

**KYUDO –
THE WAY OF THE BOW**

**The art of shooting the traditional Japanese bow
according to the HEKI INSAI HA SCHOOL**

Technical Manual

© Luigi Genzini, Rom

KAN
STRONG



CHU
HITS



KYU
ALWAYS



Master Inagaki Genshiro was born in Tokyo in 1911.

In 1930 he began his studies of engineering at the Waseda University where he graduated in 1936. At the same university he was taught Kyudo by URAKAMI SAKAE HANSHI, principal master of the HEKI RYU INSAI HA whom he later succeeded. At the end of the Second World War martial arts were forbidden in Japan, but when the prohibition was lifted the traditional Kyudo competition in front of the Emperor (Hiroito Tenno) took place in 1957 and Inagaki Sensei won. Genshiro Inagaki Sensei, 9th Dan Hanshi is the Master of Kyudo at Waseda University in Tokyo and Tsukuba University, Japan. In Europe he is the Master of Heki groups in Germany, Italy, Finland and Austria.



PREFACE

From 1982 until the present, Inagaki Genshiro Sensei has conducted Kyudo seminars in Italy, Finland and Germany every year. Being able to follow these seminars I never missed the opportunity to *take* notes of his teaching. In addition, I was able to stay in Japan very often and so I could get more and more information while practising Kyudo at Tsukuba and Waseda Kyu Dojo. Thus my knowledge improved by direct contact, practice and the

explanations from Inagaki Sensei and Mori Sensei.

Two of my Kyudo friends, Paolo Villa and Massimo Ramerino helped me to organise and order all my notes. My Kyudo friend Franco Zanon did the drawings. I am particularly grateful to Inagaki Sensei for his final revision of my notes and drawings. The result is the following little text.

Summer 1994,
Luigi Genzini



FOREWORD

Professor TOSHIO MORI
of Tsukuba University
Kyudo Head Master of the
HEKI TO RYU

This book is an extract of all the speaking and feats accumulated by Luigi Genzini after his 20 years experience of Kyudo technique INSAI HA HEKI RYU, materials, equipments and restoration methods. The author was an Alitalia Airlines pilot and in Japan, in order to learn, he never misses to meet the Dan Kyudo head master INAGAKI GHENSI. Before starting Kyudo he was a forerunner in the western instinctive archery reaching an important roll as well as a remarkable experience in bow hunting. In the long run and thanks his job he became also an all around the world archery collector; we can say Luigi Genzini his a keen connoisseur, beside Kyudo of the whole archery culture.

He was interested in the bow design and making, both western and Japanese reaching a level as to receive a collaboration proposal from a Japanese bow maker. The author is the Momiji Kyu Dojo Sensei in Rome where, together his wife Barbara (also kyudoka and "mother" of every young shooter), he practice, leads and teaches kyudo. This book has been clear written, whit the all needed information and illustrations by a qualified archer just for people who like to start Kyudo.

Regarding Japanese culture books, some time it happens to make mistake but in this case the book is advisable to everybody found of Kyudo.

A short introduction concerning the history of the HEKI RYU INSAI HA

The way in which Kyudo is performed has remained almost unchanged since the 15th century. There have been many schools, among them OGASAWARA and HEKI Ryu. The main concern of the Ogasawara Ryu was how to dress and how to move. During the Tokugawa Period in the first part of the 17th century the 3rd Shogun ordered the Ogasawara Ryu to define their own ceremony. The style of this school was developed from Yabusame (shooting from horseback) and it has remained unchanged up to the present. The All Nippon Kyudo Federation (A.N.K.F.) combined elements of Ogasawara and Honda.

The origins of the Heki Ryu are shrouded in myth and it is said that it began with HEKI DANJO MASATSUGU, a legendary hero whose existence even today has not been confirmed. Nonetheless Heki Danjo Masatsugu is considered to be a genius of martial arts who completely changed the way of shooting with the bow. At that time many techniques were used, almost every noble family having it's own. Heki Danjo checked all these different techniques, collected the best points of each school, adapted them for the best results and so developed a new technique. Historically the Heki Ryu Insai Ha was founded by the great warrior YOSHIDA INSAI who was named Master by the first Shogun IEASU TOKUGAWA on becoming his teacher in the 17th century. Insai learned the art of shooting from some families who had been taught directly by Heki Danjo. Insai lived at the time of the great battles; later in peaceful times (same period as Miyamoto Musashi) he was able to adapt the Heki technique of the battlefield and to make some changes for peaceful

times without armour. For these reasons it is possible to say without any doubt that the Heki Ryu is still teaching a technique that was created and used for maximum efficiency on the battlefield and thus, as Inagaki Sensei used to say, is a TRUE technique.



The direct line of the most important masters of the Heki Ryu from the 16th century onwards is shown below:

Yoshida Insai

Master to the 1st shogun, about 1600

Yoshida Sadakatsu

Insai's son, Master to the 2nd and 3rd Shogun

Yoshida Yoshikata	Sadakatsu's younger brother, about 1700, very famous for his skill
Yoshida Gennoju Inkei	Yoshikata's son, Master of the Ikeda family
Tokuyama Katsutoshi	Master of the Bizen Daimyo (now Okoyama)
Urakami Naoki	appointed Principal Master by Yoshida Gennoju
(Naooki)Urakami Sakae	appointed by Naoki
Inagaki Genshiro	appointed by Urakami Sakae

You have to remember that we are talking about the succession from one master to another; the word son is not always understood in its literal sense. The Heki Ryu Insai Ha (as it is called by other schools, the true name is "School of the Shogun Family" - Heki To Ryu) has an unbroken tradition into the present century which started with Yoshida Insai. During all these years many changes were made to the bow due to the studies of many masters; on the other hand Inagaki Sensei has checked the ancient manuscripts from the 16th century which confirm that the Heki technique we learn today is almost the same as that taught in the past. Nowadays, the Heki Ryu teaches technique according to its tradition and according to the studies made with modern equipment at the Waseda and Tsukuba Universities.

Chapter 1

THE TECHNIQUE

The stages of shooting according to the Heki Ryu

1 – ASHI BUMI

2 – DOZUKURI

3 – YUGAMAE

4 – UCHI OKOSHI

5 – SANBUN NO NI

6 – TSUME AI

7 – NOBI AI

8 – YAGORO

9 – HANARE

10 - ZANSHIN

1 – ASHI BUMI

Today the importance of hitting the target is underestimated and the performance of ceremonies is preferred. In Kendo to win or to lose means life or death, therefore a psychological training (of the spirit) is called into being in order to hit. The origins of the Heki Ryu belong to the battlefield, so as in Kendo, to hit or to miss the target is of vital importance: it means LIFE or DEATH. This is why Ashi bumi is so important: once you have done it, "the spirit is born", kyudo has started, "you have already made your decision."

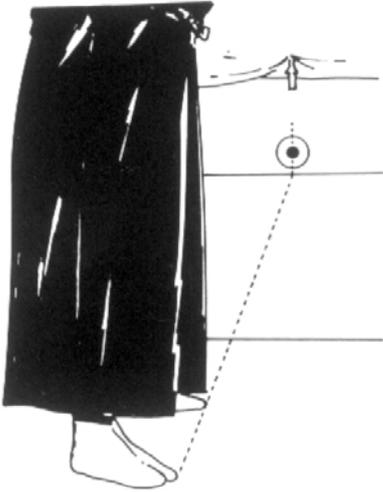
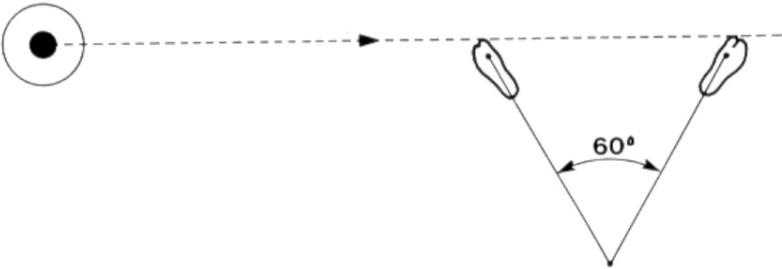
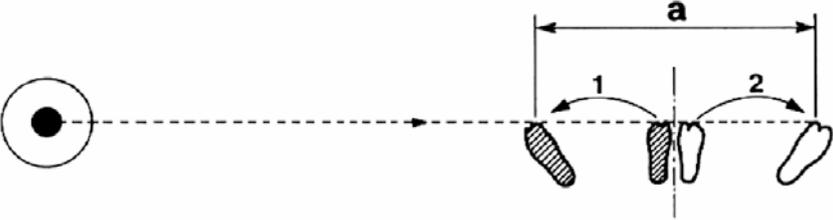
Ashi bumi is the positioning of the feet and the posture of the body in relation to the target; it is performed by moving the left foot a half step in the direction of the target and then directing the gaze downwards, moving the right foot a half step away from the target.

YATSUKA NO KANE: the spacing between both feet is the same as the archer's draw length, half of the archer's height plus approximately the width of 3 fingers. A beginner often draws the bow more than he should do, so he needs a longer arrow. Inagaki Sensei has said: "I am very old and so my draw length is less than half of my height, however, I don't worry because I know that overdrawing easily introduces mistakes."

OGI NO KANE: the angle between the feet once checked by the spacing; we know that a thin archer sets the feet about 60 - 70 degrees while an archer of heavier build chooses a wider angle.

NAKAZUMI NO KANE: we obtain the direction of Ashi bumi by setting the right toe along the line connecting the target with the left toe. If you need to correct Nakazumi No Kane you have to do it by moving the right foot only.

The more we practise Kyudo, the more we are training the spirit in Ashi bumi. If it becomes impossible to make a correct Ashi bumi, it becomes impossible, too to learn the right spirit because the conditions of a correct shot are missing. The same connection between technique and spirit always exists in all the phases of shooting.



2 - DOZUKURI

Dozukuri means correcting the posture i.e. the position of the bow in relation to the body. The importance of a correct Dozukuri is linked to the fact that this position must become intuitive whereas Teno uchi has to be made consciously; only with a correct Dozukuri are you able to raise the bow in the right way and perform Uchi okoshi correctly.

There are 5 different forms of Dozukuri:

- 1 - the bow is on the left side, Mato Mae shooting
- 2 - for Enteki shooting or high target position
- 3 - for short distance shooting or low target position
- 4 - the bow is in front of the body
- 5 - very long distance shooting (positions 2 and 5)



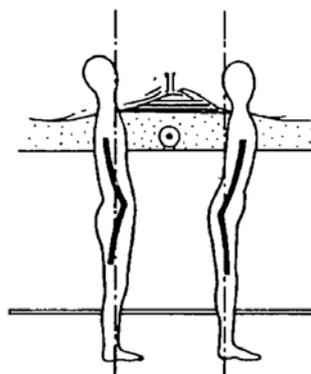
Pos. 1



Pos. 2



Pos.3



Pos. 5 / 4

3 - YUGAMAE

Yugamae defines the readying of the body in relation to the bow; it is the preparatory stage which must be performed properly if the following movements are to be successful and depends itself on the correct performance of Ashi bumi and Dozukuri. There are three fundamental parts in Yugamae:

TORIKAKE - nocking the arrow and setting the glove correctly on the string. Done correctly, it allows: stable nocking, tension without strain, and ultimately, a clean Hanare (release).

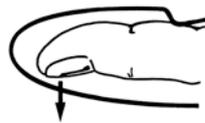
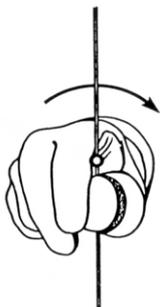
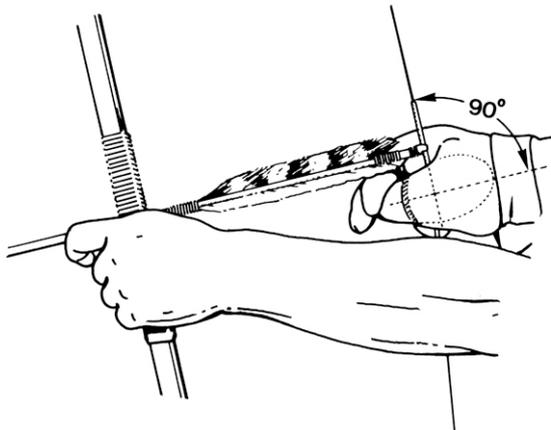
TENO UCHI - holding the bow correctly in order "to work" with the left hand, thus avoiding the natural tendency of the arrow to deflect to the right. As a result of the uncorrected physical forces exerted on the arrow when shooting at the normal distance to the target of 28m it would deflect about 1.5m to the right. The correct Teno uchi (Tsunomi No Hataraki) compensates this deflection as has been shown by high-speed photography.

MONOMI - literally viewing the object. Not aiming, but how to set your gaze on the target.



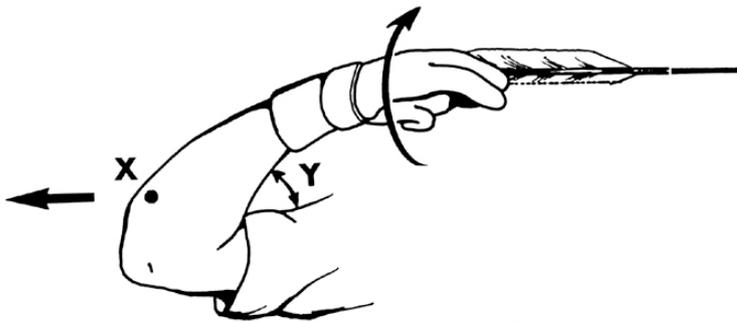
TORIKAKE

- a) The thumb of the right hand must be perpendicular to the string._b)
The arrow must be pressed against the bow by a slight counter-clockwise rotation of the right forearm; this rotation must start lightly and gradually increase from Yugamae to Sanbun no ni; at the same time Teno uchi must tilt clockwise and increase according to the progressive Torikake movement.
- c) The index and the middle finger must exert an equal pressure on the boushi (thumb of the glove). The pressure must be applied uniformly along the length of the finger rather than being concentrated at the finger tips.



While drawing the bow you need to twist the right arm counter-clockwise. Due to the backward movement of the right shoulder and arm from Sanbun no ni to Tsume ai the arrow comes close to the cheek.

Do not draw from the elbow, but imagine the point X moving on a line parallel to the arrow away from the target the angle Y then increases automatically. The point X should be about 10 cm from the elbow. If this is performed properly the arrow will not fall from the bow hand and a common reason for missing the target to the right will be avoided.



TENO UCHI

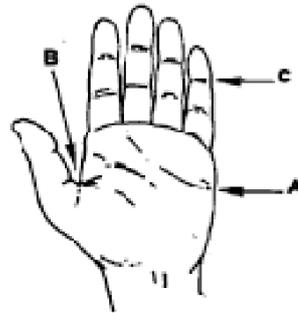
Gripping the bow in such a way that maximum power is transmitted to the arrow.

a) The thumb and hand should form a narrow V with the base of the thumb, not the apex of the V, pressing against the bow at the point B which divides the width of the bow in a ratio of approximately 4/6 or 3/7.

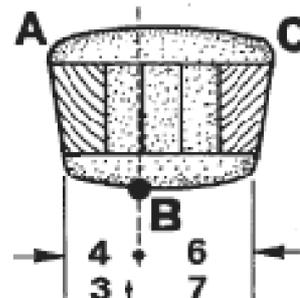
b) The skin at the base of the thumb (the V between index finger and thumb) must be rolled up and pressed against the grip of the bow. In order to improve both grip and friction we must be very careful about not losing this adherence; the front edge A of the bow must be placed in the fold of the palm below the little finger.

c) The little finger closes the grip at C, near to the thumb, then in the same way you set the ring finger and finally the middle finger, firmly and without disturbing it, below the thumb.

a)



b)



c)

Teno uchi should not be made with too much forward inclination (Uwa oshi) because in this position the little finger will not be wrapped around the bow correctly and it is not possible to assert sufficient strength to twist the bow. The correct angle of the Teno uchi gives a good Tsunami; a good Teno uchi means a correct and strong twisting action.

You need to study and to remember that a well made Teno uchi is ineffective if you don't twist strongly and correctly at the moment of release (Hanare) as the work supplied by Teno uchi (Tsunami No Hataraki) will be ineffective if Teno uchi is done incorrectly.

SHOOTING ACCURACY

In Tsume ai and in Nobi ai we must continue to push and bend clockwise, this will result in an inclination of the upper part of the bow of about 8° - 10° to the right (Fuseru); therefore you need to push and twist in the direction of the target; the little finger must maintain a strong grip.

In Nobi ai the left hand pushes and twists to the target, but never think about the theory while practising; that is a mistake. With sufficient practice the desired theoretical result will be attained.

The time between Hanare and the arrow leaving the string is between $1/25$ and $1/30$ of a second, during this time Teno uchi must be maintained. The action is controlled by the right side of the brain, the analysis is performed on the left side; the two parts cannot work together, which is why the analysis and performance of Teno uchi are so difficult.

Teno uchi must be made narrow, the thumb pressing down on the middle finger; the thumb and the fingers work together. If the pressure of Teno uchi develops correctly , it is said to be "Momijigasane", like a "maple leaf":

light in springtime	Uchi okoshi
strong in summer	Tsume ai
red in autumn	Nobi ai and Hanare
fallen in winter	Zanshin

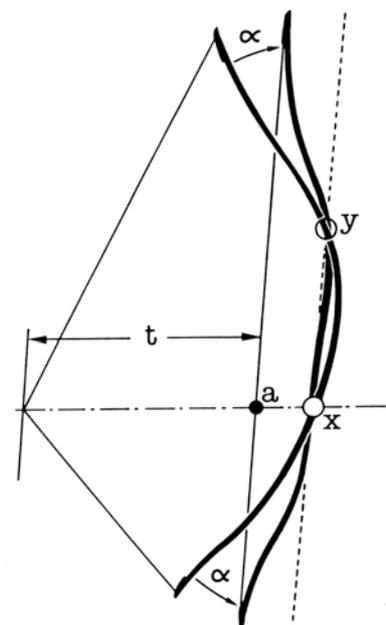
This is to be interpreted as meaning: just as the maple leaf does not change its shape the Teno uchi should not change its form, but work in such a way that it changes its colour. Teno uchi is always made in the same way, starting from Yugamae when the bow is on the left side of the body. As a check that Teno uchi is correct: you must have the feeling of holding an egg firmly but without crushing it.

A FEW THEORETICAL POINTS TO HELP IMPROVE TECHNIQUE

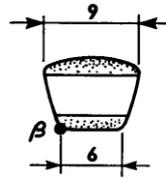
X-Y= the axis of rotation, it should remain immobile during Hanare.

X = the only point which does not move during the interval "t": i.e. from Hanare until the arrow leaves the string at "a".

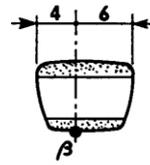
Changing the orientation of the X-Y axis will cause the arrow to deviate from its path. This will also happen if the angle a is allowed to vary.



Section through an ancient bow



Section through a modern bow



β = pressure point (it can change according to the shape of the bow and / or the shape of the archer's hand)

TSUNOMI NO HATARAKI, this is the time honoured expression which indicates a correct Teno uchi combined with the correct Tsunami.

Tsunami No Hataraki is the form of the Teno uchi that results in maximum energy in the correct Tsunami at Hanare and the following instants, i.e. the time interval between the string leaving the glove and the arrow leaving the string.

Inagaki Sensei reminded us: "Nowadays in Japan, 90% of the masters disagree with me and they teach not to twist at Hanare. It is true that you may deform the bow if you twist too early: the torsion must begin after Uchi okoshi. However, the big difference between the Heki Ryu and the other schools is to KEEP TWISTING during Nobi ai until Hanare.

TORSION

Other schools teach that you should twist to α and then push; in Heki Ryu you twist till Hanare which is beyond β (Nobi ai). The efficiency of the "straight" work of the muscles is 1/1000 by sec which is very difficult; the effort of twisting is easier, this is why the Heki Ryu teaches to twist, in order to obtain a better "straight" result.

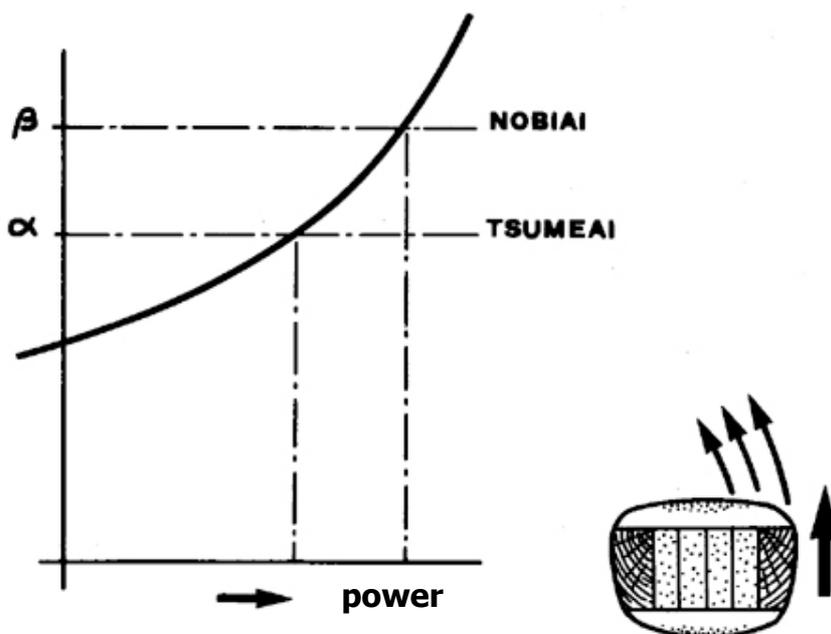
„Galileo was imprisoned for telling the truth: Even if the world were to vanish tomorrow, I, Inagaki, would continue to twist.“

Our school teaches that twisting should continue through Nobi ai and on to the moment of release.

An experiment carried out in 1972 showed that:

A shomen archer using a 30 kg bow achieved an arrow speed of 55 m/sec;

Inagaki Sensei achieved 60 m/sec with a 24 kg bow



Heki Ryu teaches:

- i) The pressure point b coincides with the axis of rotation X - Y.
- ii) Up to and during Nobi ai the axis of rotation x-y should not change.
- iii) The little finger and the ring finger must maintain their grasp in order to avoid a change in the rotation "a" about "X " (otherwise the flight of the arrow will be affected)

i + ii + iii = TSUNOMI NO HATARAKI

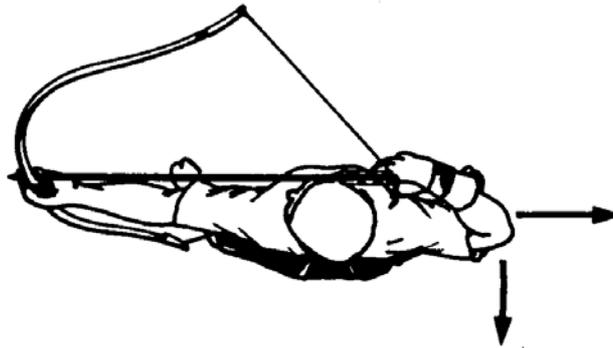
"CONCENTRATE AND STRIVE: PUSH AND TWIST. THIS IS THE WAY TO ACHIEVE A POWERFUL SHOT AND ALWAYS HIT THE CENTER"

Points to watch

- i) the flap of skin between the thumb and index finger should be pressed downwards against the bow
- ii) the forward edge of the bow is set in the crease of the palm.
- iii) the hand is squeezed as though trying to remove a tightly fitting bracelet and the little finger is closed around the bow.
- iv) set the ring and the middle finger correctly (the effect will be ruined if the thumb is raised)

TSUNOMI: As long as no detrimental effect on the flight of the arrow occurs slight deviations in the position of the hand can be tolerated.

RIGHT ARM: the job of the right arm is more difficult since the resultant force comprises two components acting in different directions.



If we think only: powerful left hand, friction by the right hand with a continuously increasing Tsunami, we will overcome the friction reaching a natural Hanare; it must be pointed out, that at the beginning of Kyudo study Hanare has to be done by will.

The left hand is the trigger, the release is to win the right hand friction.

A good Tsunami work precedes the string (keeps the bow tight till the arrow leaves the string). It is only necessary to be conscious of "torsion" and the lateral movement of the left arm will happen automatically; it is about 12 cm for Japanese and about 15 cm for European archers

WORK: TSUNOMI NO HATARAKI

Tsunomi means "look at the horn", this is a conventional expression which disguises a secret technique (Gokui) used in ancient times by the Heki Ryu.

- When it seems impossible to twist more, every bit of power must be used to increase the torsion even further.
- If this is not attained, there will be no spirit; "it is like a stone statue".
- Put simply: twisting without changing the axis the lower part of the bow causes the little finger to open at Hanare.

MONOMI signifies viewing the target; looking twice means to be not in balance with ones own spirit. We must learn always to look at what we want to hit in the same natural way. Monomi should always be the same, the eyes horizontal with the head naturally turned but not through 90° because this position is very difficult for older archers or when one is tired.

4 - UCHI OKOSHI

From Yugamae we pass to Uchi okoshi, the initial stage of actually shooting. In former times this position was much lower to avoid the exposure of the left side and the armpit and thus the possibility of being hit.

In the Meiji period after the time of the wars Urakami Sakae's father, Naooki, invented the present position that requires less effort and allows "the way of the string" to be achieved more naturally (Tsurumichi).

With both hands we have to move into "the way of the string" in a higher and more natural way without raising the shoulders.

With advancing age Uchi okoshi will become lower.



5 - SAN BUN NO NI

It means "two parts of three" $2/3$, but not in a mathematical sense. If the arrow is divided into three parts, in Yugamae we draw $1/3$, in Sanbun no ni $2/3$; we are not talking about mathematical parts but about energy and spirit.

The archer CHIKURIN was very skilled but once his string touched his helmet, he spoilt the shot, missed the enemy and lost his life. In ancient times you stopped at Sanbun no ni to avoid entangling the string in the helmet.

After having studied this position for a long time, many important points have come to light, the most important are:

1) The left and right hands should be in balance; i.e. Tsunami and the torsion of the right arm: with a lot of practice you will achieve this condition of balance automatically.



2) AIMING: we accustom ourselves to seeing the target always in the same position relative to the elbow:

- if you see the target above the left arm, it signifies that it is far away or high
- if you see it below the arm, this means it is close or low.

3) You have to put the energy you need into the shot:

- if the power is not sufficient, the time at Sanbun no ni will shorten
- if there is a feeling the bow is too strong, you need to shorten the time; it is a question of small differences concerning the balance between bow and the archer; for example: an archer who is tired or ill.
- If the bow really is too strong, the archer will develop a lot of bad habits.
- if the bow is weak and the archer is strong, the time needed in Sanbun no ni to achieve a good balance will be longer, but then the Nobi ai will be perfect

If Sanbun no ni is correct a higher percentage of hits will be achieved. At first it would appear to be just a problem of form, but the true meaning lies deeper; it is the second of the three positions of the battlefield in which it is mandatory that the Tsunomi and the right arm increase the strength progressively until Hanare.

The constituent elements of Sanbun no ni:

height: the fore binding of the fletchings is roughly at the level of the eyebrows

spacing: the right hand is approximately the width of the fist from the face at the ear (it is the teacher's decision where the best position is for the individual archer)

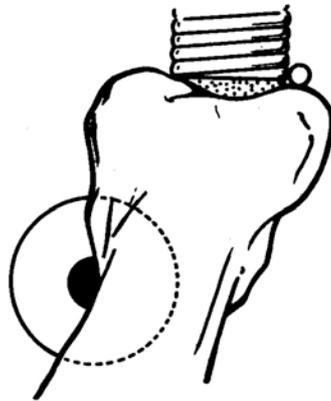
Nerai (aiming): is different for each person, but for every archer it should always be the same. The picture above shows the typical view of the target as seen in Sanbun no ni.

Balance between the work of the right and left hand

Sanbun no ni helps to check the force of the shot; usually it is held for 3 seconds; in the case of a strong archer with a weak bow, it will take 4 - 5 seconds; if it is held for only 1 second it signifies that the archer has not enough strength (lack of rest or lack of food....)

The mind concentrates, the determination grows, continuing the **Rhythm** (already started from Uchi okoshi) and increasing Tsunami

The left hand leads the opening of the body thus preparing the progressive and intense work of Tsume ai

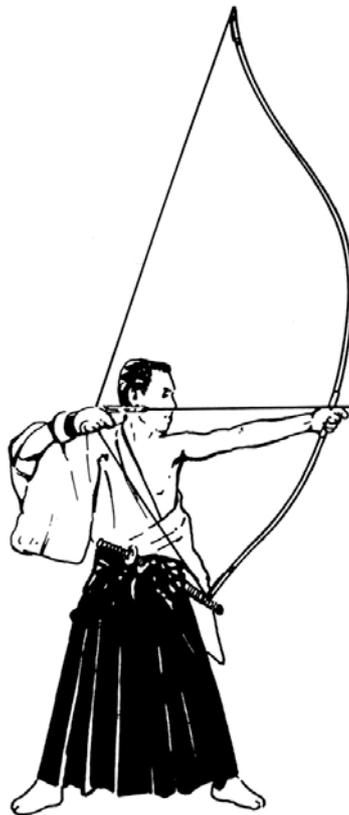


6 - TSUME AI

To achieve a perfect Tsume ai the shooter must:

- draw half of his height (Yatsuka)
- touch the cheek bone with the arrow (Hozuke)
- touch the breast with the string (Munazuru)
- aim correctly (Nerai)

These four points are the basic factors of a correct form in order to have a good release. They are very important. They should be achieved together (at the same time). They will be perfect only when preceded by a correct Sanbun no ni.



7 - NOBI AI - YAGORO - HANARE

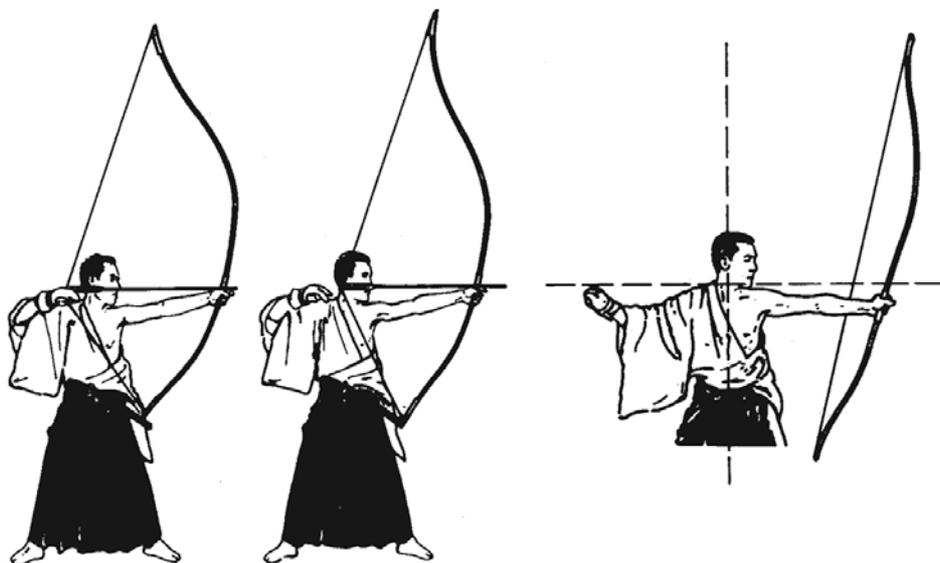
When Tsume ai is perfect (Yatsuka, Hozuke, Munazuru and Nerai are confirmed), we release, and the bow should be in command and the string will take away our spirit (Kokoro - it means heart, mind, soul and spirit; be careful to choose by yourself the right meaning).

From Tsume ai we continue to draw:

The force must increase until the release happens (Hanare). Even if the draw does not visibly increase there must be a tangible increase in the force: if this is not so we miss Nobi ai and the result is a "Hanare without spirit".

In order to obtain a good Hanare, Tsunami must be alive, Teno uchi continuously pushing and twisting. If for example you change your aim at the last moment, the Tsunami will stop and there will also be a pause in drawing during Nobi ai thus resulting in a Hanare without strength. To achieve a correct Nobi ai, with the maximum of tension at Hanare you need a correct Tsume ai and no interruption of the correct Tsunami.

THE TRUE HANARE comes from the LEFT.



THE WORK OF THE TENO UCHI IN NOBI AI AND HANARE

We know that:

- Teno uchi must be very tight
- the whole hand must have a powerful grip without too many static or dynamic pressure points
- the grip must not slacken until Zanshin

1) The root of the thumb pushes and the tensile force of the little finger (together with ring and middle finger) presses, starting well in advance of Nobi ai, we obtain a forward moment that increases the bending of the upper part of the bow thus storing more energy than that given by the string alone.

2) With the torsion to the left we take away the bow from the path of the arrow and if the torsional moment is strong enough, the bow will turn around its inertial axis with more speed. The bow shape allows the Teno uchi to work in such a way.

The effects of 1 and 2 give a higher arrow speed than the action of the bow alone could achieve : the arrow will be shot with SPIRIT. To obtain this result the two moments - forward and twisting - must develop in a time shorter than the recovery time of the bow (about 3/100 sec).

These two effects must develop together and constantly for a sure result, shot after shot.

The action of Teno uchi in the way explained above, is strictly connected with Nobi ai and Hanare, the division into parts 1 and 2 is only to simplify the explanation. Do not think about the SHOT, think only of the TENSION: because it is impossible to think about the movements 1 and

2 during the short period of time which is required to perform them. This all needs reflexes, tension of muscles, pressure of the skeleton. Combined together with the bow, they produce the effect we want at Hanare, this must come to be perfectly automatic which can only result from continuous practice.

Inagaki Sensei reminds:

"This means without will power; the state of Mu, really of Yagoro in Nobi ai. The result of lifelong practice and study was Satori for myself, but remember the secret is in Nobi ai derived directly from Teno uchi."

3) Teno uchi must work continuously during the whole Nobi ai and Hanare. Tsunomi No Hataraki working during Hanare will result in an arrow that is alive, even worthy of an iron target. You must twist the bow faster than its own speed, only in this way can you get a true arrow. This is the technique.

The shot made by will:

The brain orders NOW or the mind commands MORE, LONGER... ; it is the brain that orders NOW and makes the release... we miss the target.

But if we reach this stage: never think Hanare, it must happen by itself (increasing Nobi ai and Tsunomi), when it is impossible to increase the draw anymore, just then we open the only possible WAY to the spirit.

BUT THIS STILL IS NOT ENOUGH. When the right and the left hand are working well together, we feel the desire to release, we must overcome this feeling and increase Nobi ai. This is the most difficult part because the problems increase but only in this way Kokoro will show itself and we

can understand that this is Kyudo. We just have to continue without thinking and we will learn that the subconscious "the hidden brain" commands.

4) The spirit should be the right one. To understand Kyudo means to understand ones own limits and accept them.

1 - to hit with the correct technique

2 - When you have 14 hits from 20, you should not ask for 18 from 20; if you have 18 from 20, you may ask for 19 from 20 without asking always for 20 from 20. True Kokoro only will arrive by accepting ones own limitation. Inagaki Sensei once said: "When I was about 40 - 50 years old, I was always able to hit the target, but that was not the true target; and only when I was 50 my teacher Urakami Sakae told me the true Atari.

Both ways of hitting (Atari) are important.

To be able to hit the right target we need to go through the right technique and the right spirit. This is the TRUE Kyudo. Good spirit leads to good technique and both will lead to the correct hit, the true Atari.

Devoting ourselves to: Teno uchi and technique, breathing and concentration, training of Kokoro, then we will get the spirit and reach Satori.

There are some points about Hanare: in Nobi ai the torsion of the right hand increases, the thumb and the little finger of the left hand increase their pressure (Tsunomi no Hataraki), let's say simultaneous left and right hand SAE.

The spirit will never come if in Nobi ai we think of the right hand, the left hand, Nerai or Atari.

Nobi ai is the most important phase, it is the HEART OF THE TECHNIQUE. On the bow-arrow plane the work of the Tsunami and the right hand overlap building the way for Nobi ai.

Signals from all over the body are sent to the brain that unconsciously orders Hanare; to reach this stage, you need to be completely aware, doing the maximum and obtaining:

NOTE: You should also remember that the time taken for signals to travel from the brain to the fingers is 5/100 sec for poorly trained archers, 2-3/100 sec for well trained archers. It seems that the training increases the speed of the signals or induces the brain to choose the fastest nerve.

Nobi ai comes from the verb nobiru = to extend; after Hozuke you need to "stretch" the shot. The force of the stretching must always be active, if it stops Hanare cannot happen. Hanare must happen by going beyond the bow strength resulting from the work of the Tsunami.

A correct Hanare comes from the combination of 3 factors.

1 – Tsunami

2 - the torsion of the right hand (impossible if the thumb is not perpendicular to the string)

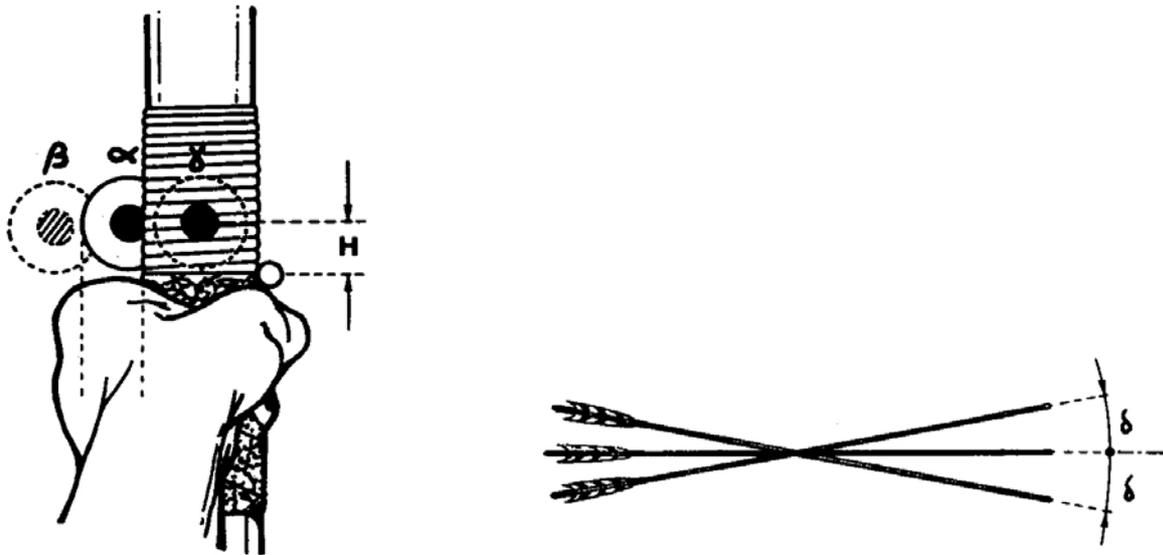
3 - never stop Nobi ai

FUTAMEZKAI. It is not possible to reach this stage without having learnt the technique of aiming. It means to hit the target only by looking at it without aiming.

A) TECHNIQUE OF AIMING (Nerai)

Due to the position of the bow the right eye's view of the target is obstructed.

Using both eyes the bow often appears to be transparent and depending on the archer's stance it is possible to use one of 3 correct views: β α γ



H depends on the draw weight of the bow and the weight of the arrow which together with the draw length and the distance from the target influence the inclination of the arrow d

Remarks. About Nerai: To learn it you need the active help of a better archer, whereas you should never simply observe a better archer or teacher from behind. There are two reasons: first, Nerai changes according to the arrow type, the archer's health, the bow, or the Kake (glove). To consider all these points you have to be very good; but what you see, could seem to be wrong. Second, the teacher's left or right hand could be tired or working not correctly, it would be impolite for a pupil to check it.

- if the emphasis is placed only on getting the left hand right: the arrow will go high
- if the emphasis is placed on getting only the right hand right : the arrow will go to the right
- for the ARROW, BOW, GLOVE parameters the shot can hit (either on the right or the left side of the target)
- it is not a mistake to aim at the extreme border of the target in order to hit the centre
- if you aim at the centre and the arrow goes to the RIGHT, it is the fault of the left hand; if it goes to the LEFT, it is the fault of the right hand. • For an archer with a certain bow and arrows a (b g) H and d are constant.

This is the correct aiming technique: each hand performs its task as it should and the arrow will hit the centre. You need to go higher to hit the centre only by looking at the Mato (Futamezkai); there must be a good Nobi ai, that's to say a good working of the spirit.

B) NOT AIMING

To reach Mu you need: TO BE ABLE TO HIT THE CENTER WITH NOBI AI ONLY LOOKING AT THE TARGET AND WITHOUT AIMING.

The way is very difficult and Futamezkai is not Mu.

- The expansion of the spirit cannot take place if the left and the right hand are not fulfilling their tasks correctly
- The right SPIRIT is coupled to Teno uchi and Nobi ai.
- We must look at the target once, if we look twice we curtail our spirit
- The spirit will come only after we have come to know the technique and the aiming so well, that we are able to forget them completely.

10 - ZANSHIN

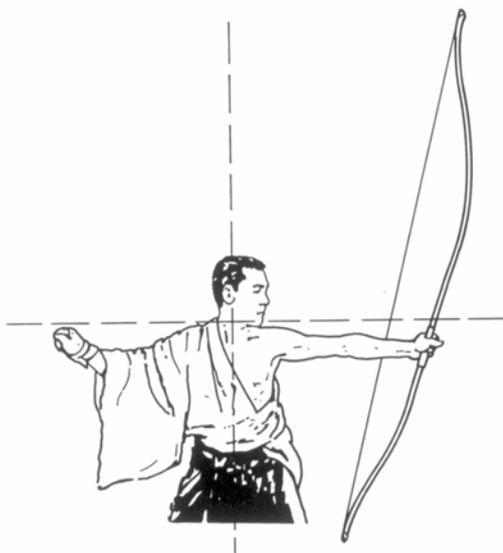
Zan means "remaining", shin means "body" or "spirit". Thus Zanshin the state following the release of the arrow. As the previous sentence suggests there are two aspects to Zanshin

1) The physical Zanshin. In the 8 stages of the shot there are many tension points expressed by a 90° angle (position) to be realised and/or to be kept: Torikake, Teno uchi, Ashi bumi, neck and arrow, basin and vertical line, if everything is made well, also Zanshin will be at 90°.

After Hanare the strength of the body will be cut in two parts:

- the left hand will lower about 8 cm
- the right hand will loose in line (as a reaction to Hanare) while the right elbow will move backwards

Today there is a tendency in Japan to break the natural laws changing the balance. 600 years of experience taught us that Hanare and Zanshin must happen naturally and with perfect balance; if Hanare is correct the balance is maintained and Zanshin will be at 90°.



2) The spiritual Zanshin.

The solidity of the body of a bell: Nobi ai

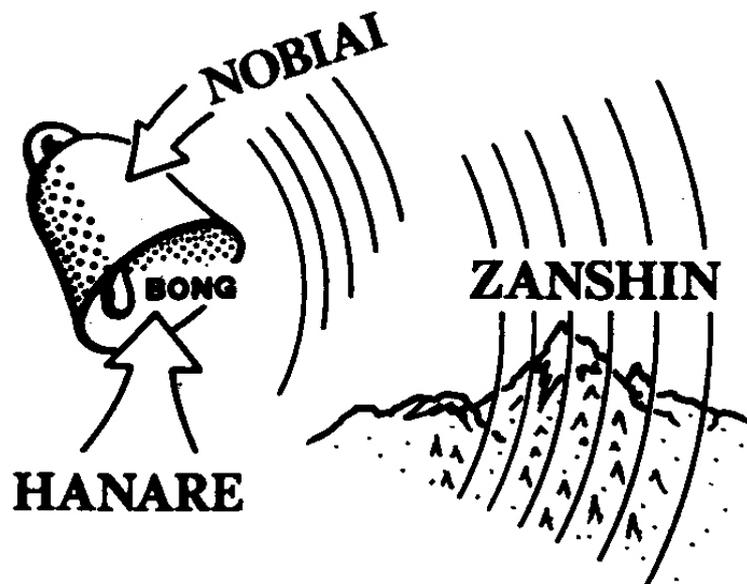
The short and sharp toll: Hanare

The sound invading the valley lingering in the air: Zanshin

"Free, the spirit quietly expands"

When you understand Zanshin, you discover the beauty of nature, it means the perfect balance between Kokoro and nature; the spirit, free, joins nature in the universe.

"We must not construct Zanshin but work hard to get the right Hanare. When Tsunomi, the twisting of the right hand and Nobi ai are perfect, the correct Zanshin will result. This also means that Hanare is not the end of the shot. With a lot of practise this will become clear."



STUDY

You have to study hard: practise, technique and spirit working together. You have to practice a lot with the correct technique, studying Nobi ai, discovering Yagoro with a very strong Hanare.

As in ZEN Nobi ai makes you understand the spirit of Kyudo because if you discover WHO orders NOW (Yagoro) this means Satori.

About practise: the best is to practice 6 days of 7. If you only practice every second day you will retain 80% of what you learned (in memory, muscles and mind), in case of 6 days without practise this will be reduced to 20%.

In order to achieve this, there are many mistakes to be avoided: the main ones are:

1. to think of yourself as skilful and to lack modesty
2. you have to remember if a Kyudoka practices too little, the sensei cannot help him.
3. the direction of Tsunami.
4. the strength of Tsunami (which should be as much as possible).
5. to destroy Tsunami by opening the hand in order to get Yugaeri
6. timing, let's say Tsunami is late according to Hanare.
7. to release with the right hand.
8. to shoot too quickly, you release just after Yatsuka.
9. Yurumi, very often it happens because you think of Hanare, you seldom hit the target.
10. to release before the completion of Nobi ai.
11. to consider Hanare as the end of the shot

About practise and technique:

There will always be someone learning and someone teaching, sometimes their opinions will differ.

1) there are three ways to learn:

TO LOOK (to observe and discover what to learn)

TO STUDY (how to change)

TO REPEAT (what is right)

and three levels:

THE FORM

THE MOVEMENTS OF FORM

THE PERFECTIBILITY

and then the study of Kokoro.

example:

form: construction of Teno uchi

movement: working of Teno uchi.

perfectibility: Nobi ai (to surpass yourself)

Some recommendations to the teachers:

You have the great responsibility to teach the correct Tsunomi No Hataraki.

Practise together with the pupils, do not teach by talking but teach by your example.

The teacher must always consider the Kyudoka's level, that means:

a) what can I demand from him

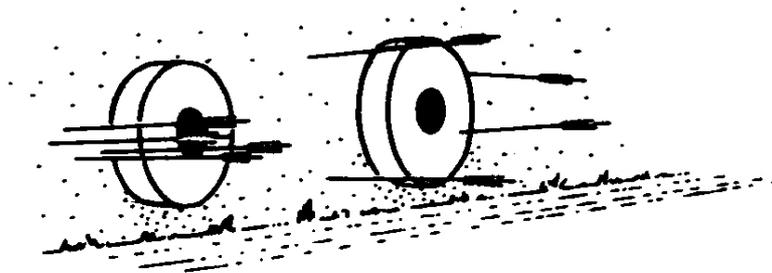
b) he needs to know when to give praise without any comparison to his

own experience and level.

c) sincerity, and the same treatment for everybody

d) sting those who do not like to do their maximum

If the arrows are landing all around the mato, it is very difficult to correct, either it is a beginner or an archer's wrong technique or a lack of training. If the arrows miss the target but are all close together, it is easy to change from 20% hits to 50 - 60%.



3) MATO MAE : shooting over 28 meters_The target is at a distance of 28 m with its centre at 27 cm from the ground.

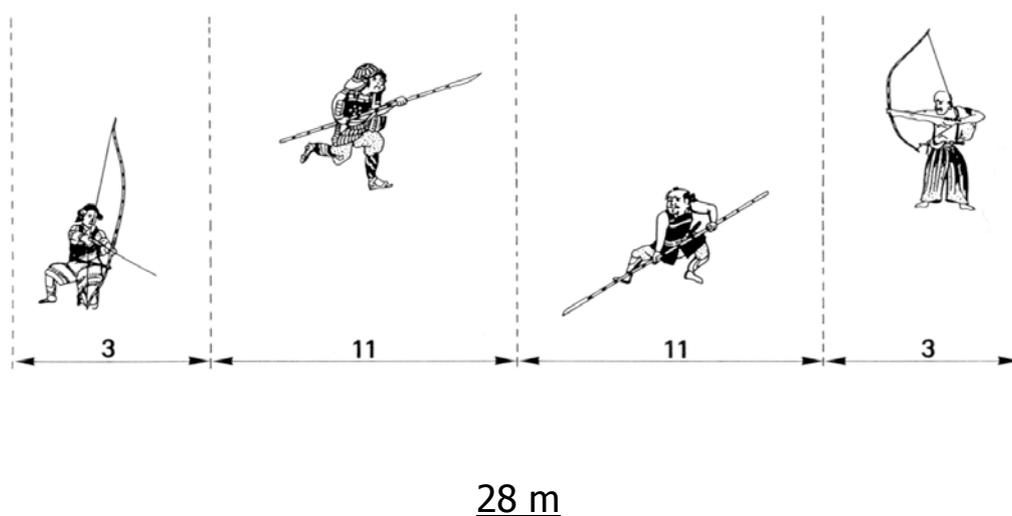
Mato Mae is used for normal training with very precise rules; its position and distance have historical origins deriving from the way the samurai were arranged on the battlefield.

In the front line there were two warriors with spears, behind them stood the archers. The spear was 5,5m long and when wielded in battle needed a space of 11m. To have enough space for their movements, the

archers stood 3m further back . This is why the distance of Mato Mae is 28m.

The following remarks about the Heki Ryu and the other schools are preceded by the statement of Inagaki Sensei: "What I say, is the truth. I will not speak in a negative way about other schools."

Ogasawara Ryu comes from horse back shooting. Dozukuri is made in front but for Yabusame the target is very close, 4m only, so there is no need for a very precise technique; breathing and horse control are important.



This surely was not the technique of 28m shooting. Inagaki Sensei practised Yabusame, the Teno uchi is very simple; during the training you sit on a saddle shape seat that goes up and down and turning and you shoot at a target at a distance of 4m.

Another kind of shooting is SAN-JU-SANGEN-DO practised and taught by masters of the Honda Ryu; the Heki Ryu did not copy this way of shooting but other schools did. San-Ju-Sangen-Do is a competition that took place on a veranda (108m long) with a low ceiling; the archer was kneeling and the arrow had to reach the end of the corridor. The archers had to shoot for 24 hours so the object of this technique was a different one: not to get tired, to reach the end of the corridor, hitting was not so important. Today this technique is also used for the 28m shooting, "but for every situation you need the appropriate technique: for swimming very fast, crawl is the best technique, for long distance it is breast stroke."

So also the Heki Ryu uses the technique of San-Ju-Sangen-Do to shoot at a distant target or many arrows in a short time. Example: to shoot 10 arrows in 60 seconds the right hand does not twist, Zanshin is open and we keep the arrows on the knee.

Competition. In Japan people consider competition as a poison for Kyudo, but poison can also be a medicine. Shooting at the target is different from shooting at the Makiwara. To shoot in front of a lot of people as in a competition is very different from shooting alone You need to learn to shoot in front of many people in the same manner in which you shoot at the Makiwara. The solution of this problem is competitive shooting.

THE KINDS OF SHOOTING

There are five, followed by the word Mae which means "how to do"

1) MAKIWARA-MAE

The Makiwara is a very tight straw cylinder; its diameter is 40 or 60 cm and it is about 70 cm long and in general put on a wooden stand. It is used to learn both technique and ceremony; you shoot at the Makiwara from a distance of about 2m, the arrow has a bullet shaped point and usually no feathers. Among all the ceremonies the makiwara one is the most difficult, four arrows are shot. Makiwara practise teaches many things; there is no desire to hit and it is possible to study a single point for example Tsunami or Nobi ai, so you should not underestimate the Makiwara.

2) MATO-MAE

It is the shooting at the distance of 28m. The diameter of the target is 36cm. It is usually stood in front of a bank of sand. It is good for learning the right technique and the right spirit.

3) ENTEKI

This is long distance shooting to 60m at a 1m target. It is very good for developing a very strong Hanare; Ashi bumi is smaller than usual, if it is practised outdoors you keep the stringholder on your Hakama. Normally a lighter arrow with smaller feathers is used. You can shoot in two ways: the easier way involves bending the body sideways after Tsume ai; the other by inclining Sanbun no ni to lower the right hand. For aiming the reference is the same Mato position at Sanbun no ni as for Mato-Mae. Up to 60m there are no changes for the other stages of the shot.

To shoot further than 120m TOYA TECHNIQUE is better, very light arrows are employed, similar to those used in ancient times to send messages inserted in the shaft.

4) TEKI(YO)-MAE

It is the method used on the battlefield when shooting in armour facing the enemy. This shot only has 3 stages: Yugamae, Sanbunoni and Nobiai. The technique dispenses the Yugaeri.

5) KAZUYA-MAE

This is rapid shooting, 10 arrows in 60 seconds. The technique of the left hand and the stages are the same as for Teki(yo)-Mae, the right hand does not twist and Torikake is made with 4 fingers.

6) TOYA-MAE

Also called OKURIYA; flight shooting, to achieve maximum distance. It is done with very light arrows and when shooting further than 400m the feathers are cut gradually until only the rib of the feather remains which signifies to ask (check) the arrow if the shot is correct.

From Insai Sensei to Inagaki Sensei only one Sensei shot with the feather rib.

CONCLUSION

About Herrigel's views Inagaki Sensei pointed out: "He separated the technique from the spirit, he talked about "Art"... but he was looking for ZEN without knowing that technique and spirit must work together,

helping one another. This is now happening in Japan: The spirit is the main way, technique comes in the end; people think these are two parts, separated; this is wrong. If you only think of bow and arrow, the body works like a machine and you will never use the spirit.

The main part of modern Kyudo was created about 90 years ago by a group of people fascinated by Europe and the United States; this is only a new fashion which denies the past. Hitting the target is not easy and since they were not able to hit, they decided "Hitting is not important."

The true values lie elsewhere, independent of fashions. The value is in perfecting and surpassing oneself, and this must be exercised with spirit. In order to increase Nobi ai and to have a better technique you need to train the spirit: it is fighting with oneself.

Technique and spirit together, loyal and natural, in balance with nature and balance between the left and right hand torsion. When true Hanare happens, "true Atari", then everything changes and you will know."



Chapter 2

THE KYUDO EQUIPMENT

1 – The Arrows

2 – The Bow

3 – The Glove

THE IMPORTANCE OF KNOWING YOUR EQUIPMENT

Kyudo is not only practice and spirit but also knowledge. The archer who doesn't know the bow he uses, who doesn't know the instrument he uses, is an instrument himself. A Kyudoka who wants to hit the centre only by technique will never find ZEN. That is why the six items of knowledge (kiu) are so important:

1. KIU-RI - theory of the shot
2. KIU-REI - CEREMONY OF THE SHOT
3. KIU-HOU - etiquette for how to treat bows, arrows, and tackles (nearly forgotten in Japan)
4. KIU-KI - knowledge of the various kinds of bows, arrows and tackle in general
5. KIU-KO - how to make tackle
6. RENSHIN - to practise Kokoro, to strengthen the spirit

Only the Heki Ryu teaches all 6 points. The one who knows them, is a perfect archer. Inagaki Sensei's teaching stresses that after Dozukuri the Kyudoka shall no longer be disturbed by outside or inside influences. An ancient poem tells us about Dozukuri: "Do not think about your treasures nor your gems." This means we should not have any kind of worries. In Dozukuri the Kyudoka sees the bow and the string with the arrow; if he starts thinking: "the nock is too tight, the Nakshikake is ruined, the nock is not tight enough, the feathers are worn, the bow is too strong – a good Dozukuri will never be possible. Therefore the knowledge of bow, arrows and glove is additionally useful because it makes the Kyudoka sure and confident that his tackle is efficient. It should be pointed out once more that it is absolutely necessary to perform each and every movement and stage of the shot with the utmost care in order to be able to repeat each shot with the utmost precision.

Negligence and sloppiness are no part of true Kyudo.

1- THE ARROWS

Arrows can be made of: bamboo, the traditional material; aluminium, or more recently, carbon fibre or fibreglass. Arrows not made of bamboo are coded on the size and thickness so as to be matched to the bow strength and, of course, the Kyudoka's ability. It is important to find a balance between arrows, bow and archer. Aluminium arrows are coded with two pairs of numbers, typically 2015 or 1913. The first pair of numbers refers to the outside diameter in fraction of inch; the second pair to the thickness of the aluminium tubing. 2015 is an arrow suitable for an archer whose drawlength is longer than 85cm and whose bow is stronger than 15kg. Usually 2015 arrows are for men and 1913 for women. Carbon fibre arrows usually have a smaller diameter and are lighter. Each set of arrows will be identical in weight and flexibility. Aluminium arrows can bend, you can't deform fibre ones, but they are more brittle.

A) ARROWHEADS

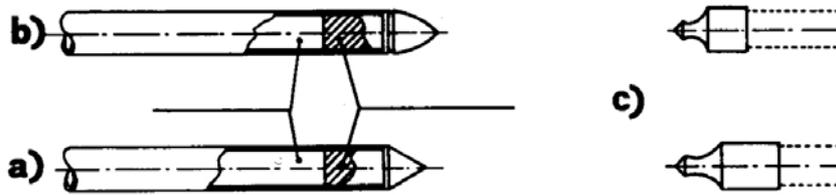
The tips of fibre and aluminium arrows can be of 3 types:

- a) triangular,
- b) bulletshaped,
- c) external point (The arrowhead is hollow and fits over the end of the shaft rather than having a tang).

Only the last mentioned are suitable for bamboo

Type a and b have a stem which goes inside the arrow shaft.

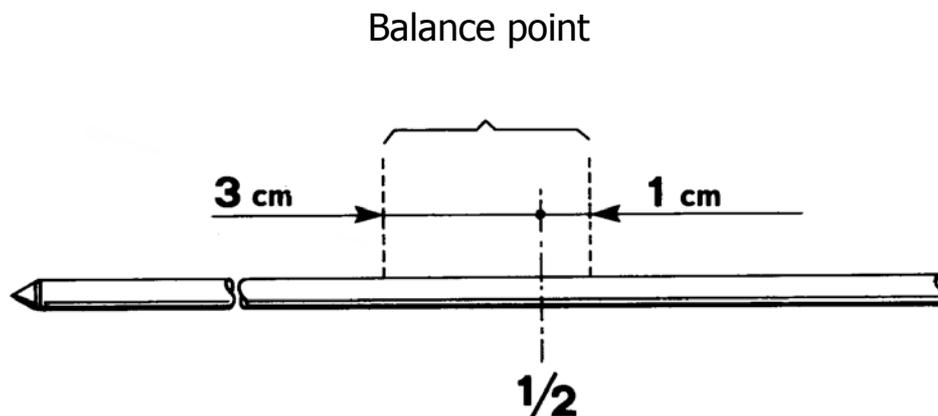
Type c usually is shorter for bamboo and longer for aluminium.



Different kinds of points give a different balance to the arrow. If the arrow is to fly correctly it is necessary to find the optimum balance of the arrow as explained later on, this is valid for any kind of arrow. The nominal bow weight in kg refers to a standard draw length of 90cm, a weight increase/decrease of 2kg can be assumed for each 5cm of increase/decrease in the draw length. The arrow length is measured from the slot in the nock to the point.

A bow with a weight of 17/18kg will be matched to an arrow balanced in the exact middle. The stronger the bow, the more the balance point should be moved forward (towards the point) (up to 3cm for a 25kg bow) This is achieved by using a heavier arrowhead. The reverse applies for a weaker bow (up to 1cm towards the nock for a 10kg bow), the arrowhead should be lighter.

An arrow with a heavy point will be more stable in flight although slower.



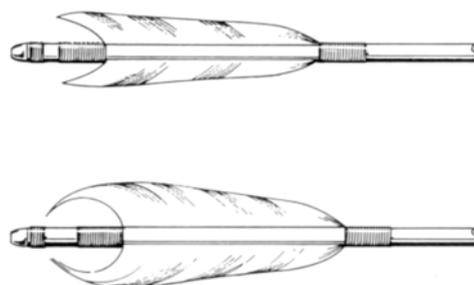
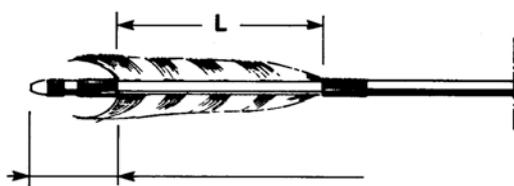
B) FEATHERS

The forward binding of the fletching is not an indicator for a correct Tsume ai; the correct draw length can be marked on the arrow by measuring the ideal draw for the individual Kyudoka: keeping the left arm completely stretched and horizontal measure from the hollow of the throat to the tip of the middle finger. For safety reasons the arrow usually is 5 - 6cm longer than the draw length at Tsume ai. Beginners in particular have a tendency to overdraw.

The length of the fletching "L" is measured between the forward and rear binding and it should be 1/6 of the arrow length. An arrow of 90cm will require fletching that is 15cm long; a 84cm arrow 14cm ; and a 96cm arrow 16cm.

The distance between the nock and the rear binding is chosen individually by each fletcher which explains the different distances between the nock and the forward binding even with the same length of feathers.

Different shaped feathers require different distances between nock and rear binding: uncut feathers require a greater distance to prevent them from being ruined by Torikake. _Never check Tsume ai by using the forward binding as a reference point.



The best feathers for fletching are those taken from the tail of a bird, especially if uncut or cut very little to be shaped. As shown in picture "A" the whole feather when cut along the rib provides two fletchings, each of different size. The bigger ones will have to be cut more in order to be shaped, will become coarser and therefore have more drag in flight; furthermore they will be worn out more rapidly by brushing against the side of the bow after having been released.

Feathers which naturally have a low profile are better because they are softer, cause less drag and have a natural helix shape, so they provide a much more stable flight. (picture "S") Traditionally the best feathers are the uncut ones from the tail of a hawk or an eagle.

Fletchings can be glued to the shaft using special instruments, similar to those used in western archery, or by winding a thin sewing thread around the shaft and through the feathers so as to keep the ribs firmly against the shaft.

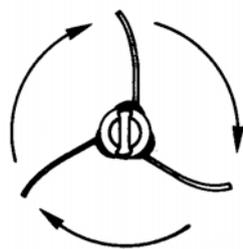
One property of natural feathers is that the belly (convex side) "bites" into the air while the back gives in. HAYA and OTOYA arrows will spin in opposite directions, because arrows spin to the side opposite the belly of the feathers.



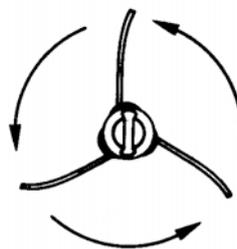
Keep in mind that when nocked Haya arrows show the belly of the feathers to the archer while Otoya show theback.

A Kyudoka who shoots a Haya arrow first and then breaks its nock by hitting it with the Otoya should not consider himself good. There are various reasons: first of all according to the ancient teaching he will have one arrow less to use against the enemy; second, instead of caring for his arrows he prides himself for his ability (and this without any reason). As a result of the spinning described above, Haya will hit slightly to the right of the aiming point, Otoya will hit slightly to the left: if the Kyudoka really makes two identical shots, they will never hit the same spot (Herrigel, "Zen in the art of archery", New York 1971, page 85).

By spinning, the arrow will fly straighter, eliminating the initial zigzagging motion induced by the string. The condition of the feathers is a good indicator of how well the Tsunami works. If the front of the feather is worn, then the Tsunami is almost non-existent; if the end of the feather is worn, Tsunami is working a little; the better Tsunami works, the less will be the damage caused to the fletchings.



Haya



Otoya

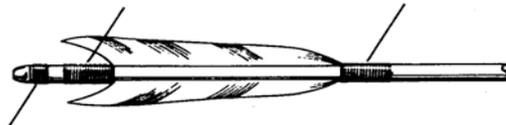
WHIPPING

The binding thread, usually cotton or silk, is whipped around the shaft by fixing one end and twisting the shaft.

To make a bamboo arrow, do the whipping next to the nock first, then glue the nock in; use a cardboard disk (fig. A) or a tube (fig. B) in order to keep the ruffed feathers backward and to be able to make the rearwhipping; make the front whipping last.

Back binding

front binding

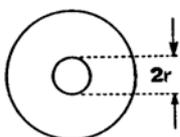


nocks binding

LACQUERING

Spread some diluted vinyl glue on the bound thread of the binding, thus clamp it with the bamboo tool (fig. C.) and twist the arrow for a few seconds while pressing the clamp (as you do to finish the Nakashikake).

Fig. A



Shaft size

Fig. C

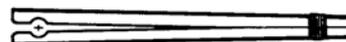
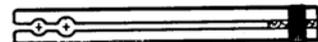


Fig. B

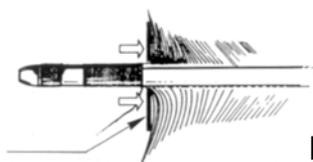


Fig. A

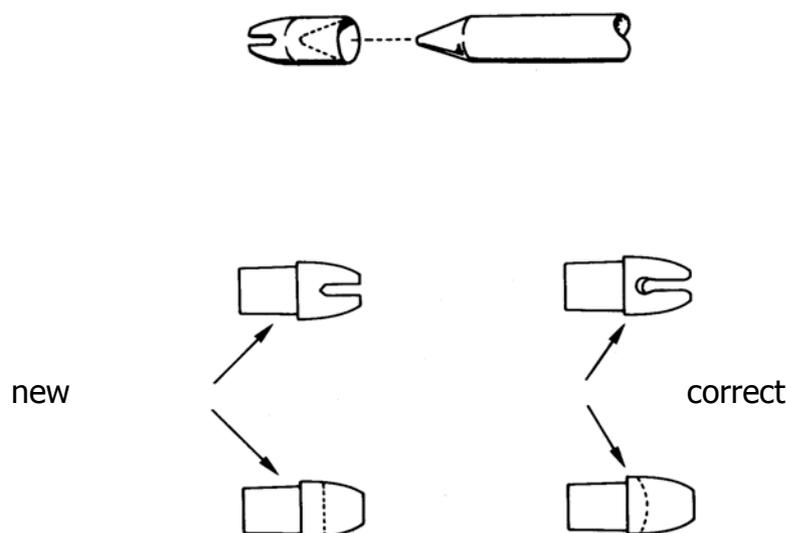


cardboard

C) NOCKS

Nocks are usually made of horn, plastic or nylon. Horn nocks are the best, due to their fibre, they break or chip when hit by other arrows in such a way as to deflect the incoming arrow and prevent further damage to the shaft. Nylon nocks are very elastic but break easily. Plastic nocks which are conical inside only fit on shafts which have a conical rear end (fig.). They are particularly good, preventing the splitting of the shaft when hit.

Before being used for the first time, the nocks need to be shaped as shown. To do this, use a rat-tail file of max. 2,5 mm in diameter.

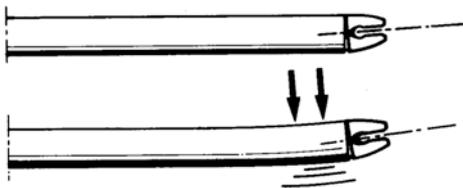


If the nock is not properly aligned on the shaft or if it is moved by an improperly made Torikake, the force exerted by the string will not be

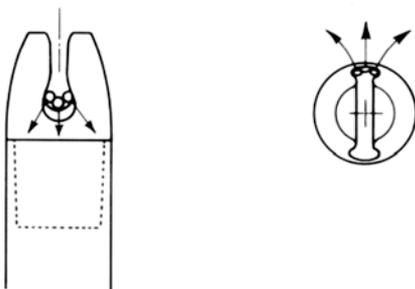
inline with the arrow either and it will not fly straight. Shaping the inside of the nock groove will help to compensate an improper alignment or the excessive lateral pressure of Torikake. However, the true reason for shaping the nock groove is to allow it to snap on to the string to prevent the arrow from falling off.

The nock groove needs to have a correct Nakashikake; if the nock is too tight on the string the arrow will fly to the right, if it is too loose you'll never know where the arrow will hit because the string may push the arrow in a different direction each time.

Wrong mount



deviation caused by wrong Torikake



D) GLUES

Heat glue (stick) is recommended for points and nocks since it is strong but easy to unglue. For fletching use "Fletchtide" or "Bjorn", usually used in Western archery; vinyl glue is also used for bamboo arrows.

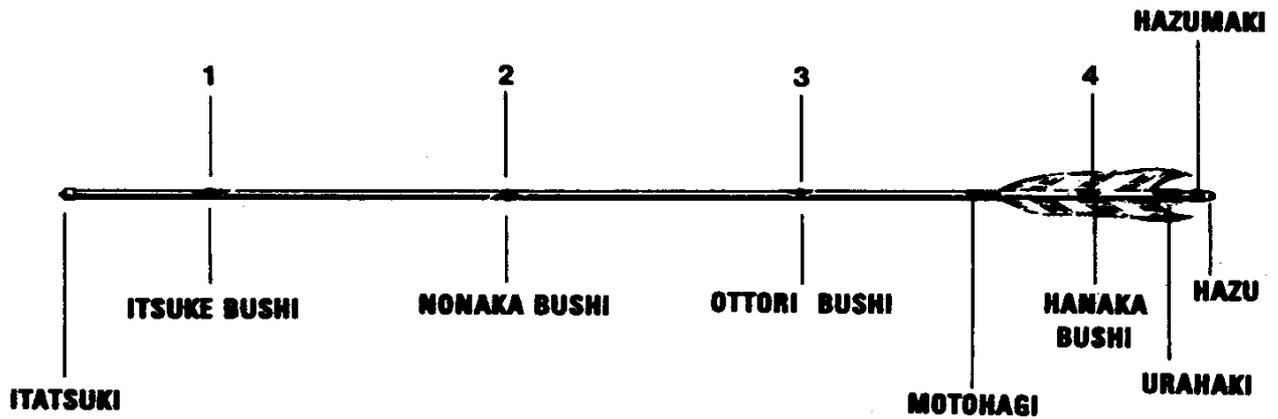
E) BAMBOO ARROWS

Bamboo arrows have many variables. A good set must have the following characteristics:

- to be well tempered and to have the same flexibility and strength
- to have the same knots (number and position)
- to have the same weight
- to have the same thickness around the shaft in order to exhibit the same flexibility in all directions

Arrows for shooting over 28m have 4 knots on the shaft, whereas those for 60m or 90m distance usually have 3.

The distance of the first knot from the point should be equal to an archer's fist. The knots 1 and 3 should be on the upper side of the shaft aligned with the nock groove and one feather. Knot 2 should be exactly between 1 and 3 and opposite to them on the lower side of the shaft. Knot 3 should be at 1/3 of the shaft measured from the nock. The position of 4 is variable hidden in the fletching.



The shaft is stiffer where the knots are; knot 1 is placed where the shaft is stressed the most when hitting the target, that is why it should not be too far back from the point. Knot 3 is placed where the arrow is flexed the most when releasing the string. Knots are supposed to sustain the flexion of the shaft generated by the sinusoidal oscillation imparted by the string.

The ancient Heki technique used in battle comprised only 3 stages for drawing the bow. They were:

Yugamae: where the bow was drawn as far as the 3rd knot on the arrow

Sanbun no ni: as far the 2nd knot

Tsume ai: to the 1st.

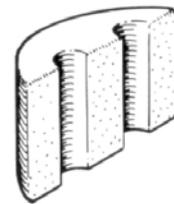
In the ancient technique Sanbun no ni was shorter than today, the reason being the helmet. Once the helmet was abandoned about 300 years ago, Insai Sensei looking at the arbalestiers decided to move Tsume ai from under the chin up to the cheek bone in order to improve the aim.

Uchi okoshi which is not a position but a movement was first introduced by Urakami Sensei in 1900 in order to facilitate the drawing of the bow when passing from Yugamae to Sanbun no ni. Since archery was no longer a martial art it was no longer necessary to protect one's left side. In ancient times arrows were measured in fists; 11 for the Heki Ryu, 10 for the other schools.

The best arrows are made from mountain bamboo, cut from the down wind side, 2 years old, with regularly spaced knots and of a constant diameter. A good arrow should also have the same thickness all around the circumference of the shaft; it should remain straight: its quality can be checked by rolling it on the thumb nail and listening to the noise it makes.

Once selected the shafts are tied together in groups of 19, then:

- left out in the rain for 6 months or for one month in running water, so that they lose the pith, they are then left to dry for another six months
- each shaft is straightened then by heating it over an open fire
- then it is rubbed between two stones
- it is smoothed down with iron filings
- it is reheated in an oven (tempered)
- the knots are burnt with hot air

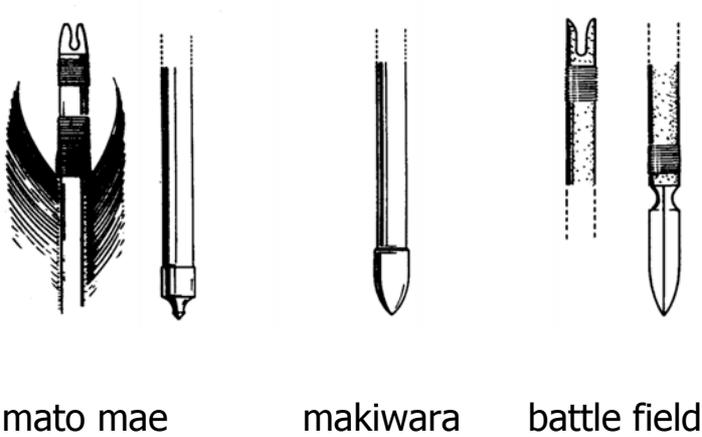


These are the main operations which were performed by the masters of ancient times to prepare the shafts. The arrow required 40 operations, but then it was perfect. Inagaki Sensei once said: " I personally have been using two arrows for 34 years while the string lasts about 1500 shots. With a less expert archer, the arrow leaves the string too soon,

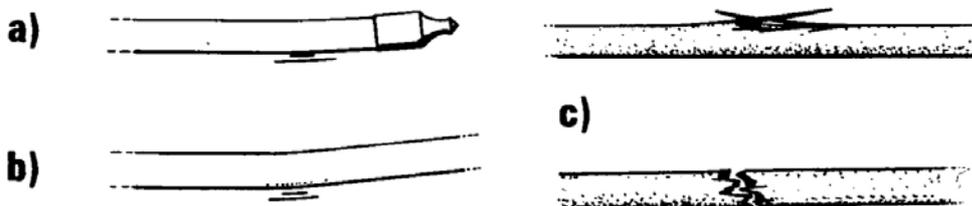
thus vibrating and eventually breaking."

Bamboo is a material that does not appreciate being twisted too much; to withdraw the arrow out of the target, it is recommended to use only the little finger and a part of the ring finger against the palm of the hand.

The illustration shows some arrow heads and nocks practise and battlefield:



F) REPAIRING ARROWS



a)aluminium: Cannot be straightened: you should cut the shaft, insert about 3cm of a rod the external diameter of which is equal to the internal diameter of the arrow between the two parts and glue

everything together with heat sensitive (e.g. evostick) glue.

b) aluminium: Slight deformation: it is possible to straighten using the same sort of straightening jig which is used by western archers or by hand pressure.

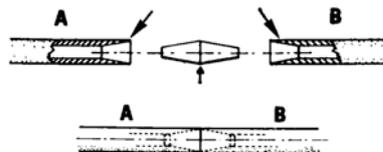
c) Bamboo: Splintered: when the shaft is not completely broken but only splintered, with all the pieces that fit together, proceed as follows:

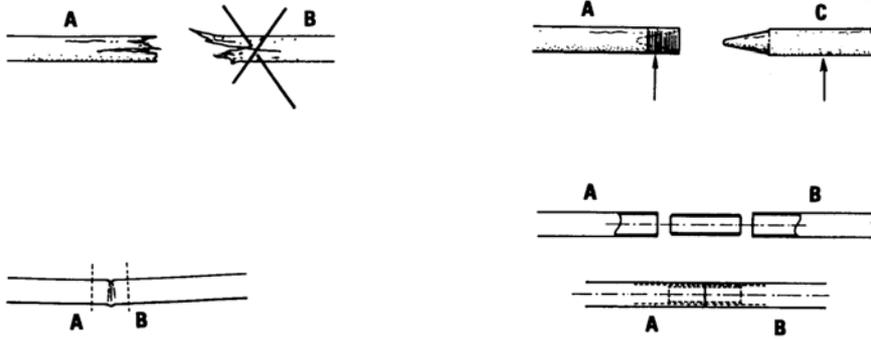
- insert some needles under the splints so that they will be lifted
- wet everything with heat sensitive glue



- remove the pins, align the splints and bind tightly with a band (many layers) of kitchen plastic wrapping.
- leave for about 6 hours at 30 - 50 °C (ex: a light bulb at a distance of 20cm).

d) Clean or ragged break

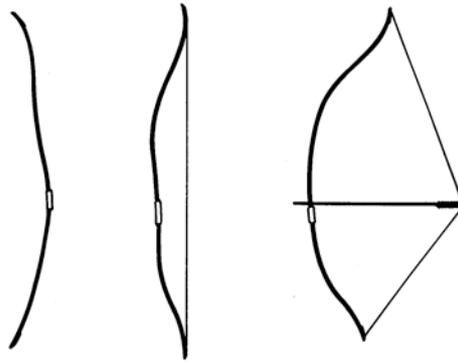




- 1) Align the splints on each piece of the shaft and bind them with plastic wrap.
- 2) Cut both ends square and clean: Make a tapered hole in each section of shaft.
- 3) Shape a piece of bamboo about 4 cm long into a double taper which will fit into the tapered holes in the sections of the shaft. Apply glue as for c), insert the piece and align the splints on both ends. Bind the repaired arrow very tightly with a plastic wrap and glue as for c) making sure the arrow is straight.
- 4) If a whole piece of the bamboo shaft is ruined, cut it off and make a new one to connect on the rest of the shaft. On one part you make a conical inside and wrap with thread (picture), the other part you make a conical outside that will fit the first. Then glue as for case 3.

2) THE BOWS

A) TYPES OF BOWS

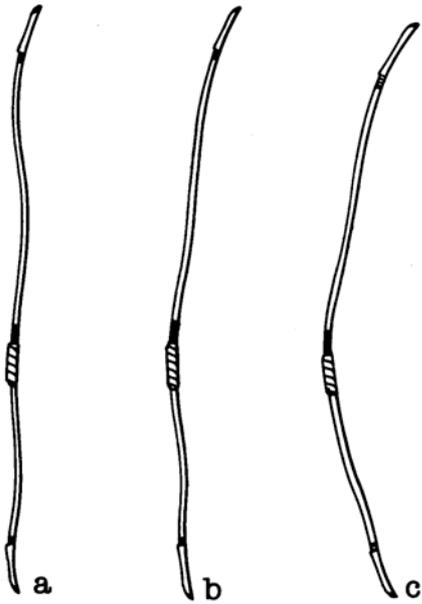


No string

string on

full draw

- 1) The bamboo bow has the fastest recovery speed (from the maximum drawing position) but its reaction to the twisting is slow.
- 2) Fibre bows (glass fibre or carbon) have a faster reaction to the torsion
- 3) The characteristic of composite bows made of bamboo + carbon is between 1 and 2.
- 4) The bamboo bow changes its shape very easily, it often needs to be corrected and, if it is a good one, it will fix its characteristic in reshaping it by heat after 3000-4000 arrows. You have to warm the bow until 50-70 °C to correct it by heat (too hot for the bare hands) and the glue loses its properties if it reaches 100 °C.
- 5) Fibre bows never change their shape, they are very sturdy and resist the torsional stress.



a: fiber/carbon

b: bamboo / carbon

c: bamboo

Cross sections through different types of bamboo bows

The bow could be IRIKI (left) or DEKI (right); a bow with the string on and held vertically. If the string is offset to the left side, the bow is DEKI. The IRIKI bow is good and used for Heki Ryu.

B) FORM



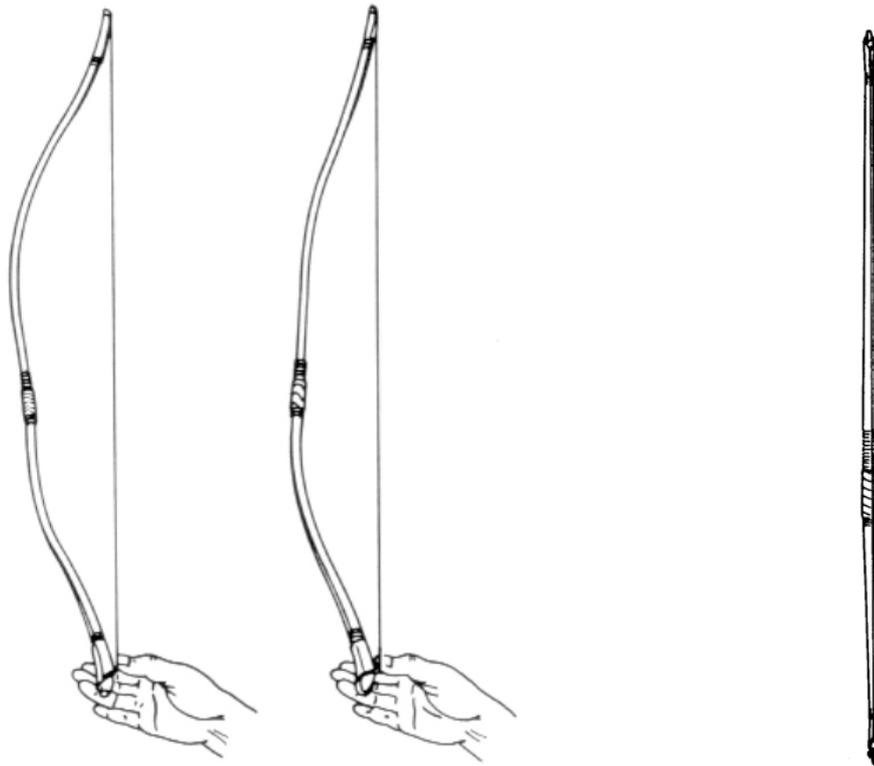
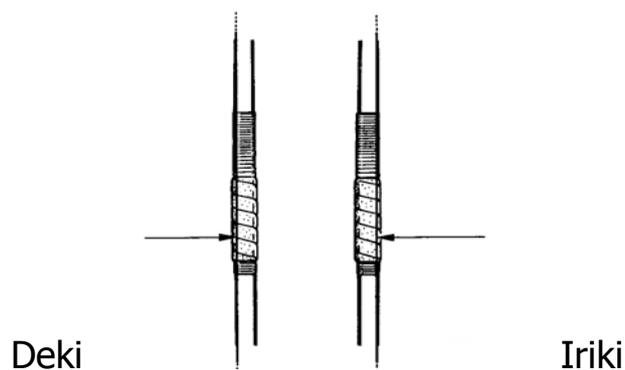


Fig. A



1) Sting the bow and lay it horizontal on the ground.; a good bow must:

- have a harmonious shape, continuous and without any excessive curve
- the portion of the bow from 20cm below to 30cm above the grip should appear to be parallel to the string. The two views at page 62 "A" are poor quality bows which look wrong because in the two views the upper and lower limbs, b and respectively are too weak.

2) When the bow is strung and held vertically

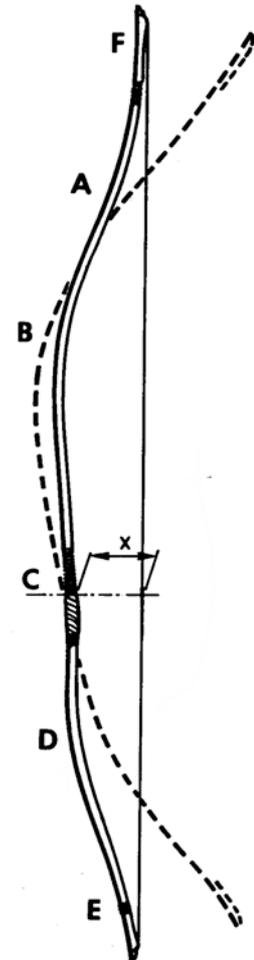
- the tip "F" should be slightly to the right of the vertical.
- the string lies centrally along the bow in the sections A and B, at C, the grip, the string is displaced by 1/3 of width of the grip to the right
- section D is displaced slightly to the left

3) Section "C" is straight or slightly concave.

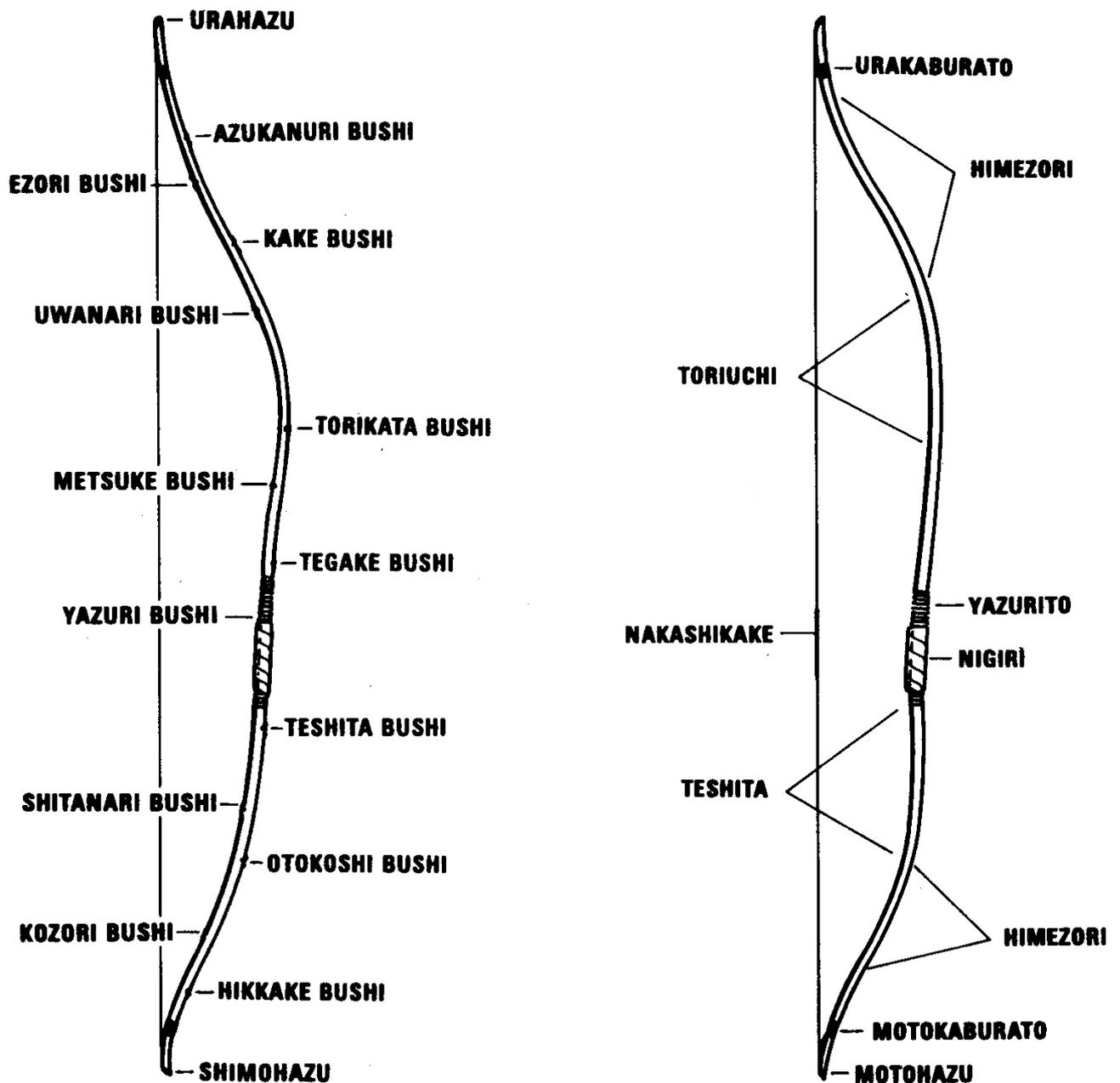
4) At full draw if the Teno uchi is correct the bow takes on the following shape:

- the two tips are in almost the same vertical line
- section "E" retains its slightly reflexed form.
- the reflexed section "A" becomes almost straight.
- Section "B" has a full, continuous curve

If the bow is to take on the form described above when drawn it is important to use a bow of the proper size which matches your draw length. The draw weight which is marked on the bow is given for a standard draw length of 90cm (example: 15kg bow = 15kg effort to draw 90cm).



THE NODES OF A BAMBOO BOW



C) USE AND MAINTENANCE OF EQUIPMENT

The bow:

- string it
- check and correct the shape
- sound it 3 times so that the string loops and the knots get settled
- slowly draw it 3 times; the string gets settled, the shooter understands the value of the bow and the bow will know the shooter's value

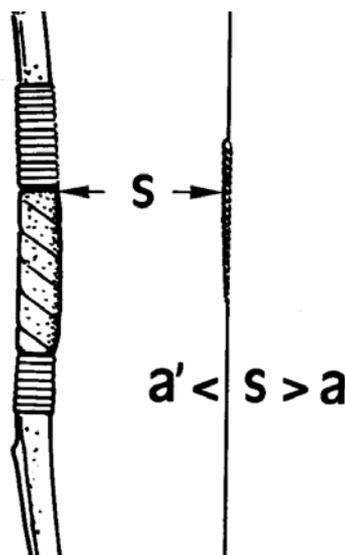
- wait about 15 minutes before using it to allow the bamboo fibres to settle
- full drawn, the tension side stretches about 24mm and the compression side shortens about 30mm
- the better the quality of the bow the more easily it can change its shape (ex: high or low Teno uchi)

"S" is standard, it depends on the bow length and shape (14,5 - 16 cm)

a' - a changes the centre o balance of the bow

a = the speed of the bow and thus, of the arrow, is reduced

a' = the arrow hits low and on the right



A new string has only one loop - at the lower end. The upper loop must be tied properly by the archer himself so that the length of the string is correct for the bow. The easiest way to find this length is to simply lay the new string next to the old one. If this is not possible then set the lower loop, lay the string along the unstrung bow and make the upper loop at the position shown in the figure on page 66; the distance "x" depends on the dimensions of the individual bow. For a new string the

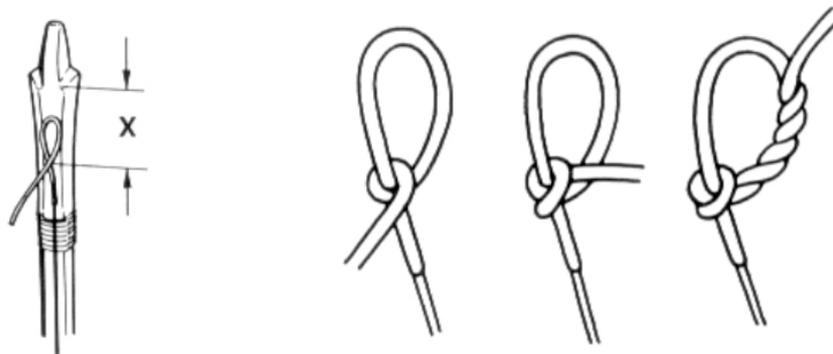
spacing "S" between the string and the belly of the bow should be 3 mm more than for a string which has been in use for some time - it will stretch. If the loop changes it can create problems.

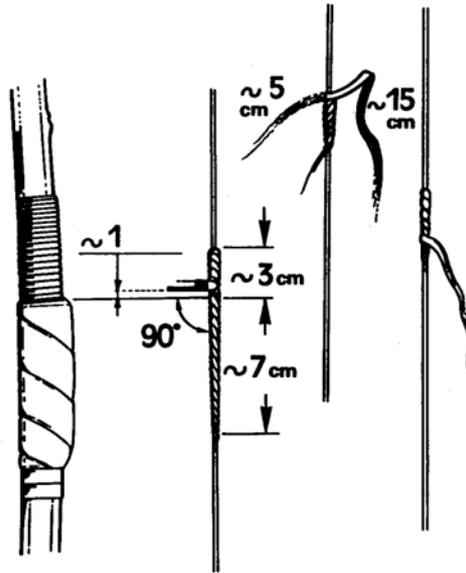
If the loop is too small, it can break; if it is too big, hitting the target is very difficult.

The section of the string where the arrow will be nocked, is protected by a hemp binding fixed with white glue. The thickness of the nocking point should be slightly bigger than the slot in the nock and it is important to use the correct amount of hemp:

a) if the nock is too tight, the arrow will fly to the right

b) if the nock is too slack the direction of the arrow will be unpredictable

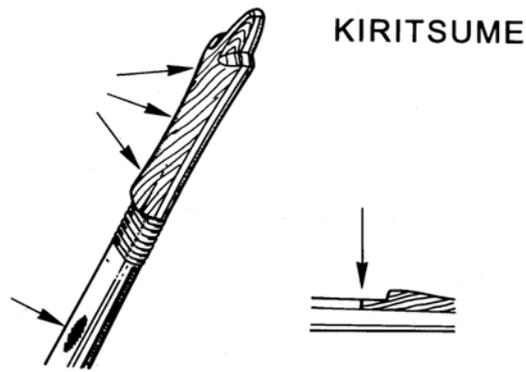




The nocking point on the string should be one thickness of the arrow above the perpendicular (90°) line connecting the string with the upper edge of the grip. It is possible to move this position slightly up or down (2-3 m/m) according to the bow/arrow weight. When you need a new string, beside the length, remember to specify the draw weight because various thickness' are available. KEVLAR strings are normally used but there are also hemp strings (better sound and speedier).

In case the bow reverses itself while shooting it must be restrung correctly. To do this the area „A” should be set on the ground . If pressure is applied near the tip of the bow there is a danger of breakage occurring to.

The binding at Kirizume is for protection; about every 5000 shots it is a good practice to unbind it in order to check that there is no crack at "R". In case there is a crack, (this can be due to the compression of the bamboo against the wooden tip) fill it with thin strong wood. This will only happen to bamboo bows, but the practice to push at "A" is a good one anyway.



D) THE GRIP

When making a new grip::

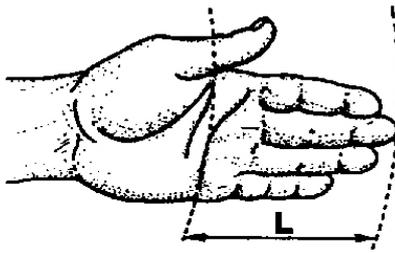
- 1 - avoid sharp edges as much as possible in the Tsunomi contact area and hand palm area
- 2 - stretch the leather strip as much as you can and glue it very tightly

The chart shown below is very helpful in choosing the correct size of the grip in relation to the size of the hand. Remember that if a Kyudoka is used to a certain size of the grip and he changes it:

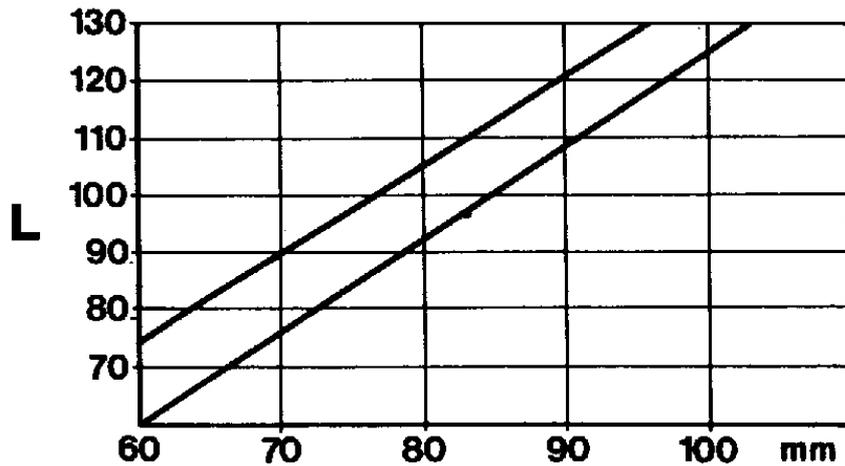
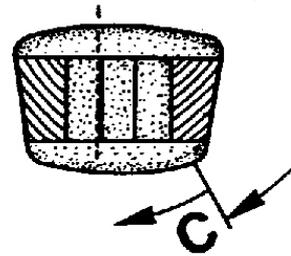
- 1) into a smaller one, it is more difficult to twist in Nobi ai but it will be easier in Hanare
- 2) into a bigger one, it will be more difficult to twist at Hanare but it is easier in Nobi ai

indicative relation between hand size_and bow grip circumference

Therefore the size of the grip depends also on what a Kyudoka wants and/or has to study. In any case the ancient guideline still applies: you should be able to make Teno uchi while keeping an arrow along the belly of the bow.



L =
C =



ESEMPIO:

L=100
C=77-85

E) OTHER CONSIDERATIONS

With regard to the rotation of the bow about its axis at Hanare and the correct work at Teno uchi, please look again at the technical part. What is written here, should be regarded as an addition to what has gone before.

1. When choosing a bow the following should be kept in mind: the recovery speed of the bow depends in the main on 3 factors (beside the bow quality and the material employed)

- bow length should be matched as well as possible to the draw length
- The sections "A", "E" and "F" should weigh as little as possible

- section "C" should be rigid and slightly convex(in relation to the curvature of the belly, the more concave the bow is, the more its speed and "sharpness" at Hanare)

The arrow speed is not only due to the recovery action of the bow but also to the twisting action of Teno uchi during Hanare

3) A fibre bow is apt to shake and vibrate at Hanare more than the bamboo bow

4) The fibre bow "feels" the torsional work and rotates „by itself" more than the bamboo bow; it never loses its shape

5) the bamboo bow can be said to be "alive"; differences of temperature and humidity, a different Nobi ai, a different way to work at Tsunomi always give different results

Considering the points above we can say:

a) never use a bamboo bow without the owner's permission and never overdraw it (otherwise the bow may break)

b) for a beginner a fibre bow is better and it teaches to clench Teno uchi at Hanare

c) torsion of the right and left hand applied to early may damage a bamboo bow; anyway it is a mistake

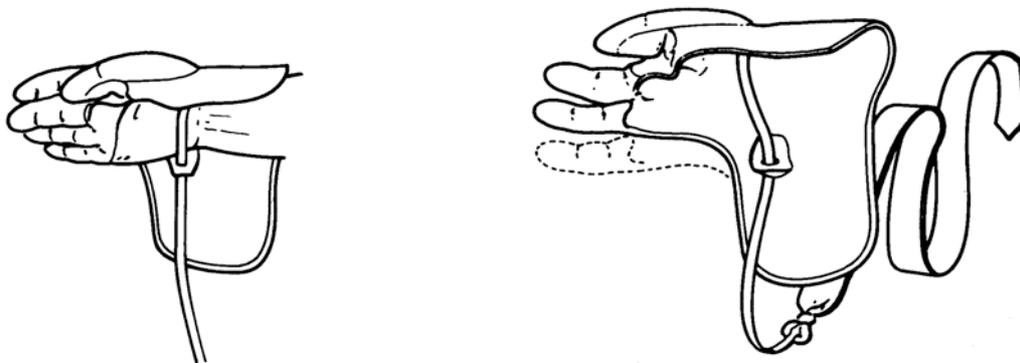
d) a bamboo bow needs Tsunomi action during Hanare

A VALID INDICATION FROM MANY POINTS OF VIEW: a Kyudoka who obtains 50% of hitting with bamboo bow and arrows, can reach 75% with a fibre bow and aluminium arrows

3) THE GLOVE

The glove can have 3 fingers, 4 fingers (helps to avoid becoming too tired) or 5 fingers (Yabusame)

The glove is very delicate: if it is bent at the point where the rigid part of the thumb (inner wood mould) and the leather join it is easily broken. Gently bend it with great care, just close to the thumb and it will slowly take on the hand shape. Initially it is better to leave the ribbon (himo) loose and soften the glove patiently. Take the arrows from the target without the glove. To welcome someone wearing the glove is impolite; in case there is no time to take it off, loose the ribbon and keep it in the palm; if this is impossible, hide the hand behind the back (this is a sign of respect) .



This tradition has its origins in ancient times: the right hand with a tied up glove means: "To be ready to draw the bow and to hit".

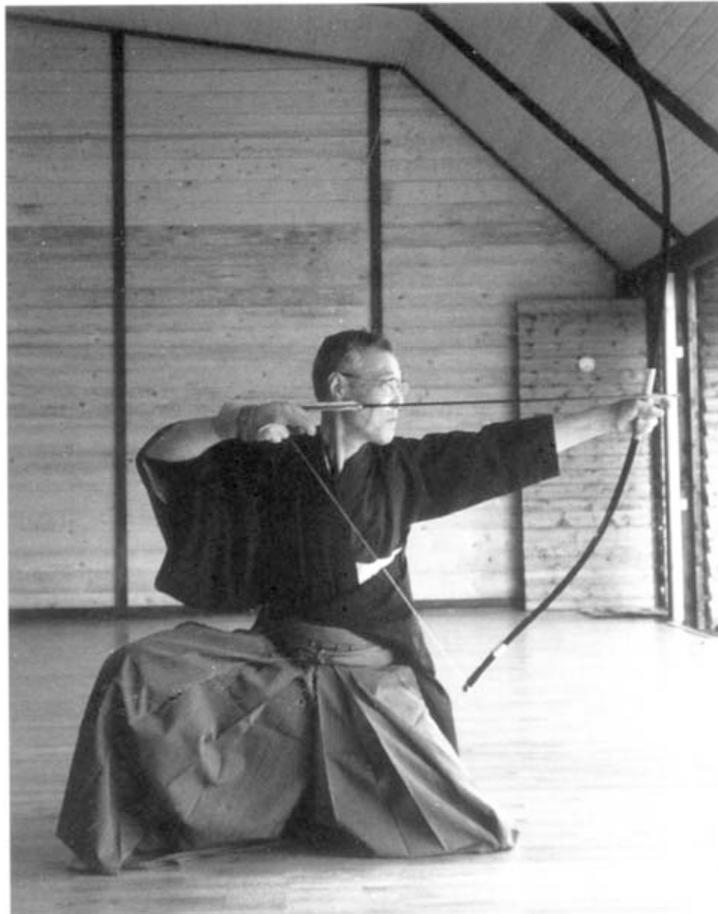
a) The ideal glove for the Heki Ryu has 3 fingers

b) The fingers must fit perfectly. Namely the tip of the thumb grazes

point 1 and the base of the thumb base touches point 2, point 3 fastens firmly around the wrist below the palm

c) The string groove (step) is perpendicular to the axis of the thumb and its position can be at point 2 or almost in the phalanx fold (about 8 mm behind the thumb joint).

There is an old saying: "you need one day to get used to the arrow three days to get used to the bow and two years for the Kake."



*Correct Zanshin comes from right Hanare
Correct Hanare comes from right Nobi ai
Correct Nobi ai comes from the right form of the hands working together.
Perfect form comes from Tsuru michi: correct movement, from Yugamae
to Tsume ai, to proceed from one position to the next.
Urakami Sakae Sensei*

Chapter 3

THE TEACHING OF INAGAKI SENSEI

The concluding chapter is devoted to Inagaki Sensei's anecdotes and aphorisms which express clearly the essentials of his teaching wisdom which goes beyond technical knowledge. A "beyond" that should not deceive us in any way; we have just to remember Inagaki Sensei's traditional words: "Shin ghi tai" - Spirit, Technique and Body together.

In ZEN before facing Kokoro you learn the form first (very strictly), second breathing and you begin to understand spiritual problems. In the same way Kyudo is, first of all, technique; only after having accomplished the practise of the right technique Kokoro problems will start.

During a seminar of the European Kyudo Federation in Hamburg we were retrieving the arrows according to the ceremonial way and thus loitering a bit; Inagaki Sensei became a bit impatient about people always leaving this task to someone else: when he was asked: „Shall we take also your arrows?" He curtly answered: "I shot the arrows, I will go to take them back."

He was asked why - according to Heki Ryu - it is very important to put the arrows always with the tip on the ground and not with the nocks down; Inagaki Sensei's answer: "In the Royal Palace it is possible to put the nocks on the ground without worries, in the battlefield the nocks will become stuffed with soil."

Commenting on the need for strict formalism about the Kyudoka's clothes: "We need two hands and two feet for shooting, the rest is fashion."

"Ceremonial Kyudo is the ceremonial way, spiritual Kyudo is the spiritual way; to hit strongly, powerfully and always, ... this is the way of Kyudo."

"The arrow **is** made to hit, when you want to use it, make use of it according to its purpose.'

"To make sure an arrow flies straight, the right and left hand must work harmoniously together like father and mother do to achieve the best for their son."

"**Nowadays** in Japan many **masters** want to hit the target without training. This is a wrong way to practice. True Kyudo is not only technique, it is not only spirit."

"The arrow flies straight by itself, only the ego may disturb its flight".

"The technique is like the sword blade, the ceremony is like the scabbard."

"Never forget the beginner's mind.'

"To shoot only to hit is wrong; shoot for yourself, never thinking of other people's eyes."

"SEI SHA HICCHU", the correct shot always hits the centre.

"HEI JO SHIN", an undisturbed mind always.

"One, one thousand, ten thousand arrows, the spirit (mind, Kokoro) is always new."

"The whole of Kyudo is in the last centimetres of the arrow, all the rest is preparation." "Kyudo begins and finishes in Nobi ai, all the rest is preparation."

In August 1989 on a warm Roman evening at dinner time on the veranda a bee had fallen into a wet ashtray. The bee was desperately trying to climb out and Inagaki Sensei watching closely started to urge: "Nobi ai, Nobi ai". When the bee finally reached the top of the ashtray, the sensei smiled: "it won".

About Nobi ai: "It is impossible to explain Nobi ai by suggestions to form. The whole body, the whole self takes part in Nobi ai."

"In Nobi ai, if it is really impossible not to think, then think of the Tsunomi point."

"Forget the target at Hanare, think of Nerai only as a line to infinity, continue the power till Zanshin with more Tsunomi from the wrist."

Talking about true Atari: "Fight, using the right technique; without true fighting there is no true shot."

"You should reach the point to shoot while the birds are singing. You must reach the level in which you enjoy the shooting and the surroundings."

"When the technique is assimilated and the not-aiming is reached, KYUDO and ZEN meet."

"In the end there is no will, no technique, no target."

"The presence of someone else does not exist, not even the self."

"The SPIRIT of KYUDO: only when the TECHNIQUE is without any doubt."

"The one who practises constantly, can reach a level that will be sufficient to become a master of oneself, to find Satori and the understanding."

When Inagaki Sensei was asked: „How many years have you been shooting, Sensei“he answered: "For 18 generations".

