

The World of the *Togishi*

**by
Jon Bowhay**

As most people interested in Japanese history know, the *Nihontō* (Japanese sword) was wielded by the *Mononofu*, *Tsuwamono*, or as they have come to be known, the *Samurai*. The *Nihontō* is definitely a weapon, in fact the finest cutting weapon ever developed by man. But it is much more than a weapon because its physical construction elevates it to an art form.

The *Nihontō* is without exception the highest art form in steel in the world. That may sound biased, but I am convinced that is true after studying it for 10 years, during six of which I have worked as a *Togishi* (polisher and restorer of Japanese swords). The *Nihontō*, almost from the very beginning of its history, was certainly designed as both a weapon and an art form. If this were not the case, and if it had been designed as a weapon alone, swords of inferior quality and shape would have been adequate. Looking at the examples that we have today, one comes to realize that the makers intended to produce something of great beauty, something that would appeal to the aesthetic sense of man.

The *Nihontō* has a very dynamic construction - soft *Jihada* (skin) steel and hard edge. The *Jihada* has a definite grain in it. The *Jihada's* grain is produced by the process of folding and drawing out the metal, which actually makes the finished product a laminated blade. It has a variety of different patterns. Sometimes there is a definite wood or burl grain.

The *Ha* (edge) of the blade is tempered into a highly visible pattern that is called *Hamon*. The *Hamon* is produced by covering the blade with clay and then removing the clay from along the edge until it is the correct thickness and shape to produce the *Hamon* desired. The sword is then heated and quenched. Because the edge has a thinner layer of clay, it cools more quickly than the rest of the blade. As it cools it crystallizes, producing martensite and pearlite steel, the substances that make the *Hamon*.

The *Hamon* is part of the overall beauty of the sword. Its styles are unlimited. And actually, it has very little to do with the cutting ability of the blade.

The more than thousand year old *Nihontō* preserved in the *Shōsōin* Imperial Repository of *Tōdaiji* temple in *Nara* exhibit *Suguha*, straight temper patterns, of an extreme brilliance, and a *Jihada* of a fine, deep, serene nature. Technically, *Suguha* is more difficult to produce than a wavy pattern.

The *Togishi's* job is to restore a blade to its original shape and bring out the highlights of the *Ha* and *Jihada*. Accordingly, he must have a good knowledge of Japanese art, literature and history so that he can accurately judge the school, period, and general style of the blade, and thereby do the best possible job of polishing.

A *Togishi* must sit in a position that is actually quite painful until he becomes accustomed to it, usually one year after he has begun his apprenticeship.

His tools are quite simple in appearance, though difficult to master. Some of his most important tools are his polishing stones, which are quite expensive, quality stones being difficult to obtain at

any price. He must possess each type of stone in varying degrees of hardness and softness, and coarseness and fineness because each stone and each sword is different, and he must match stone to sword. If the proper match is not made, the stone will be ineffective regardless of the ability of the *Togishi*. Therefore, *Togishi* are constantly searching for stones and their stock grows until it finally crowds them out of their house.

The *Togishi* must polish a blade in such a way that its art is revealed harmoniously and in accord with its school and period. Some blades require that the *Jihada* be brought out a great deal, others call for suppressing the *Jihada* to some degree. The *Ha* must be given similar attention. And the two must look right together.

Each blade requires a different style of polishing. But in general polishing can be categorized into *Shitaji*, or lower polish, and *Shiage*, or final polish.

Shitaji usually takes a minimum of 10 to 12 hours per day for four to six days, and requires many stones of varying degrees of coarseness. The stones correspond to the different steps in *Shitaji*. In order they are:

- (1) *Bisui* (from Bizen) - This stone is used to take off heavy rust and return the blade to its original shape. It is very coarse and if poorly used can destroy a sword almost immediately.
- (2) *Kaisei* - It refines the shape and takes off the marks of the *Bisui*. It was not used until recently.
- (3) *Chūnagura* - A relatively hard stone of fine grain, it is used to take off the marks of the *Kaisei*.
- (3) *Komanagura* - It is the same stone as *Chūnagura*, only it is finer since it is taken from the center of the deposit. It refines the *Chūnagura* marks.
- (4) *Hato* - This stone is very hard. It is used to bring out the *Hamon*. It takes great skill and muscular endurance to pull the blade across the stone as both surfaces are hard. It takes several hours just to complete the *Ha*.
- (5) *Jito* - The hardest stone, it is used to bring out the *Jihada*. If improperly used it will scratch the blade and ruin days of work. It requires the finest skill of all.

Shiage, or final polish, entails burnishing with a variety of tiny thin stones and a steel stylus. It takes about three days. The technique of *Shiage* varies from school to school. Some of these techniques have been developed after years of painstaking experimentation and therefore are not surrendered to others freely.

In general, *Shiage* consists of the following steps:

- (1) *Tsuya* - The *Jihada* is finished with a *Jizuya* stone that has been broken into fine pieces. It is important that the *Jizuya* is chosen to match the *Jihada* formation. Next, the *Ha* is polished with a *Hazuya*, which is very thin and rectangular or square.
- (2) *Nugui* - *Nugui*, or wiping, makes the *Jihada* stand out evenly and makes the sword rust resistant. In *Nugui*, a mixture of sword oil and finely ground *Kanahada*, an ash-like by-product of sword making, is rubbed onto the blade. During *Nugui* the sword takes on a darker color, sometimes a bluish tint, the degree of which depends on the sword.
- (3) *Hadori* - In the *Hadori* an oval *Hazuya* is used to make the top of the *Hamon* white in what may appear at first glance as a string of mountains, which is in particular a characteristic of the *Honami* school of polishing. Today, about 80% of *Togishi* prefer the *Hadori* style, and 90% of the swords submitted for the annual sword polishing contest held at the *Nippon Bijutsu Tōken Hozon Kyōkai* (NBTHK) have been polished in the *Hadori* style.

- (4) *Shitamigaki* - In the *Shitamigaki* a polishing rod, or *Migakibō*, is used to burnish the area between the *Shinogi*, the ridge running along the side of the blade, and the *Mune*, the blade's back, until a mirror-like finish is obtained. The *Shitamigaki* is the lower, preliminary polish with the *Migakibō*.
- (5) *Uemigaki* - The *Uemigaki* is the final polish with the *Migakibō*.
- (6) *Sugikiri* - *Sugikiri* is the process of defining the *Yokote*, the line at a 90 degree angle to the *Shinogi* at the tip of the blade.
- (7) *Narume* - This is the process of imparting a whitish color to the *Bōshi*, the section of the blade forward of the *Yokote*.

During the *Muromachi* (1338 ~ 1573) and especially the *Sengoku* (Warring States) periods (1470 ~ 1570), swords were not polished like they are today. There was no time. The nicks and battle scars were removed, and the blade was returned to its original shape. Except for those of the great *Daimyō* or those specifically kept as art objects, most *Nihontō* only received a *Shiratogi*, or white polish. I think that they often stopped with the *Komanagura*. With the advent of peace in the *Edo* period (1603 ~ 1867), more swords began to receive a highly artistic polish as there was time and money for such work.

But the high level of technology today (particularly in the *Shiage*) evolved during the *Meiji* era (1868 ~ 1912). During the *Meiji* era a law was passed that prohibited people from wearing swords, but allowed them to own them as works of art (*Haitōrei* edict). That was a drastic change from the *Edo* period, when the common people were more or less not allowed to own swords. Thus, on account of the new law, the number of people who owned swords increased and in consequence interest in swords grew, leading to an overall improvement in polishing techniques.

Another, and more important, reason for the improvement in sword polishing technology during the *Meiji* era was the invention of the electric light bulb, which enabled the *Togishi* to work at all hours of the day and allowed him to more clearly see the details of the *Jihada* and *Ha*. In particular, it accelerated the development of the *Hadori* style because the *Hamon* is much more visible under an electric light than it is under candlelight.

Sword polishing is very demanding physically and emotionally. A *Togishi* usually has little time for anything outside of his work. It takes years of his best efforts to reach the point at which he can produce a fine, flawless polish; it is impossible to fake a quality polish. A *Togishi's* deficiencies are apparent to himself as well as to his fellow *Togishi*. But the satisfaction of doing a good job and preserving the art form for future generations to enjoy is very great.

Nihontō collectors and study groups are increasing all the time as the *Nihontō* gradually takes its place among the world's great art forms. Unfortunately, many *Nihontō*, especially in collections outside of Japan, are not receiving proper care. This author hopes that collectors everywhere will join groups, who will gladly instruct them in the proper care and handling of the *Nihontō*. The *Nihontō* is very durable, but without proper care is vulnerable to irreparable damage in a short time, making it unavailable for future generations.

Hada and Nugui

**by
Jon Bowhay**

Most *Nihontō* enthusiasts are aware of how important the *Hada* is to the Japanese sword. It is one of the major points of aesthetic appreciation and a key factor in determining the time, place and school of production. It is also the key to the technical quality of any sword.

It is the key not only because well forged, even *Hada* is obviously desirable and shows that the smith had a thorough knowledge and control over his skills, but also it affects the tempering process. What is not often mentioned is that poorly worked and forged steel will not produce or take a good *Hamon*. This extends to the color, brightness - the *Nie* and *Nioi* - and how they form within and around the *Hamon*, and even the shape of the *Hamon* itself. Whether the *Hada* is *Itame*, *Mokume*, *Masame* or some combination dictates what kind of *Hamon* both in shape and intrinsic characteristics can be successfully done. The various qualities found in the steel and imparted to it during the forging process are important in this, but the physical forging grain of the steel is at least as important.

As a *Togishi*, I could not presume to comment on the forging process in detail as it is another area of expertise entirely. But as a *Togishi*, I must be able to deal with the outcome of that forging technique: the *Jihada*.

Specifically the work on the *Hada* begins in the *Shitaji* stage and is carried on into the *Shiage*. The *Hato* and *Jito* stones are used in this case. The stones are of the same kind known as *Uchigomori* stones. The *Hato* is usually to deal with the *Ha* and the *Jito*, the harder of the two, is used to bring out the *Jihada*. It is used to make the *Hada* more prominent, or less so, in the case of loosely or coarsely forged *Hada*. By judicious use of the *Jito* we can to some extent give the forging a more even appearance. When well done by a *Togishi* with a true understanding of his work, the forging will have a more mellow, well balanced appearance. I hasten to add however, that no *Togishi* can change the basic appearance of the forging or make a poor quality blade better intrinsically. We can only work with the basic quality of the *Hada* to enhance its positive points in a pleasing way.

With the completion of the *Jito*, the *Shitaji* is also completed. We then move into the *Shiage* work which requires a totally different body position and frame of mind. I continue to work on the *Hada* in the *Tsuya* process, using stones I have chosen, split and ground by hand to about 1 millimeter thickness. These I glue with lacquer to paper made from the persimmon tree. There are two different kinds of stones used in the *Tsuya* process. One is the *Hazuya* stone used in the *Hato* and *Hadori* process. The *Jizuya* is of a yellow brown cast and, as the name implies, is the stone used to deal with the *Jihada*. This stone helps capture the beauty of the steel by bringing up the highlights of the *Jinie*. This will give the steel the *Nettori* or moist, sticky appearance that is so prized in fine blades, and bring out the natural color of the steel. The degree to which all this can be achieved depends on the *Togishi*'s skills and the actual amount of *Jinie* there is to begin with.

It's absolutely necessary to choose the proper stones for each sword. As stones are natural things there are infinite qualities to be found in a single type of stone. This is true of the steel and forging of each blade, and each *Togishi* has a different touch from any other. So we see that the

choice of stone is quite dependent upon a number of complex variables. Being able to choose stones of the right sort is one of the important skills a really first class *Togishi* must master.

When the *Jizuya* process of the *Tsuya* is completed, it is time for the *Nugui*. The word simply means "to wipe" and does not really give one any idea of its great importance. It caps all the hard work leading up to giving full expression to the *Jihada*. The actual substance known as *Nugui* is made of flakes of highly decomposed steel that is a by-product of the swordsmiths' forging process. This is ground with mortar and pestle for several weeks. It is then mixed with *Chōjiyū* (clove oil) and worked into the *Jihada*. Though this finely ground and strained through Japanese paper, the polisher must be careful not to get *Nuguibiki* (*Nugui* scratches) on the *Hada*. This would be a disaster and require redoing much of the work already completed. To guard against this takes a very sure touch. In this process, as in the rest of the work as well, one must never hurry, must be deliberate, have courage and put absolutely everything else out of his mind. I have found if someone, no matter how great his skill, lets his mind dwell on one thing or another, his work will come to grief. This may sound easy, but it is the nature of a person to worry about daily things and it is no slight thing to block these things out.

In relationship to the previous work done in the *Shitaji* with the *Hato* and *Jito*, the *Nugui* process is physically less, but emotionally and aesthetically every bit as demanding. Should the *Hada* take on too dark or too light an appearance, there is no real way to balance it later. Either situation probably denotes some error in judgement when doing one of the previous steps mentioned. Of course the *Jihada* of any blade has its own qualities, and some are difficult in the extreme to work with and make them look attractive, but something can always be done to make the *Jihada* acceptable to some extent. A *Togishi* must, while working on a blade in the earlier steps, be able to anticipate such problems.

When deciding how dark or light to make the *Hada*, not only the natural highlights and color of the *Hada* must be taken into consideration but also the height and shape of the *Hamon* and the basic fineness and coarseness of the *Hada* forging as well. In the case of a high *Hamon* where there is more *Ha* than *Ji*, I may consider less darkness in the *Ji* desirable. In any case, the *Ji* will appear to be darker than it is due to the contrasting whiteness of the *Ha*. The *Togishi* must not allow the *Ha* to overpower the total affect of the polish. Conversely in the case of rather low lying *Hamon*, the *Togishi* may wish to give a very slightly darker cast to the *Hada*. This is especially true of blades with a rather *Shiraketa-hada*. This is *Hada* with a milky, cloudy color. These blades are always a problem, but still can be made quite attractive if the problem is anticipated early and steps taken to minimize it.

When the *Nugui* is complete it is time to move on to the burnishing of the *Shinogiji*, the *Hadori*, and finally the placing of the *Yokote* and *Narume* which will complete the polish and is not in the scope of this article.

At this point I must minimize the ravages of time and get back to work on the blade that awaits my undivided attention.

Hadori and Sashikomi

by

Jon Bowhay

I would like to discuss and give my views on the *Hadori* and *Sashikomi* forms of complementing the *Hamon* in the *Shiage* process. Such an article as this is of value because many people seem to be much confused about what both styles are, their purpose and the merits of each.

The *Sashikomi* form of dealing with the *Hamon* involves following the physical shape of the main portion or, in Japanese, the *Kuroiha* (the "black" portion of the *Hamon*, simply the darkest part of the main tempered area) quite exactly. It is of a technical nature by and large that does not allow for the great diversity of *Hamon* such as the secondary *Nie*, *Nioi*, and in general the *Hataraki*, around and within the *Hamon*. *Sashikomi* is primarily of value in dealing with *Hamon* that have a very tight *Nioiguchi*. I must mention here that the period of construction of a blade may also play a strong role in the decision to do *Sashikomi* or to do a more modest *Hadori*.

The *Hadori*, as the name implies, means to take or follow the *Hamon*. But unlike *Sashikomi* there is no attempt to follow slavishly the superficial outline of the *Hamon* without taking into consideration the great diversity that usually exists in the *Hamon*. In dealing with the *Hamon* following the *Hadori* style, a *Togishi* must more carefully take into account *Hada*, its color and the texture of its forging. The *Hamon* with both its basic shape and the implications of secondary *Hataraki* in and around the *Nioiguchi* must be considered well.

When I mention the implication of secondary *Hataraki* in and around the *Nioiguchi*, I mean specifically in regard to how much of this should or should not be included within the *Hadori*. Please remember that the whitening and physical outline of the *Hadori* itself is done by the *Togishi*, and making a pleasing balance between *Ji* and *Ha* and *Sugata*, or shape of the blade, rests ultimately with him. It is therefore of utmost importance that he has an understanding of the artistic aesthetics of the particular blade he is polishing. This understanding depends on how well he has internalized all past experiences of polishing various swords, also the personal character of that *Togishi*, his personal and private aesthetics. Herein lies the reason for my own preference of the *Hadori* over the *Sashikomi* in most - but definitely not all - cases.

Artistically there are infinite possibilities in interpreting the *Hamon* in *Hadori*. Each *Togishi* will interpret the *Hamon* differently. There are most certainly boundaries of good taste involved here as in any art form, especially one with a long tradition. But still there is much opportunity for the *Togishi* when doing the *Hadori* to raise his work above mere technical skills and conventions.

Restoring the blade to its original form during the *Shitaji* is very important. Well honed techniques are necessary here. The *Shitaji* is however technical tactile skill. *Shiage*, on the other hand, combines technical skills and artistic sense if the final total polish is to be a success.

Physically the *Hadori* will outline the *Hamon* and go slightly above the *Hamon* proper to reveal or exclude secondary activity around the *Hamon* as aesthetics dictate. Because in the *Hadori* we have the freedom of choice we must be quite careful to choose a theme whether *Gunome*, *Notare*, *Midare*, or a combination of these if necessary. It is important even in mixing several shapes to maintain the basic theme. We must also decide how deep or shallow to go above the *Hamon*. There are many criteria for making these decisions, such as how dark the *Jihada* is. If the *Hada*

has natural darkness it may be good to make the *Hadori* a bit more shallow and play down the whiteness a bit. With such a high *Hamon* to begin with, it may be best to keep the *Jihada* lighter in color in the previous *Nugui* step, or the whiteness and depth of the *Ha* may be overpowering.

In cases of a shallow *Hamon* or one with a shallow *Nioiguchi* and/or less secondary activity around the *Hamon*, the reverse may be right. That is, a slightly darker *Hada* may be desirable, if it has dark qualities to begin with.

We can consider taking full advantage of whatever activity there is in and around the *Hamon* to deepen the *Hadori*. However, in taking advantage of the space activity around the *Hamon* or trying to deepen the effect of the *Hadori* on especially a rather low lying *Hamon*, a *Togishi* without adequate skills or aesthetic understanding will go too deep. This is quite common among even rather competent *Togishi* as is the converse of going too shallow and in effect "killing" the beauty of the *Hamon's* shape, brilliance and activity. Both cases are often seen, but I must caution that this question of how deep or shallow to take the *Hamon*, and how to bring out the highlights of the *Jihada* in relation to the *Hamon*, is one that even among *Togishi* there is not always agreement. It is a question of taste on a very fine order.

When viewing polishes of mediocre or poor quality, such fine points are rather meaningless as such polishes effectively mask the intrinsic workmanship of the blade anyway.

My wish in writing this is to bring out one of the problems a *Togishi* faces in restoring a sword and give my own views as a *Togishi* as to why the *Hadori* in my estimation is generally superior. I can only present the above as my own preference. Others will doubtless have their own thoughts on this subject and this is what makes art. The quest, the search for art will, if conducted seriously and without self-serving motives, make art.

A narrow totalitarian viewpoint can only produce hacks, not artists, and will ultimately consign any artistic endeavor by such narrow people to the realm of provincial folkcrafts. It will never produce art or thinking that transcends national and ethnic boundaries. Taking this a step further, it may be well for Japanese society, which tries to class everything in it as "uniquely Japanese" and thus unfathomable to the non-Japanese, to consider that this very effectively will build a barrier to understanding between Japan and other countries. Thus real respect and understanding will always elude them. It only allows the proliferation of shallow, warped views and stereotypes.

I have lived most of my life between two cultures, and it seems to me that all too many people are satisfied with such views. They are self-serving and expedient. This is especially true for the government in Japan in forming public opinion. But this falls under the heading of that vast genre of writing of *Nihonjinron* and not under the heading of art. Yet I think one can see the very subtle but dynamic relation between art and social views. That is how the width and breadth of a society or lack of it can be so very debilitating to art and much else as well.

On this note, I will cease these musings, because at this moment I have a very large *Shinshintō* sitting in the *Katanakake*, begging to be restored to its original health and well-being.