

レーザーと日本剃刀の研ぎ方

岩崎航介

Honing Razors and Nihonkamisori

Kousuke Iwasaki

(Translated by Jim Rion)

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Translator's Note

This has not been an easy translation. In addition to my relatively poor Japanese skills, the language used in writing this is at times archaic, and often obtuse. Even the native speakers I have asked have often lacked the vocabulary to understand parts, and I have only been saved by the fact that my wife has a very advanced knowledge of Kanji, and I am deeply obsessed with razors and honing. In addition, I'd like to thank Joseph Geruntino for his invaluable assisting in checking and editing.

There are some points where I have chosen to retain some more obscure Japanese words, especially the archaic measurements of Kanme, Monme, Sūn and Fūn, because I think they are interesting. I have, of course, included the modern conversions, as indeed they were often present in the original, anyway.

Where I felt helpful or necessary, I have included brief explanatory notes set off in brackets, with my initials [Like this--JDR]. I hope these are not too intrusive.

Now, before the meat of this book, a brief word about the author.

Kousuke Iwasaki (b. 1903, d. 1967) was more than just a maker of razors; he held a PhD in metallurgy from Tokyo University, he was apprenticed to swordsmiths and barbers, and his book "Regarding Blades," 「刃物の見方」 is still considered one of the leading works on Japanese smithing, metallurgy and Tamahagane ever written. He was born into a family of blademakers, but his father's business was destroyed by the enormous influx of cheap, mass-produced yet still high-quality German cutlery after the first world war, and he swore to establish Japanese blades as the best in the world as revenge for his father's losses. This mission led him to studying the ancient secrets of the Japanese bladesmiths, as well as his lifelong research into Tamahagane and swordsmithing. He eventually transferred his focus to razor making, both of the traditional Japanese Kamisori as well as western-style straight razors.

In 1946, he established the Sanjo Workshop in Sanjo City, Niigata prefecture to produce razors and other small blades, and his oldest son Shigeyoshi worked with him to establish one of, if not the, most respected names in Japanese razor making. At the same time, he continued his research into

traditional Japanese steels, and in 1966 was named Official Blade Inspector for the Imperial Household at Tōshōin (the Imperial Treasure House) in Nara. The next year, sadly, he passed away from Cancer at the age of 64.

In this text, his writing shows an obsession not only with making, but also caring for, blades. In the above mentioned text, he described how, in order to ensure the absolute best edges on his razors he searched out and reopened the Mikawa Nagura mine so that no one would ever get a bad shave from an Iwasaki razor. He researched Japanese natural hones in this same pursuit, as well as metallurgical and smithing techniques, and his obsessive attention to quality shines through in the text that follows. He pays attention to every element that could effect the quality of his razors' edges: strops and stropping, hones and honing, weather, storage and oiling...everything. Some of his information seems a bit counterintuitive, but remember, this book was written almost 50 years ago, and it still describes many of the same issues we straight razor fans deal with every day, like the use of microscopes, chromium oxide, and microbeveling.

So please enjoy “Honing Razors and Nihonkamisori”, and if you find any use or enlightenment therein, please do share it with others who might also do so.

Jim Rion

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Honing Razors and Nihonkamisori

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Section 1--Preparation of Tools



1. Nagura

Using the black Tsushima hones as Nagura, instead of the white hones sourced from the area near Nagura village in the Kitashitara district of Aichi prefecture, is a mistake. As there are also fake white Nagura, it's best to seek out stones stamped in red with "Examined: Asano" [See figure at left—JDR].

I've asked Professor Nagayuki Asano, the former head lecturer of the Barbering Department at the Aichi prefectural Occupational Guidance Facility, who lives near the mountain producing the Nagura, to examine and stamp these stones for the sake of professionals in the field.

There are four main types of Nagura: Botan (ボタン), Mejiro (目白), Tenjou (天上) and Koma (コマ or 細.) Botan has coarse particles, and eats steel well; the Tenjou and Mejiro have fine particles. Because Nagura are widely used for honing out chips and correcting rounded bevels, the coarser stones are highly sought after and thus are somewhat expensive. The Koma have particles finer than Botan, yet still eat steel quickly, and sword polishers and Cloisonee makers buy them in large quantities, so they are even more expensive than Botan.

Botan sometimes have small black spots known as "sand eyes," and in that part you'll often see lots of sharp inclusions, so it's best to be careful to use the other faces of the stone.

Nagura are a kind of quartz Tuffa, formed from compressed volcanic ash, and so one of their drawbacks is that they are brittle and often have fracture points. So using a stone with sharp corners can lead to pieces breaking off and falling onto the surface of your hone, which will damage the edge of the razor you are honing, and thus it's best to sand all around the Nagura stone and round off any corners. Also, to prevent pieces falling from the sides of the stone, seal the sides with the vinyl resin called "Hone Coat".

If you have bought the coarse Botan, and either the Tenjou or Mejiro for middle honing, there is no objection to seeking out a Koma Nagura to come between them. [This is a difficult passage, but I think the implication is actually that it is not necessary; this will become clear later, as he never mentions Koma again. In addition, the comment that the Koma "comes between them" contradicts other descriptions of the relative fineness of the Nagura, including those written by Iwasaki himself, not to mention my own experiences with using them. This needs further investigation.--JDR]

2. Small Form Honyama



Prepare a small piece, about the size of a matchbox, cut from a "Honyama" stone. Sand down the top and bottom corners and coat the sides with "Hone Coat", just like your Nagura. Use this as a companion slurry stone, a "Tomonagura," with your Honyama stone.

3. *Honyama Hone*

A hone with a brown stamp reading “Maruka Shouhonyama” [See figure at left—JDR] on the small end is absolutely top class [Current Maruka stamps are purple.—JDR]. The yellow stones are considered the best, but after trying reddish ones, blue ones and white ones, the results showed that the particles were the same and the honing results were all equivalent. After the “Maruka” hones, the next best hones are finishing hones from Ozaki-mountain. They are dark gray, and not particularly pretty, but having used one, the resulting edge was very good. The price is good, as well, so I particularly recommend them for younger people.

Just like your Nagura, carefully round off the corners. Flatten the sawmarks on the sides of the hone with sandpaper. There are stones with purple or brown “skin”. Remove this completely. This skin is harder than steel, and so any fragments of it can cause serious damage to your edge. It is also best to smooth and even out the uneven areas of the bottom of the hone. In the past, people often coated the sides and bottom with Urushi lacquer, but these days “Hone Coat” is sufficient, and it dries quickly.

The face of the honyama must be absolutely flat, because if there are any dished or raised areas in the center, you won’t be able to achieve a good edge. Some people think that lapping the hone using emery powder spread on a sheet of glass will result in a flat face, but if you use a straight-edge to check, you will almost certainly find that the center is raised in this case. Therefore, use sandpaper to lap the surface of the hone until it is perfectly flat. Thus far, there hasn’t been a habit in the barbering world of using a straight edge to check the hone surface, but from now on it should become a standard practice, as should the use of sandpaper to sand down raised areas of the face of the hone.

4. *Raxa Hones (Pasted strop)* [*“Raxa” is from Portuguese, meaning “wool cloth”. Apparently, the pronunciation in Japan is “Rasha.”--JDR*]

Make a Raxa hone by sticking a scrap of wool cloth onto a small wooden board with tacks. [In the original, he recommended a Kamaboko Board, a small wooden platter used in cooking and serving a steamed fish paste, it's about 15x5 cm.--JDR]. Onto this, spread a mixture of water and the abrasive called "Green Powder" (Chromium Oxide). Use this to remove the extremely fine "false edge" left by the honyama hone. I've tried using wood or the back of a leather strop with this powder, but with each one I found that it caused some chipping on the blade, so it's best not to use either.

5. *Proper Strop Care*

Leather made from the rump of a horse and treated using a process developed in Cordoba, Spain, is known as Cordovan. The skin of a younger horse is thinner, and the composition is finer and smoother, but in the rare case that the leather is cut, it can penetrate all the way through, so for younger, less experienced people thicker leather is safer. Thicker leather comes from older horses, and the pores are coarser. The thinner leather is cheaper.

If dust gets stuck to the strop, or steel from your razor gets embedded in it, or it gets too dirty, you will need to sand it down with Strop Paper. First, sand the dry strop with 120 grit paper. If the strop has any cuts, sand down until the cuts are gone. Next, sand with 240 grit paper, then move up to 320 grit. Then, take a moist towel and dampen the strop, and then sand it with 400 grit, then 500 grit, moving on to 600 grit paper. As you are sanding, the strop will start to dry and whiten. When that happens, re-dampen the strop with a damp towel. Finally, polish the strop with 800 grit paper. As grit from the paper can fall off and get embedded in the strop surface, carefully wipe down the

surface with a clean, damp towel until it is clean and smooth. Finally, thoroughly wipe the damp surface of the strop with a clean, dry cloth, rubbing for 10-15 minutes, until the strop is dry. After it is completely dry, the surface will develop a brilliant sheen, and will gleam like a mirror.

In the course of normal use, foreign bodies can get embedded in the surface of the strop, so twice a month, on the 1st and 15th, make it a habit to dampen the strop and polish it with 800 grit strop paper, and then gently wipe off any residual grit from the paper with a damp cloth. Finally, polish it with a dry cloth until it shines again. Continuing this will impart a lustrous shine to the strop like it has been lacquered.

If you rub soap on it, the strop will dry out and begin to crack, so by no means do so. If you use milk or eggwhites, the proteins will adhere to the strop and harden into particles like sand, which will damage your razor, so don't use them either. There are people who use a beer bottle to flatten a strop, but this can cause the strop to stretch and curve, so it's best not to. Some also spread oil on the strop to soften it, but it's very common to over-apply oil. In such a case, no matter how you polish the leather it will never become glossy, and it will lose half its edge-polishing power. If you have over-oiled your strop, follow the method described in the next section to remove the excess.

6. Removing Oil from Strops.

[Warning! The following section seems, to me, to be a bit on the dangerous side. I can't recommend it, and if you do decide to try this, for Pete's sake be careful!--JDR]

(1) Pour a cider-bottle full of gasoline into a wash-basin. [I have no real idea how big a cider bottle was in 1966, but I'm assuming 500ml or even 330ml, as beer bottles would have been 750ml.--JDR] Remove the metal components from your strop and submerge it in the gasoline, soaking it thoroughly. About 5 minutes should be sufficient. If you suddenly have to leave, and hang the gasoline-soaked strop in the open to dry, it will wrinkle and deform as it dries, so if you have to stop in the middle store the strop in water. Gasoline is highly flammable so be careful of fire.

(2) Fill a washbasin with soapy water the temperature of a hot bath. Take the gasoline-soaked strop from the last step and place it in the washbasin, and knead it from the edges inward, like you're washing clothes. The water will quickly dirty and turn gray. When that happens, empty the basin and refill with hot, soapy water. Repeat this about 10 times. Each time should take about 5 minutes, so altogether this should take about an hour.

(3) Fill the basin with clean hot water and place the strop in it. Gently knead the strop and rinse away the soap. Two repetitions of this should suffice.

(4) Lay the wet strop flat on a board. As it dries, it will shrink and buckle like when you dry kelp. To prevent this, take a beer bottle and roll/press the face of the strop, and it should stretch out easily.

(5) When the strop has been stretched out, it will tend to ripple or curve a little, so take two boards and press the strop between them. Gently tap along these boards and the strop will straighten out nicely.

(6) Leave the strop like this for two or three days. Setting the strop near a heater or in the sun will

lead to the strop stiffening. When the strop is dry, polish it with strop paper and it will shine.

7. *How to Soften a Hard Strop*

(1) Fill a washbasin with water and submerge the strop, without its metal parts, in the water and thoroughly knead it. Remove the strop from the water, and then by pressing and kneading it, it will soften.

(2) Lay the wet strop flat on a board. As it dries, it will shrink like when you dry kelp, so if you take a beer bottle and roll/press the face of the strop it should flatten out.

(3) If it starts to ripple, sandwich it between two boards and press from the front, and it will straighten out.

(4) Apply neetsfoot oil to the surface of the damp strop.

(5) Allow it to dry for two to three days and it should be soft.

(6) If you apply too much oil, soak the strop and the water-soluble neetsfoot oil will be drawn out.

8. *Linen* [*“Zukku” is the Japanese word, from the Dutch word “Zoek”, meaning “Sailcloth.” It’s not actually linen or sailcloth, it’s a very heavy cotton fabric. I use linen here because it’s the accepted English term for the fabric strop component--JDR*]

Recently, there are many people who don’t use a linen strop. An improperly maintained linen can damage your edge, but a well-cared-for linen strop can be a fantastic tool. I personally know two barbers who were each able to shave more than 1,000 people without needing to rehone their razors, through skillful use of linen. It really is best to use a properly prepared linen strop. A razor which won’t shave after being stropped on leather can often be restored to shaving form by proper linen use.

9. *Linen Maintenance/Preparation*

(1) Wash with a stiff, soapy brush.

(2) Remove the excess water and lay out, damp, on a table. Take a wooden mallet and tap evenly along the length of the strop using the curved side of the mallet, making sure to smooth out any creases or bends.

(3) Wash with a stiff brush.

(4) Rub firmly with round cosmetic soap [No idea why this is so specific, nor what soap he means.--JDR]

(5) Rub with a pumice stone to remove any fabric balls or loose threads.

(6) Wash with a stiff brush.

- (7) Rub firmly with round cosmetic soap again.
- (8) Smooth the surface with a Nagura stone.
- (9) Rinse
- (10) Let dry for two to three days.
- (11) Apply soapy lather with a brush [Shaving brush?--JDR]
- (12) Roll firmly with a beer bottle.
- (13) Repeat 11 and 12 above 3 times.

Through use, the strop will blacken with steel particles from your razor. When it blackens, its polishing power increases, so I recommend you keep it that way carefully.

However, if the strop darkens with grease or mildew, it's a problem, so if that happens wipe carefully with an oiled cloth.

10. The Importance of a Microscope

[This section reads like some kind of advertisement...even in Japanese, the style seems different from the rest of the (rather dry) manual.--JDR]

Unfortunately, it is often impossible to see problems with your edge like nicks, a left-over false edge, a wire edge or rounded bevels with the naked eye. Because these problems can't be seen, all the honing done up to now has been less than perfect. If he could see these issues, then any professional barber would be able to hone out chips or repair a rounded bevel.

However, nowadays there is a Lentz Metallurgist's Microscope available that is particularly useful for haircare professionals.

There are microscopes for elementary school kids that cost 3-4000 yen and have magnification of 300x or 400x, but the lenses are cheap and their focus is weak, and you can't clearly see the edge of the razor so these cheaper products aren't so impressive.

There are also those who use a tubular microscope that have powers of about 50x or 80x that only cost a couple of hundred yen, but unless you magnify the edge by at least 300x you won't be able to see perfectly enough.

In cooperation with Engineer Uchida and Engineer Tamefuji of Union Optical LTD, and Yayoi Workshop Manager Kobayashi [These names are guesses, as the pronunciation of Japanese names is often ambiguous.—JDR], over the last four or five years we have developed the “Lentz Metallurgical Microscope”, and have already distributed more than 350 of them to barbers all around the country. Modern barbers have found that new tools like UV Ray Sterilizing Towel steamers and such are necessary; now, tools to look at the blade's edge like metallurgical microscopes, which were once limited to scientists, have become necessary as well. Without this, your chances of honing a good edge are lowered. How can you hone an edge that you can't even

see?

But then, what will customers think of barbers who use a microscope to check their edge? Word of mouth will spread, and those barbers will gain reputation and trust. So if you buy a microscope, display it in your shop where your customers can see, sometimes using it to show your customers the edge, and your customers will raise their voices in approval.

Section 2--Honing Fundamentals

1. Proper Honing Motion

The way people move a razor on the hone differs from country to country. In Germany they use a zig-zag motion, and in an American barber manual they describe a “V” pattern. One American hone maker’s instructions recommend straight, parallel strokes. In the Soviet Union they use a “point leading V” motion. There are circles and straight lines, and in our country there are barber manuals that teach a figure-8 motion.

For Kamisori, in addition to “push honing” and “pull honing,” some people use a single hand, like with Western straight razors.

Any movement is ok. Whatever style you are used to, it’s fine.

2. Water Honing and Oil Honing.

There are people who argue that water is better than oil, or water with shampoo, and in American medical circles they use a solution of 10% glycerine in water. An American artificial hone manual recommends using no lubricant whatsoever, so called “dry honing.” Liquid can help a Kamisori slip smoothly over the stone and help with hard honing, but in the end honing is all in the abrasive particles so either water or oil, it doesn’t really matter that much. That being said, however, when you use a Nagura, it’s vital that you clean away all of the grit from the previous nagura and that is difficult if you use oil, and so I use water.

3. Does the Honyama hone, or does the Nagura?

“When you hone using Nagura slurry on a honyama hone, is the Kamisori honed by the nagura or by the Honyama?” is a question that needs consideration. A lot of people think, if you move a razor around on top of a Honyama hone, then whether you have Nagura slurry or not, the razor has been honed on a Honyama, and leaving it at that, strop and use it.

This is a common mistake in the barbering world.

Say you take a glass plate and scatter some emery powder on it, then hone on that. If you ask yourself, "is the glass plate doing the honing or are the particles of emery powder?", anyone can see that the answer is that the emery powder is doing the honing.

In the same way, we can see that when we make a slurry of coarse Nagura particles on our Honyama, and we hone a razor, then it isn’t the Honyama that is honing the razor but rather the Nagura. So then we can see that a great many people aren’t actually honing their razors with their expensive Honyama hones, but rather with their little, cheap Nagura. There are unknowing people who because of this have never, in their whole lives, honed a razor on a Honyama hone. Any argument can be cleared by simply by examining at the edge with a metallurgical microscope. On

razors honed with coarse nagura slurry, you will see the deep, coarse scratches (Hone Marks) left by the Nagura particles. If you carefully wash away the Nagura slurry and hone on the Honyama hone, you will see fine, shallow scratches start to appear.

At this point, there are people who will say you don't need slurry, and they will just put oil on their washed Honyama hones and hone. This will eventually produce a good edge. However, it will take better than 2 or 3 hours. Especially on hard Western Razors, you will never be able to remove a large nick in the blade. And as you hone for such a long time, your hand will tire and cause your motions to become irregular. This can lead to the bevel becoming uneven and losing its straight line.

Our predecessors have long used Nagura slurry to remove nicks and to flatten a rounded bevel, and we mustn't discard this.

4. Nagura Use

In addition to the previously mentioned use of Nagura as a coarse honing medium for razors, they play another role: refreshing the surface of your Honyama, exposing fresh particles. In use, the surface particles of a Honyama hone will become flat, and eventually lose a lot of their abrasive power, and so rather than roughening the surface of your hone, the use of a Nagura will expose new particles that retain their sharp edges, thus refreshing the abrasive power of the stone.

What's more, as having a hone with an uneven surface can cause problems, in order to smooth down raised areas of the hone's surface, rather than using the Nagura evenly over the whole surface of the hone, you should focus it particularly on the raised parts to even out the hone surface. Particularly when you hone Nihonkamisori, the center of your Honyama will start to dish out, so before and after each honing session, you should use the Nagura along each side to keep the hone surface even. People who use a figure-8 motion to hone will have raised, leaning areas in the center of the hone, so you should focus Nagura use on the middle of the hone.

Accordingly, the Nagura you choose should be as large as possible. However, due to the larger surface area, larger Nagura tend to stick to the surface of your Honyama a lot. To prevent this, some people will use a nail to scratch a plus sign (+) or hashmark (#) pattern in the surface of the nagura, but since Nagura are prone to fracturing, the corners created by these scratches can break off into your slurry, and so it's best not to do this. To prevent sticking, use more water and use no pressure when you raise a slurry. Particularly cautious people should use a 10% glycerin solution to hone.

A lot of people recklessly use heavy pressure when raising Nagura slurry, but this can lead to large pieces coming off the nagura into your slurry, and these can damage your edge, so use as little pressure as possible when raising slurry. Instead of using pressure, I recommend just using more time.

Also, there are those who think that the more slurry they make, the faster they can hone. Actually, if there is too much slurry, it will act like a cushion under the razor, and this will reduce the abrasive power of the slurry. Instead, create just a little slurry, and when this starts to round off and lose its abrasive power, wash it away and create new slurry with lots of fresh, spiky particles. Repeat this as necessary and you will be able to quickly remove nicks.

5. The Honing Environment

The dust and sand blowing freely around in the air is 1/1000 of the diameter of a hair in size. If just one grain falls onto the surface of your stone as you are honing, it can cause real damage to your edge. If a single hair falls on your hone, it can also be a real problem.

When the weather is good, during the day there are buses and trucks driving around throwing up dirt and dust, so if you hone at this time there's no way you will be able to put a good edge on. The best time to hone is when it's rainy, especially in the evening. Two hours after cleaning your workspace, the dust should have settled so that's a good time to hone. Be sure that there's no one else around tracking in dust and dirt. In places where there's little rain, hone in the bathroom where there's little dust, and you can put on a good edge.

6. If the Razor's Steel is Bad

If you've honed a razor dozens of times but chips or nicks keep reappearing, or appear in new places, then this situation might sound familiar: You hone the chips out of the tip, and thinking "Finally!" check the edge under a microscope, you find new ones in the middle of the edge. You struggle to hone these out, and suddenly POP! there's a new chip in the heel. You hone and hone to remove these, and then there are new chips in the toe.

If this happens to you, first try a new Nagura. If you do this and the chipping stops, you had a bad Nagura. If they don't stop, try a new Honzan. If the chipping still doesn't stop, obviously the Kamisori or razor is at fault. In which case, you need to try another razor.

I've spent 2-3 hours honing a razor and been unable to stop the chipping, then put it on the shelf and took down another that I finished to a great edge in 30 minutes.

If you investigate such defective products under a microscope, they will be easy to spot. Since I began my smithing career, through careful examination I have been able to separate out such defects. So if any of my products don't take an edge, I don't think it's going too far to say that the honing is at fault.

Section 3--How to Hone

1. Coarse Honing

When you look at the edge of a razor which no longer shaves well, there is sure to be chipping on the edge. This is caused by dirt or grit encountered in use, possibly from dust or dirt on the face being shaved, or grit embedded in the surface of your strop, or something in the cloth you use to wipe your razor.

Accordingly, In this case, the coarse particles of a Botan nagura are more than adequate. Bring out the coarse Botan particles and hone on them. The coarsest Nagura particles are so big that honing on them will make a rough, grinding sound. These particles are great at taking out seriously large chips, but for normal situations these are unnecessary. Sometimes when you've honed carefully, and you think you've taken out the chips, if you check under a microscope you may be shocked to still see large chips.

The reason for this is could be:

- (1) There were extremely coarse particles or inclusions in the Nagura
- (2) Dust was blown onto the stone
- (3) The razor had bad steel

Of course, there are times when you can't figure out which it is. This is often the reason some people become obsessed with checking their edges under a microscope.

No matter how well you take care of your nagura in advance, there are times when coarse, whitish particles are hidden inside the stone, so whenever you buy yours it's best to buy several to have lots to choose from.

2. Middle Honing

After you've put a coarse edge on your razor with the Botan Nagura, carefully wash away all of its slurry. At the same time, be careful to wash your hands and razor as well, so that there isn't a single coarse Botan particle left over. It's not possible to put a good edge on your razor with a stone still covered in slurry and mud from your previous honing. Up to now, honing has been much too dirty.

After you're done coarse honing with a Botan, next you should use your Tenjou or Mejiro nagura. These particles are fine, so the edge will naturally become finer. However, Tenjou particles themselves are still somewhat rough. When you're finished, thoroughly wash the stone, your hands and the razor as before. There are even people who scrub under their fingernails with a brush. That's how important this is.

3. Finishing Honing

We've just finished honing with Nagura. Now we'll be honing with our Honyama. Get your Small-Form Honyama, wet the surface of your honyama hone and raise a slurry on it. This stone is often called "Tomonagura" but, as you aren't using a Nagura stone but two paired pieces of the same kind of finishing hone, the name they use in Okayama Prefecture, "Paired Hone" [共砥-tomoto in Japanese--JDR] is correct. However, as I'm not that particular about my speech I use the term "Tomonagura."

Through this, the Honyama grit particles are brought out onto the top of the hone. When you hone a razor or kamisori on this, naturally a "Honyama" edge will come out on your blade, and the edge will become better than that left by the Nagura.

However, if you investigate this edge under a microscope, along the edge you will see a row of incredibly fine, jagged saw-tooth structures. Until recently, people often said you should shave with this edge, but recent honing research has judged this to be a false edge [ムダ刃-mudaha, like a very minor burr--JDR].

4. Removing the False Edge

In order to remove the very fine false edge create by the Honyama hone, you need a hone with particles finer than those of the Honyama. Many people believe this false edge can be removed with a leather or linen strop, but in reality, if you look closely it doesn't work that way. In this situation, I bring out a man-made abrasive made for use in mirror-polishing, called "Green Powder" (Chromium Oxide). Mix this with water and spread it onto the previously-prepared Raxa hone. The

volume should be very small, just enough to turn the cloth slightly green is plenty. There are undoubtedly people who tend to over apply, but it's best not to use very much.

Green Powder is far and away finer than Honyama grit particles, so it is well suited to removing the false edge created by the Honyama. On the above described Raxa hone, hone your razor or Kamisori spine-leading in a V pattern. Apply light pressure along the edge, and do 3 laps (6 strokes total); there are some inexperienced people who, because they apply pressure to the spine, fail to remove the false edge and so they will need to repeat this another 6 times or so. However, if the false edge is very, very fine, one or two passes might be sufficient.

The time needed should only be about 10 seconds or so. If you check this edge under a microscope, you will see a beautiful straight line along your edge, which is enough to impress anyone.

After this, it's often possible to use the razor without even stropping. There should be absolutely no irritation or pain from it. However, somehow the edge might feel slightly "heavy". For inexperienced women hairdressers or older people in their fifties with withered arms, I recommend being satisfied with this.

However, for those from 25 years old on into their 40s, whose strength hasn't faded, that feeling of "heaviness" in the edge may be bothersome. This heaviness is caused by the fact that the Raxa hone is cushioned, and the Green Powder has a lot of polishing power, so it causes a very slight rounding of the bevel. In this case, follow the procedure described next, "Edge Finishing".

5. Edge Finishing

Rinse the Honyama very, very well with clean water, removing any trace of slurry. You mustn't leave a single grain. Very carefully wash your hands and the razor as well.

Wet the surface of the hone, and hold your razor or Kamisori in one hand. The proper place to hold a Kamisori one-handed is likely a mystery.

Using just the weight of the blade, very very lightly pull the razor about one or two millimeters in a direction parallel to the razor's edge [i.e. instead of edge leading or spine leading, move the razor slightly back and forth perpendicular to the stone.--JDR]. Don't move any further than that. On the off chance that you move too much, or use too much pressure, you will remove too much steel and you'll create another false edge. In that case, you should go back and repeat step (4). This technique is very delicate, and requires a lot of practice.

~~[This section was a bear to translate due to some really vague language. After much research and investigation, I think this is basically the freehand creation of a secondary bevel, in Japanese called "Kobatome," 小刃止め or "small edge finishing." Anyone who reads Japanese, please feel free to check me on this.--JDR I was wrong, wrong, wrong. The word used for "standing," tate, is also the word used for "lengthwise," and I went entirely the wrong direction.--JDR]~~

Section 4-Principles of Honing

1-Pressure during Honing

To measure how much pressure you are using when honing a Kamisori two-handed, set your stone on a scale while honing. The amount of pressure is shocking, somewhere between 4 and 7 Kanme

[A "Kanme" is an archaic Japanese measurement of weight, equal to about 3.75kg or 8.27lbs--JDR].

In a poorly jointed house, it can cause the whole building to shake. Honing with this kind of pressure often leads to using too much strength at the end of honing, which can cause chipping in the edge. If you try to shave with this edge, you might be able to shave a single time, and in the worst case you'll have to stop in the middle of a shave and rehone. Of course, when you hone a razor you will get mud on your fingers so this is quite messy. Because such unhygienic things are unacceptable at work, many people have switched to Western style razors.

However, if you gradually reduce pressure as you hone, a Kamisori can take an excellent edge. So hone Kamisori in the following way, reducing pressure as you go:

- (1) Coarse honing - Botan Nagura - 4 Kanme 500 Monme (16.5kg)
- (2) Middle honing - Tenjou Nagura - 450 Monme (1.65kg)
- (3) Finishing - Tomonagura - 45 Monme (165g)
- (4) False Edge removal - Raxa hone - 45 Monme (165g)
- (5) Edge Finishing - Honyama Hone - Weight of the razor

We are taught in schools that, as opposed to Kamisori, when honing razors we should avoid using any pressure from the very first step. However, if there is a large chip or a seriously rounded bevel to fix, without pressure it will take a really long time. In the instructions included with an American man-made hone, it says "At first, use a little pressure, but once the bevel is set then remove the pressure." This is exactly right.

Since people are taught to hone without pressure, often they prefer softer razors. This is because they will take an edge easily, even when honing with no pressure. On the other hand, harder razors won't take an edge as easily, so they are often returned because "they won't shave." Unfortunately, softer razors won't hold an edge as long as a harder razor, though.

So in order to put a good edge on a durable, hard razor, use pressure when honing as follows:

- (1) Coarse honing - Botan Nagura - Use strong pressure
- (2) Middle honing - Tenjou Nagura - Use moderate pressure
- (3) Finishing - Tomonagura - Use very light pressure
- (4) False Edge removal - Raxa hone - Use very light pressure
- (5) Edge Finishing - Honyama Hone - Use only the weight of the razor

Notice that only in the final step, "Edge Finishing", do we use only the weight of the razor; we mustn't leave out pressure from the beginning.

2-Distance traveled by the Kamisori

"Gradually lighten pressure" or "Lighten pressure step-by-step" are easy to say, but in practice they are difficult to do. Those with little professional experience will find this impossible at first.

Those people should, when honing, gradually reduce the total distance traveled by the razor on the hone. In the process, the pressure will mysteriously decrease on it's own. And so, you should reduce the distance traveled by the Kamisori or razor as follows:

- (1) Coarse honing - Botan Nagura - 6 Sūn 6 fūn [Again, archaic Japanese measurements.--JDR]

(200mm)

- (2) Middle honing - Tenjou Nagura - 3 Sūn 3 Fūn (100mm)
- (3) Finishing - Tomonagura - 5 Fūn (18mm)
- (4) False Edge removal - Raxa hone - 3 Sūn 3 Fūn (100mm)
- (5) Edge Finishing - Honyama Hone - 0 (Standing honing-0mm)

Even for razors honed in a figure 8, gradually reducing the distance travelled will also reduce the pressure on the blade, and this will lead to the "false edge" growing finer and finer, until there is none left in the final stage of honing.

3-Honing Time

Many people think that when they hone on coarse abrasives, they should spend a lot of time, then gradually reduce their honing time as they move to finer honing. However, in reality, the opposite is true: they should be gradually increasing the time. When you hone with pressure on coarse particles, you not only remove chips in the edge, but also wear away the steel of the spine and blade. Honing time for both Kamisori and razors should be divided as follows:

- (1) Coarse honing - Botan Nagura - 3-4 minutes
- (2) Middle honing - Tenjou Nagura - 4-5 minutes
- (3) Finishing - Tomonagura - 5-6 minutes
- (4) False Edge removal - Raxa hone - 10 seconds
- (5) Edge Finishing - Honyama Hone - Japanese made folding razor 10 min; Kamisori/Imported Razor/Iwasaki Razor 15 minutes.

In the above, most people might not notice that the final step, "Edge Finishing," takes 10-15 minutes. But when you try it, it will become clear.

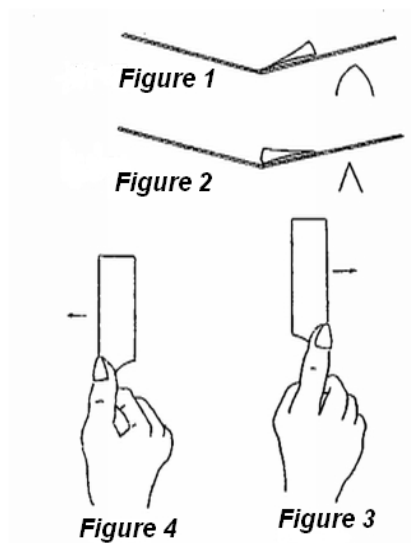
Section 5-Stropping [*In the original, Iwasaki refers to this using the English word "lapping," but due to current usage, I opt for the more familiar "Stropping."*--JDR]

1-Principles of Stropping

Once you have put a good edge on your razor with your stones, the lifespan of that edge depends on stropping. Stropping is like vitamins for the life your razor or Kamisori. As I wrote before, you can not remove a false edge by stropping, so if hard steel can be worn away by something like leather, you would have to call it a mystery. [He actually says "something hard like leather", but that seems like a mistake...because leather isn't that hard.--JDR] "Stropping" or "lapping", when translated to Japanese, becomes "Takuma," meaning "final polish." When you strop a chipped razor, the chipped place will be polished as it is, or if there is a false edge, it will polish the sharp points of the false edge. That is the strop's job. An edge that has lost some keenness through use can be restored through polishing.

2-How to Strop

When you strop, if the strop bends around the edge of the razor (see fig. 1) then you will quickly start to see a convex bevel, and the edge won't stay keen for long. If the strop bends around the spine (fig. 2) then the bevel will be moving on a flat plane, and you will make a sharp edge.



Up to now, Kamisori have been stropped on the palm of the hand, but if you follow the principles described here, the edge will last a long time. To do so, on the push stroke do as shown in fig. 3 and place your index finger on the spine of the razor. On the pull stroke, place your thumb on the spine (fig. 4). Since you will be changing finger position a lot, it's important to take your time. You should strop razors with your fingers on the spine the same as Kamisori, but first you should do some testing.

This technique requires practice, so get a friend to hold a towel by one end, and try it standing in front of a mirror. If the "strop" bends around the spine, you've got it. Using this principle, even if your strop is very thin and supple, you can still keep a long-lasting edge.

In regards to the number of passes on your strop, normally 20-30 is good, but don't use much pressure or go too fast. The Nagura-produced edges you've had up to now might have required such vigorous stropping, but we produce much finer edges with the techniques of "false edge removal" and "edge finishing." If we strop these edges too strongly, it can sometimes cause serious chipping. So strop gently, and set the distance of travel at about 23 Sūn (70cm). If the edge begins to lose keenness, then you can increase the distance.

Before stropping, though, shave-test the edge a bit. If it shaves well, there's no reason to strop. In the barbering world, there is a habit of stropping an edge no matter how it shaves, but just as we don't hone an edge that doesn't need it, we shouldn't strop an edge that doesn't need it, either. I know some who shave up to ten people without stropping.

3-Linen

Linen has even more polishing power than the leather strop, so its role stands between the hone and leather. An edge that won't shave well after stropping on leather can often be restored to shaving keenness by stropping on linen.

Section 6- Removing Large Chips

Bumping the razor into things, or dropping it, can result in large chips in the edge. If you try honing

these out on a very coarse emery stone, you can quickly remove even very large chips, but the deep scratches and smaller chips caused by this will also need to be removed.

Instead, in this situation, you should get what is known as a "yellow Nagura," which has particles coarser even than a Botan Nagura's. This stone's particles are really coarse. Honing on slurry from this stone will quickly wear away steel. It makes a terrible grinding sound, but even so, it won't leave deep scratches like an emery stone.

After the "yellow Nagura," bring out your Raxa hone and pile a lot of the "green powder" on it. No matter how fine the particles, if something is flat and covered with enough abrasive it's the same as a hone stone. Put a little water on this and putting enormous pressure on the edge-use all the strength of your arm-do about 200 "V" strokes.

Next, return to the "yellow Nagura," then back to the Raxa hone. Repeat this cycle several times, and even big chips that are clearly visible to the naked eye can be honed out in 30-40 minutes. After that, move on to the Botan Nagura and hone as usual.

Section 7- How To Use a Western Razor

In the instructions included with a German "Henckels" razor, it says that when shaving, "hold the razor almost flat against the face." Something very similar is printed on the front of English "Haddon" razor boxes.

And in our country, we are taught to hold the razor at a 45 degree angle when shaving. This 45 degree angle, whether it's in relation to the skin or to the hair, is a standing position. In other countries, the razor is used lying flat.

Since long ago, Kamisori have been used lying flat.

If you try using a razor at a standing angle, the edge will very quickly start to show signs of damage, and an edge that should shave 200 faces or more will only shave around ten. So if you think you'd like to preserve your edges as long as possible, keep the blade as flat as you can when you shave.

Of course, if you haven't put a good edge on the razor, when you lay it flat it won't shave at all, and you will have to raise the angle. But shaving with an edge like that is a mistake.

Section 8 - About Rust

1-The Causes of Rust

Rust has two causes. A dry razor won't rust. So moisture is the first cause. In addition to water, gas can also cause rust. Charcoal can produce a sulfurous smelling gas, this should not be allowed near your razors. That gas contains sulfuric acid, and will quickly corrode your razors. In addition, defective celluloid can cause rust. Celluloid contains nitrate, and if it contains too much, then it can release nitric gas and no matter how careful you are, it will rust your razors. In this case, the only course of action is to replace the scales.

2-Stropping after Use

In the instructions included with German "Henckel's" razors and English "Haddon" razors, they

write that even if you wipe a razor carefully with a dry cloth, tiny droplets of water will remain on the edge. If you look under a microscope, you can clearly see this is true. As these droplets can cause rust, and thus result in chipping of the edge, these foreign razor companies write that after wiping with a cloth, you should strop the razor once or twice. Having tried this, I find it correct. However, in our own country, we aren't taught to dry the edge by stropping after use. I strongly encourage this to be done. It helps ensure the extended durability of your edge. I tried wiping the blade with deerskin, but it only drew the beads of water into long thin lines, so it's not suitable for extended use.

3-Using Boiling Water

Even after removing the droplets of water as previously described, some moisture can remain in tiny concave depressions in the surface of the blade. This can cause the black corrosion we call "Soap Burn." To prevent this, after use, it's a good idea to pour boiling water over your razor or Kamisori. The boiling water will heat the blade, so that after you shake the excess water off, simply blowing on the blade will dry it completely. Some people may worry that the heat imparted to the blade by the boiling water will ruin the temper, but there's no cause for concern. You could heat a Kamisori to 100 C for hours and not affect the temper.

4-Anti-Rust Paper

In England, they've developed a kind of paper, a paper treated with a certain white chemical. This chemical gives off a vapor which has the effect of stopping rust, so if you store a razor in a bag made of this paper, it won't rust. This chemical is known by the initials "VPI," which stands for "Vapor Phase Inhibitor."

The makers of German "Puma" razors put it into the plastic bags with their razors, "National" lines the bottoms of electric iron boxes with it, Tenyou and Taihei package their metals in it, and I myself wrap my razors and Nihonkamisori in this paper.

I once tested this paper, and made a bag from it by gluing two pieces together in which I stored a razor. It went 2 years or so with no rust. I highly recommend storing even your daily-use razors like this. A Kamisori's edge can be damaged by storing it in a bag, so lining the bottom of its box with is paper is a good idea. However, no matter how effective this paper is, if your razor is stored wet, the wet part will certainly rust so be sure to always dry your razor well.

5- Anti-Rust Oil

In the past, I have stored razors I wasn't using by oiling the blades and putting them away, but after a year or so I took them out and they had rusted. Anyone would think that if oiled well, a razor would be safe, but that actually isn't so. No matter how much of our domestically produced mineral or vegetable based oils you apply to your razor, you won't be completely safe from rust.

But the Americans have something better. There is an oil that has ordinary lead added to it which, however, appears to be an ordinary brown oil.

Recently, this oil has been licensed for sale and production in Japan. I would like to see it used on hair clippers and scissor hinge pins. I've tried it myself on electric clipper blades, scissors and on razors which I haven't been using. Applying this oil and wrapping them in the previously mentioned paper, they can go three years with no damage.

However, if any domestically produced oils remain on your tools from previous applications, and you put this oil over the top of it, rust can spread from the bad oil underneath. So it's very important to thoroughly clean the old oil off before using this new oil.

6-Rust and the Cutting Edge

If you carelessly leave a drop of water on the edge of the blade, fold the razor up and store it away, it will develop into deep rust. Then, the next time you hone that razor, that spot will chip. It won't cut well, and so you'll hone it again, but that spot will be rotten so it will keep chipping, and you won't be able to remove it easily. Because of this there are people who think the razor has suddenly stopped taking an edge and, not noticing the rust, will return it as defective. If they'd checked it under a microscope, the cause would have become clear immediately, but since they didn't, they blame the razor.

Afterword

In the writing of this book, I am deeply indebted to Sakurai Kiyokazu, Saijo Tadao, Takei Michio, Asama Ishimatsu, Sato Juichiro, Ohata Keneichi, Yoshigawa Akitoshi, Takami Kanji, Takato Hideya, Asano Nagayuki, Sano Yasutaro, Nakakoji Kiyoshi, Muramatsu Tashikazu, Hatanaka Hyogoro, Kato Masumichi. [Due to the special difficulties involved with reading Japanese names, there are only guesses.--JDR] I offer my humblest gratitude for their assistance.

1st Month, Showa 38 [January, 1963]

CATALOG

Tamahagane Razor.....1 pc..... 3,500 Yen

Tamahagane Nihonkamisori.....1pc.....600 Yen

#30 Razor.....1pc.....1,700 Yen

Carbon Steel Nihonkamisori.....1pc.....430 yen

Strop Paper.....pack of 7 sheets...300 Yen

Straightedge....1 pc.....250 Yen

Green Powder.....20g bag.....100 Yen

Rust Remover.....1 pck.....300 Yen

Strop, with Handle, Elephant Brand.....1 pc..... 800 Yen

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Honyama Hone, Kamisori use.....2,000-10,000 Yen, all varieties

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