *urushi* will be discussed in the next section, *migaki makie*, where it is used more commonly.

“The board must be dust-free,” says Hiroko, “so after transferring, I ‘huff’ onto the orpiment lines to add moisture so that when I brush the dust off the board, the pattern won’t brush off too. The slight moisture from the ‘huff’ makes the yellow *kiou* particles stick to the *urushi* surface. I wipe the board lightly with a brush (*kebo*) to take off any dust before starting *urushimori*.”

2. **Attaching *aogai*:** *Aogai* may be used with all styles of *makie* for emphasizing embankments or islands (see *makie* photos 02, 05 & 29). It is usually done after *okime* and before *urushimori*. India ink (*sumi*), as used in calligraphy, is used to attach the shell. *Sumi* contains animal glue (*nikawa*) so it is suitable for sticking the shells. After the *sumi* has dried and the piece is well bonded, *kiurushi* is applied with a brush to fill up any remaining gaps around the edge and ensure attachment. Furthermore, coloured *urushi* may be used, for example on an embankment to graduate the edge of the shell with the *urushi* layer. In the case of *keshifun makie*, the shell will not be polished.



Makie figure 17: attaching *aogai* for *keshifun makie*

3. **Drawing the pattern outline with *urushi*:** The transferred design is then outlined with a mixture of 50% *hakushita urushi* + 50% *bengara* (red oxide of iron) called ‘*urushimori urushi*’ or ‘*bengara urushi*’, using *wakige fude*. This is the first stage of the ‘*urushimori*’ process, as Yukio calls it. Although different *urushi* mixtures can be employed, *hakushita urushi* is the only kind they use in the Funakoshi workshop.

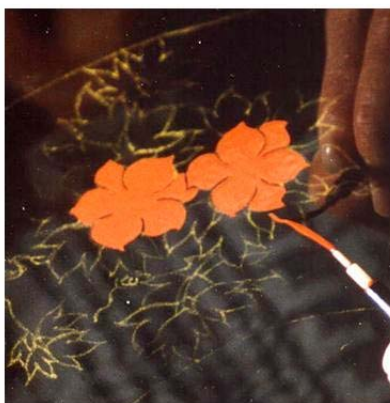
Bengara gives the reddish tint that will make the colour of the gold powder vivid. While drawing the outline, special care is taken with the delicate gaps (*kakiwari*) in the pattern (see *makie* fig. 13 & photo 21).



showing contrast of yellow *okime* on black board

Makie photo 20: Hiroko drawing pattern lines on yellow *okime*

4. **‘Heaping up’ of *urushi***: Leaving the areas to be coloured blank, those spaces within the pattern outline where gold powder will be applied are filled with more of the *bengara* mixture. This is the second stage of the ‘*urushimori*’ process. Yukio is careful to make the thickness of the filling the same as that of the outlines. Finally, it is half dried in the *muro* until it is just tacky, and ready for powdering. From the rainy season to summer the drying period is 1 to 2 hours; and in winter it is 2 to 3 hours. This drying period is important because, as described before, if the *urushi* becomes too dry, the powder won’t stick well.



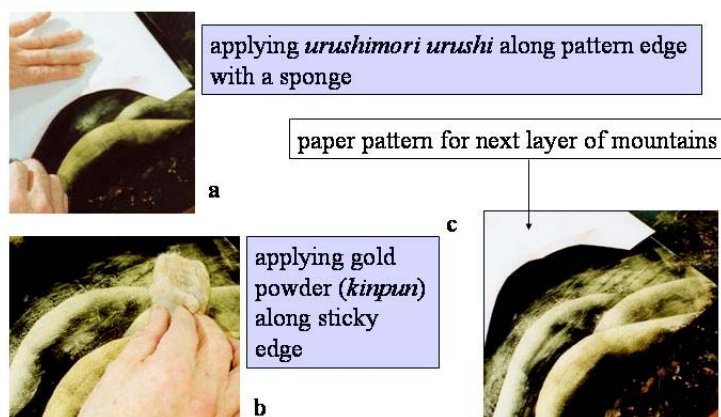
filling in with mixture of 50% *bengara* + 50% *urushi*
- lacquer layer must be absolutely level

Makie photo 21: doing the filling stage of *urushimori*

5. Application of powder: For the parts to be finished in ‘silver’, aluminium powder (*arumifun*) is applied and for those to be finished in gold, *keshifun* for the base application (*kinji*) is used. They are spread on with silk wadding, care being taken to keep them from overlapping. “Although,” adds Yukio, “if a little overlap occurs, it gives a nice effect, in its own way. Gold dust is finer than *arumi* powder. Where the work looks silver, it is because the *arumifun* is sprinkled on top of the *urushi*. And where it looks more burnished and gritty, the *arumifun* is mixed directly into the *hakushita urushi* in equal quantities.”

Below, Yukio describes how he gets the effect of distant mountain scenery and mist, after mixing *bengara urushi* on the palette:

- i) Put a piece of paper cut out in the shape of a mountain on the *makie* board.
- ii) Dip a sponge into the *urushi* mixture and dab it lightly along the edge of the paper, to form the shape of the mountain.
- iii) Immediately apply *keshifun* gently with silk wadding.
- iv) For a distant mountain use a different shape of paper pattern and apply *seifun*. *Seifun* is a type of *keshifun*, which contains copper and is slightly bluish in colour.



Makie photo 22: Yukio making receding mountains

Unless otherwise stipulated, *keshifun* is used. However, says Yukio, “Even in the case of *keshifun makie*, I use the coarser *hiramefun* if I receive an order to use it (see *makie* fig. 22). But it will not be polished. I put coloured *urushi* on the part of an embankment or other raised ground and immediately (without drying) I apply *hiramefun*. *Hiramefun* isn’t necessary but it gives a more gorgeous picture. Receiving this kind of order means that I can expect the pay to be equivalent to the amount of work I do. The whole *butsudan* will be high quality and worth the effort.” Finally, before going to the next stage, the work is dried thoroughly, overnight in the *muro*.

6. Applying coloured *urushi*: Naturally different artisans develop their own special recipes for mixing *iro urushi*. For example 80% *nashiji urushi* (JIS 1) may be mixed with 20% colour such as red or blue. At the Funakoshi workshop, however, they prefer to use 50% *hakushita urushi* + 50% powdered pigment. “When coloured *urushi*

is made,” Yukio explains, “I do a testing process (*tameshiage*). I apply it on a lacquered testing board for trial and dry it in the *muro* and check if it shrinks or what colour it turns out to be. And then I use it (see *makie* photo 18).”

“For *butsudan makie*, I seldom use coloured *urushi* and when I do, I use it sparingly,” says Hiroko. “If you use colour for *butsudan*, it looks cheap, it doesn’t look so sophisticated. For most *butsudan makie*, I use only *keshifun*, *arumifun*, *bengara* and pine soot. Grey coloured *urushi* is a mixture of 50% *hakushita urushi* + 50% *arumifun*. After application, it is dried in the *muro* overnight. Then it looks burnished and granular. For black, about 30% pine soot is added. For red, 50% *hakushita urushi* + 50% *bengara* are mixed. And pine soot can be added to make it browner.” Before the next stage the work must be thoroughly dried in the *muro*.

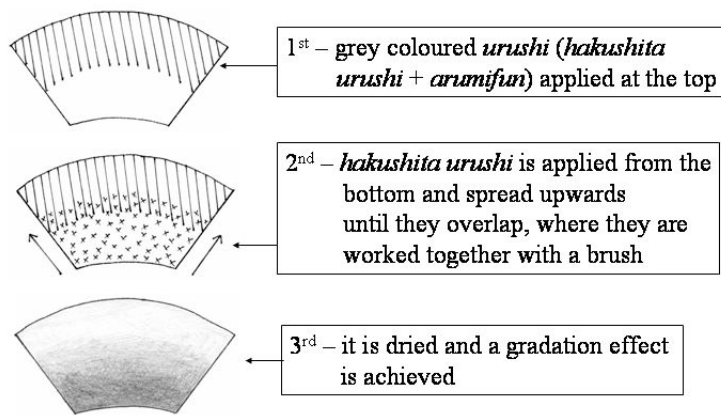


these coloured leaves will remain red after powdering of *kegaki*

Makie photo 23: coloured *urushi*

“Sometimes I want a gradation of coloured lacquer,” Yukio explains. “I practise the gradation (*bokashi*) technique on the testing board first and then use it.” For example, as seen on the fan (*makie* photo 18):

- i) Grey coloured lacquer (*hakushita urushi* and aluminium powder) is applied at the top of the fan.
- ii) Almost immediately *hakushita urushi* is applied at the bottom of the fan and worked upwards until it meets the grey lacquer and overlaps a little. He works them together with a brush so that they blend. *Hakushita urushi* is a little brownish but when it dries it turns dark brown.



Makie figure 18: showing way of making gradations (*bokashi*) with lacquer on a fan

7. **Hair line drawing** (*kegaki*) (see *makie* photo 19): “I use *urushimori urushi* (*hakushita* and *bengara*, also called *bengara urushi*) for hairline drawing where gold powder will be applied,” explains Yukio. “I put a bit of kerosene, as a thinner, on the tip of the brush and mix it with *urushimori urushi* and draw the lines with it. It makes it easier to draw thin lines. Turpentine or camphor can be used instead. After hairline drawing, it is dried in the *muro* for about 10 to 15 minutes until the *urushi* won’t run, but is still almost liquid.”



using *shiage fude* for hairline drawings (*kegaki*)
 using *hakushita urushi* + *bengara* (kept runny with a little kerosene)

Makie photo 24: *kegaki*

8. **Application of gold powder:** “Because it’s still very tacky,” continues Yukio, “a lot of powder sticks to the lines and they will be raised. I apply *komaka*, rubbing lightly over the lines with silk wadding. The *bengara* makes the lines stand out brightly. *Kuro hakushita urushi* may be used but the lines will be less vivid.”

As *makieshi*, Nakagawa Ryukichi describes, “I plump some dust onto the surface. Then, gently rub from the centre of the picture to the outer edges, generally in the

same direction as *kegaki*. Then I rub lightly in circles to cover the whole picture. And finally I rub back and forth quite hard. If the dusting is good, the whole surface will be even and the same colour.



using a silk pad
to apply
gold powder
(*kinpun*)

Makie photo 25: application of gold powder onto
kegaki

9. **Finishing:** Finally, to add details, where the lines will not be gilded, coloured *urushi* is used. Lines and dots, such as birds' eyes are drawn with *kuro hakushita urushi* (JIS3) to complete *makie*. It is dried overnight in the *muro* and then the *makieshi* rubs over the board lightly with a knitted cotton cloth or flannel to take off the excess powder.



Flower, bird and water details
have been added

next the gold powder
will be rubbed away
completely (see *Makie* photo 29)
- leaving a shiny black board
with a gold picture

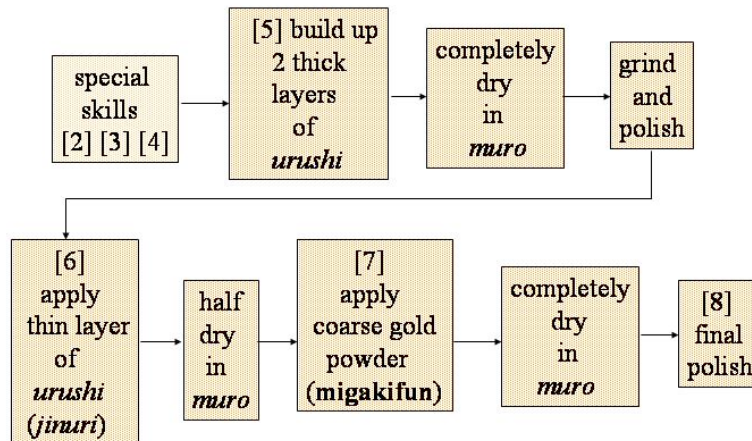
- *kegaki* shines brightly
because of the red iron oxide
in the *urushi* mixture

Makie photo 26: after rubbing gold powder (in
swirls) onto hairlines (*kegaki*)

(5.5.2.B) MIGAKI MAKIE (see *makie* photo 05):

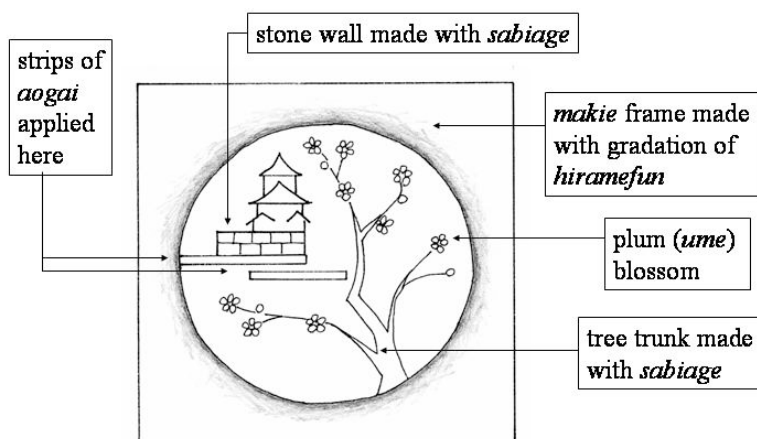
Polished, *migaki makie* is used for high quality *butsudan* costing over 5 million yen. In this case, the undecorated board is prepared by *nurishi* using *kuro roiro urushi* (see lacquering section) because the final picture on the perfectly flat, shiny board will be

more elegant and sophisticated than if an unpolished (*tatenuri*) board were used. Before going on, please refer to the flow chart (*makie* fig.19) for an overview of the processes. Since special techniques are used in this style of *makie* and the order can vary depending on the artisan, a simple summary is given here. The numbering, such as [3], matches that of the text.



Makie figure 19: summary flow chart of *migaki makie* (polished style of *makie*)

Those processes which demonstrate the *makieshi*'s skill to the utmost, will be explained using a *makie* design by Yukio. The picture, within a circular border, has a plum (*ume*) bough with clusters of blossom, in the foreground. In the background there is a castle fronted by a stone wall. Narrow strips of *aogai* represent the embankment of the castle moat. Although not intended for a *butsudan*, this design uses the same techniques.



Makie figure 20: framed *migaki makie* picture made by Yukio

1. Okime: “Instead of *kiou*,” explains Yukio, “we transfer the rough sketches from the paper to the *roiro*-finished (polished) *makie* board using *urushi*. We go over the lines on the backside of the rough design with *hakushita urushi* and transfer it to the *makie* board the same way as for *kiou*, then dry it in the *muro* for 2 hours. We use *hakushita urushi* instead of *kiurushi* because *kiurushi* is too thick and dries too quickly. Unlike *kiou*, *urushi* drawings can’t be rubbed off. But if I want, I can remove it with a dry cloth before it dries. It will be used for *migaki makie* so it needs to stay on better than the yellow lines used for *keshifun makie*. The advantage is that it will not disappear if I rub it by mistake. I use it in cases where I won’t want to change the patterns during the building up process (*urushi mori*). If I’m a little unfamiliar with the design, I practise on paper until I get it right, then I transfer it and won’t plan to change it any more. In a rare case, if I need to correct or change the design, I erase it by wet grinding with crystal grade 1000 or, in the olden days, with charcoal.”

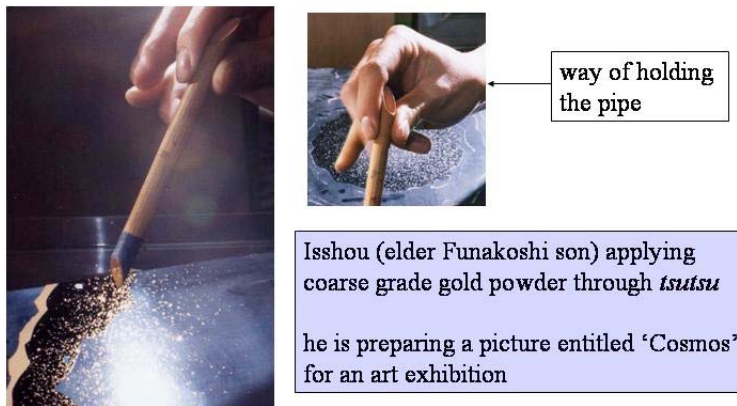
2: Attaching *aogai*: This process is the same as described for *keshifun makie*. However, in the case of *migaki makie*, a thin layer of *kiurushi* is applied over the whole finished picture and it is then polished. Thus, the *aogai* becomes thinner and bluer and develops a beautiful lustre, not present in the unpolished *keshifun* version (see *makie* photo 05).



Lily pads:
done in two different colours
of gold (yellowish and whitish)
and *aogai*
note bluish colour of *aogai*

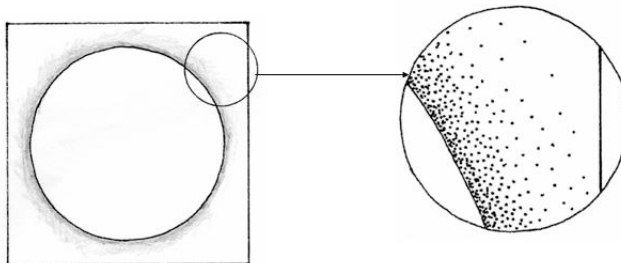
Makie photo 27: Yukio doing *kegaki* on *aogai*

3: Applying *hiramefun*: This is done after attaching *aogai* and usually appears on mountains, waves, irregular ground or mist in the sky. We will describe two techniques here: a) the border of our sample picture and b) how it is used on mountains (not shown in this picture).



**Makie photo 28: applying gold powder
through a scattering pipe (see makie fig. 11)**

a) Making the circular border area of the picture: Because this particular picture has a border, this is done first. It is a special process used mostly for *migaki makie*. “I apply *kuro roiro urushi* and without any drying I scatter the coarse type of gold powder (*hiramefun*) with a scattering pipe (*tsutsu*) densely at the inner edge and becoming less dense towards the periphery of the picture. It gives a graduated effect,” explains Yukio.



hirame fun is applied on the border, using *tsutsu*
- it is applied in greater density at the inner edge to give a gradation
effect

**Makie figure 21: detail of *hirame fun* on
border of castle picture (figure 20)**

“I dry it thoroughly in the *muro* for 24 hours and apply Japanese *kiurushi* thinly and evenly over the surface.” After drying completely, it has to be ground. The process is as follows:

- i) First he wet grinds the surface with *suruga* charcoal.
- ii) Then he wet grinds it again with crystal grade 800 to 1000.
- iii) Next, he polishes the *hiramefun* parts with a small amount of rapeseed oil and *tonoko* on a knitted cotton cloth. The *tonoko* used in this ‘*douzuri*’ process is

powdered clay whetstone, the same as the material used for *tonoko shitaji* described in the previous section: lacquering.

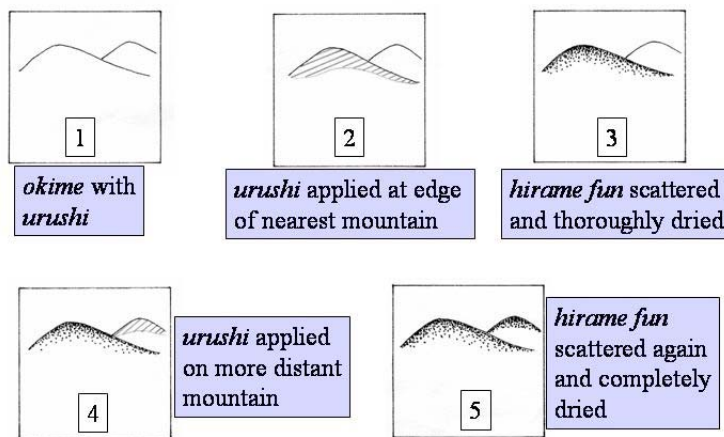
iv) Then he puts *kiurushi* all over the *hiramefun* areas again and the work is dried completely in the *muro*.

v) Lastly, using his fingers, Yukio applies rapeseed oil over the same areas. Then, with a small amount of *migakiko* on his fingertips, he gives this area its final polish.

“In all the processes of *makie*,” adds Yukio, “we always use a bit of water for grinding, or a little rapeseed oil for polishing. We don’t do dry grinding. That completes the frame and then I work on the main picture.”

b) Making a series of receding mountains: Although our sample picture does not have mountains, the way of showing them fading into the distance describes another aspect of the *makieshi*’s skill (also see *keshifun* section).

In this case *kuro roiro urushi* or *kiurushi* is applied, with *jinuri fude*, for the closest mountain first. Without drying, *hiramefun* is scattered with *tsutsu*, more densely at the top and graduating towards the base. Any *fun* particles falling outside the rounded mountaintop are swept onto the *urushi* using the fluffy, soft bristled *kebo*. Then it is thoroughly dried. This process will be repeated for each mountain separately, until the farthest have been completed.



Makie figure 22: making receding mountains

When the mountains are completely finished, *kiurushi* is applied over all the *hiramefun* surfaces, with *jinuri fude* and then it is completely dried. Then, unlike for *keshifun makie*, it is ground and polished as described above.

4: Texturing (*sabiage*): For our picture, *sabi* made by mixing *seshime urushi* (low quality or imported *kiurushi*) with *tonoko*, is applied onto the trunk of the plum tree and the stone walls with a *jinuri fude*. Yukio loads the brush with *sabi* and applies it to the *urushi* board and then shapes it. “I can’t use *doro* (*tonoko* and *nikawa*) because it is too runny,” he says. “But *sabi* is more solid and can be used to give detail, to give a complicated textured effect to the pattern. For the parts I want to build up high, I

‘heap up’ plenty of *sabi*. Since it doesn’t run, I can heap it up all at once. Or if I want to make it even higher, there are times when I use *sabi* on top of *urushimori*.” After the *sabi* is completely dried *kiurushi* is applied on top with *jinuri fude*. Next it goes into the *muro* overnight. To keep the textured surface, these parts are not sanded or polished at this stage (although they are when the whole thing is polished at the end). For an example of this kind of work, please see *makie* photo 05: the rocky mountain in the left picture (Ishiyama *dera*) is done with *sabiage*.

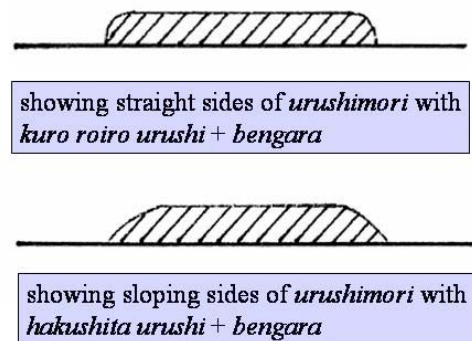
low quality or imported *ki urushi* is mixed with *tonoko* to desired consistency
it is applied with *jinuri fude*



In the case of this picture, *sabi* is applied to the tree trunk and stone wall

Makie figure 23: appearance of texturing using *sabi* (*seslime urushi* + *tonoko*)

5. **Heaping up of *urushi* (*urushimori*):** In this case, unlike *keshifun makie*, the *urushi* used is a mixture of 60% *kuro hakushita urushi* + 40% *kuro roiro urushi*. Then this is mixed equally with *bengara*, and finally pine soot totalling about 1/3 of the *bengara* is added. He judges the amount by feel and experience. When asked why he uses *kuro roiro urushi*, Yukio thinks for a while, then mumbles, “Hmmm... I never thought of it before... Endurance? Thickness? First, the reason why I add *kuro roiro urushi* is that it becomes stronger than if it were made with only *hakushita urushi*. *Kuro roiro urushi* makes the *urushi* strong. And second, *kuro hakushita* has less shrinkage than *aka hakushita*, because it dries more slowly. Yes,” he decides, “if I use only *hakushita urushi*, it is soft but if I use the mixture it becomes strong. It makes the edges sharper. When I draw patterns, I can make clear lines or clear *kakiwari*. I can draw sharp edges of flower petals or thin well-defined lines. It is because the *urushi* heaps up clearly. I apply it with *wakige fude* to the castle, flowers and narrow branches etc. Then dry it in the *muro* overnight.”



Makie figure 24: effect of heaping up of *urushi* - using different *urushi* mixtures

Unlike *keshifun makie*, after the first layer is dry, another layer is added to give depth to the picture. For the castle in our sample picture, the blocks of the wall are built up with *kakiwari* gaps between them. After the first layer, the gaps are clear. However after the second layer of *urushi*, they become much narrower and with further treatment will all but disappear (see *makie* figs. 25 & 26).

These *urushimori* parts are then ground with *suruga* charcoal or ‘crystal’ using a little water. Finally they are polished with rapeseed oil and *tonoko* on a cotton cloth as described for *hiramefun* process.

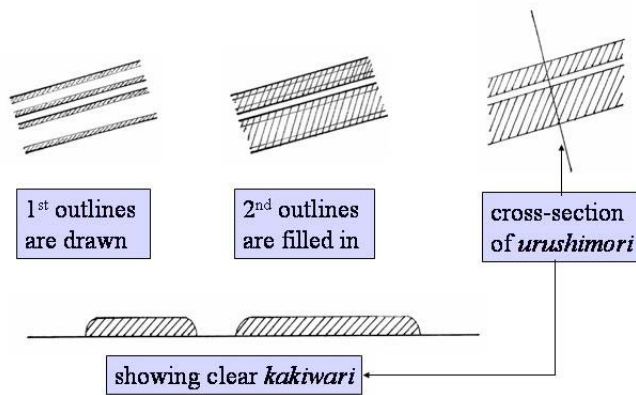
6. Base application (*jinuri*): With *kijiku fude* and *jinuri urushi*, which is a mixture of 60% *kiurushi* + 40% *bengara*, Yukio draws the outline of the parts where *sabiage* or *urushimori* have been done. Then *jinuri urushi* is applied very thinly, with *jinuri fude*, over the whole area. It is half dried in the *muro* for 2 to 3 hours.

7. Application of powder: Generally, though not always, more time is taken with powdering for *migaki makie* than the *keshifun* style, and the powdering effects are more subtle and interesting. For each type of powdering, Yukio works on the area separately. He applies the *jinuri urushi*, then after half drying, the powder. Then it is dried completely and the next area is tackled. Different types of gold or different coloured powders may be used to create attractive results. Since coloured *urushi* is not used for *migaki makie*, all coloured effects (red, brown, dark brown, grey) are obtained as mentioned below.

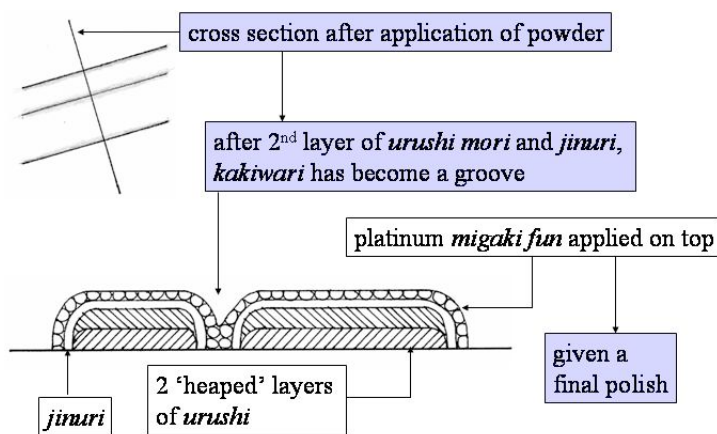
a) In some parts, such as flower buds, when he wants a simple gold effect, he applies only *migakifun* with a silk pad as before.

b) Yukio applies platinum powder for the castle in the bordered picture being considered here. Because of the thickness of the second *urushimori* layer, the thin *kakiwari* gaps made with the first layer almost disappear. Therefore those spaces, when filled with platinum *migaki fun*, don’t appear as black lines, but as silvery

grooves in the castle wall. On the part where he wants to make it darker or shaded, he applies a little pine soot.

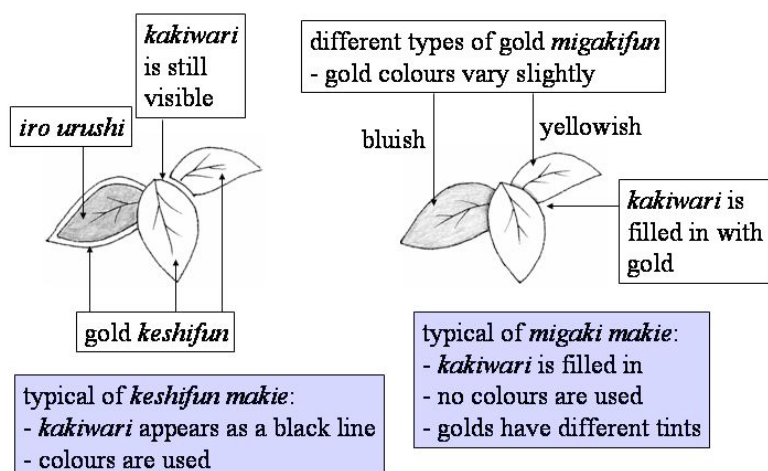


Makie figure 25: first layer of *urushimori* is applied



Makie figure 26: showing results of 2nd layer of *urushimori* to make the castle wall

Not all the *kakiwari* gaps become grooves. Many are left as clear black lines, depending on the effect he wants to create.

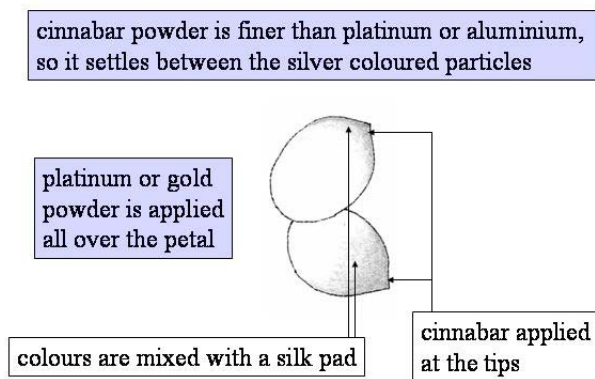


Makie figure 27: different of expression of leaves

c) Hills and mountain have already been mentioned (see *makie* photo 22). Sometimes to accentuate very distant hills, coarser *aomaru*, which has a bluish tinge, may be used and larger pieces of gold (*kirikane*) can be dotted across the mountaintops, to make them glint attractively.

d) On the other hand, Yukio may prefer a slightly different colour, to bring out whole flowers or the skirts of an aristocrat's garment. For an all-over effect, a mixture of ten parts *migakifun* to one part cinnabar (vermilion) powder applied with a silk pad gives an even, pinkish result. Alternatively, the cinnabar powder can be applied after the gold powder. Whether or not the powders are mixed beforehand, produces a subtly different result. On the parts where he wants to make it more reddish, he applies extra cinnabar powder over the gold powder.

e) "Or if I want a graduated effect as here," he says, pointing to the castle and *ume* picture, "I apply aluminium or gold powder all over the petals and cinnabar powder only at the tips. Then I use a silk pad to give gradation (*bokashi*) to the tips. Cinnabar powder is finer than aluminium powder so it fills the spaces between the particles of aluminium powder."



Makie figure 28: flower petals showing gradation

f) “If I want to make the border between gold and silver colour distinct, first of all I apply *jinuri urushi* followed by platinum powder and then, after that is completely dried, I do *jinuri* on the part where gold powder will go and then apply it. I do the silver one first. The greyish coloured part,” explains Yukio, “is not made of aluminium powder, but platinum powder, though ordinary people wouldn’t know whether it was platinum or aluminium.”

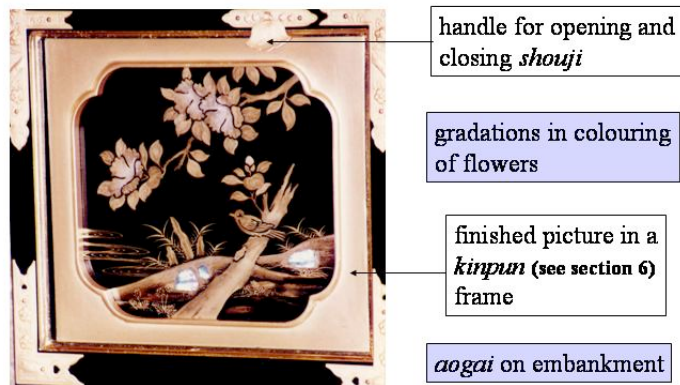
8. **Polishing:** When all these parts are finished, the work is completely dried in the *muro* then *kiurushi* is applied thinly with a cotton pad, over the whole *makie* board. It is dried again, for 24 hours and then he polishes it with *migakiko* and rapeseed oil, using his fingers. This process can be used for all *migakifun* from 0 to 20; but cannot be used for *keshifun*, which would be polished off (see materials section). The shine is determined by the amount of grinding and polishing. The coarser powders can resist more polishing, so will have greater lustre. In the case of fine powder, the lustre is softer.

9. **Drawing the fine lines (*kegaki*):** Using *urushimori urushi* (50% *kiurushi* + 50% *bengara*) as before, Yukio puts a little kerosene on the *shiage fude* and mixes it with the *urushi*. Then he draws the fine lines for such things as grass, insides of flowers and leaves and butterfly antennae. Then it is half dried for about 10 to 15 minutes.

10. **Application of powder:** For this last stage, the fine quality *keshifun* is applied with silk wadding, over all the *kegaki* lines. To finish, the work is dried thoroughly.

CONCLUSION:

When all these processes have been completed, the boards are sent back to the manufacturer (*toiya*) who will install them in the *butsudan*



Makie photo 29: *urushimori keshifun makie* picture in situ at the base of *shouji* (*koshiiita*) [surrounded by decorative metal work (see section 7: *kazari kanagu*)]

In this website meant to document traditional Japanese craft skills, we have so far discussed the three woodworking and two lacquer crafts used in making DKH *butsudan*. We have seen that beautifully grained woods are skilfully fashioned into the most intricate parts. We have also seen that they are then covered up! Although customers may be invited to view the finished parts of the *butsudan* at each stage, they usually do not bother. Thus, they never really understand what goes into the making of their family altar and why it is so expensive. Next, with the beautiful glow of lacquer, we saw the *butsudan* begin to take on the subtle understated image we have of Japanese style. Now, with the second of the lacquering crafts, *makie*, we have seen a new element of splendour coming into play. There are still two more stages in the production of such high quality *butsudan*: the two metal working crafts of gilding and decorating with pounded metal pieces. We will move to gilding next and marvel that, after all the efforts to produce a perfect lacquered surface (section 4), a considerable part of it is once again covered up, this time with gold. However it is worth noting that, in the future, it may well be the fragile *makie*, which will be most in need of repair, at the time of *sentaku*.

FOOTNOTES:

[FN.1] *Ganpishi* is thin paper made from the bark of *wikstroemia gampi*, a member of the Daphne family. The surface of the paper is smooth, delicate and lustrous. It has strong resistance to insect pests and humidity.

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