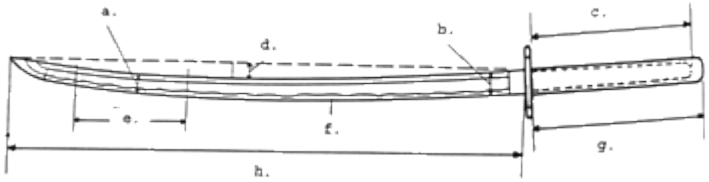
Suitable Swords for Iai and Test-Cutting

by *Nakamura Taizaburo*
Batto Do Hanshi, 10th *Dan* (Translated by Guy H. Power.)

Keep in mind that there really is no standard size as swords should be tailored to the individual's body and personal likes. As a general rule-of-thumb, the correct sword length can be measured when standing naturally erect while grasping the sword's handle just below the *tsuba*, the hand held comfortably along the side of the leg. Allowing the sword to rest point down, the tip should barely touch ground a few inches in front of the foot.

Fig. 1 illustrates the prime example of a sword used for *iai batto do*.

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a. Monouchi width about 2.5 cm (1")
b. Base width     about 3 cm (1-1/4")
c. Tang length    about 21 cm (8-1/4")
d. Sori depth     about 1.5 cm (5/8")
e. Monouchi      (striking area)
f. Hamon depth    about 1/3-1/4 of the blade's width
g. Handle length  about 24 cm (9-1/2").
h. Blade length   about 67-71 cm (26-1/2"-28")
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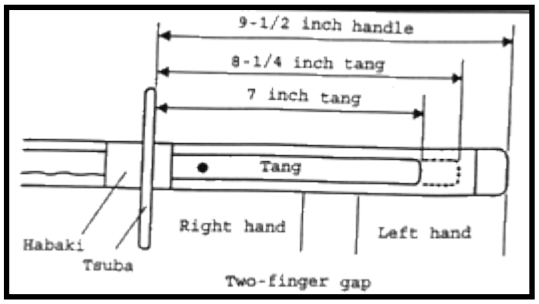
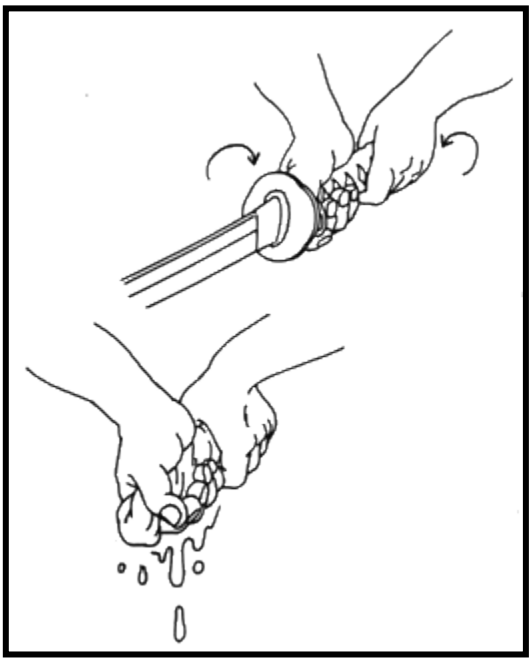
Proper Grip (*TE-NO-UCHI*). Regardless of one's hand size, the *tsuka* (handle) should be only long enough to accommodate a two-finger gap between the trailing edge of the right hand and the leading edge of the left hand (Fig. 2).



It is acceptable for just a bit of the *kashira* (pommel) to extend from the left fist; however, one should refrain from employing a "baseball bat grip." The fist-to-fist baseball bat type of grip reduces both the amount of positive control to the blade, and power in executing the cut.

Additional care should be emphasized in placing the palms along the top of the handle's ridge line which strengthens the grip and also increases the strength of the cut. If the palms are placed along the flat of the handle, only the thumb knuckles overlap the handle ridge; this is a very weak grip and must be avoided. The sword can easily be dislodged from the practitioner while attempting to cut through a target if this incorrect grip is used. The knuckles can also be injured from impact stress, as well as by the force generated by a solid object (sword) traveling through the air. The muscles in the hand will work harder and tire more easily; the practitioner may lose control of the blade, or even send the sword sailing across the dojo.



Charin Shibori (wringing grip). While grasping the handle, exert a slight twisting action, as if to wring excess water from a dish rag. Both hands should twist inward; the right hand in a counterclockwise direction, the left hand clockwise (Fig. 3).

Length. Sword blades transition to 2 *shaku* 3 *sun* (about 70 centimeters) because the *Tokugawa* government Circa 1600-1867 standardized the measurement. There are examples of swords being 2 *shaku*, and 2 *shaku* 5 *sun*; however, these were instances where a person's body height was extremely different from the average of the day. Also, the former Imperial Army and Navy military swords were standardized at 2 *shaku* 2 *sun* (about 67 centimeters).

Swords used in modern *iaido* range from 2 *shaku* 3 *sun* to 2 *shaku* 5 *sun* (about 70 cm. to 76 cm.) in length. Anything longer than that would be for an exceptionally large person.

Using a sword longer than 2 *shaku* 5 *sun* for *tameshigiri* (test-cutting) is inadvisable because the body of the blade may be a bit weak due to the excessive length of the blade. The blade may bend or break when combined with the physical shock of striking an immovable object, incorrect blade angle, and an incorrect striking angle. The longer a blade is, the more likely it is to be weak.

I had the considerable opportunity to meet the great master ***Nakayama Hakudo*** *(Hiromichi) sensei* and was able to hear his insight about the length of a sword*. Nakayama sensei* said that subtracting 3 *shaku* (90 cm) from one's own height was a good rule-of-thumb; the resulting difference would be a good sword length. From my height of 5 *shaku* 4 *sun* (164 cm), I subtracted 3 *shaku*. Therefore, a good length for my sword would be 2 *shaku* 4 *sun* (73 cm).

However, this length would only be good for practicing iai kata in empty space; it is just a bit too long for test cutting. After World War Two I was presented with a *koto* sword which was 2 *shaku* 4 *sun* 5 *bu* (74 cm) in length and 1 used it for about five years. But once while test-cutting, my grip was not on the mark and I ended up bending the sword beyond repair. The standard blade length for modern test-cutting is 2 *shaku* 3 *sun* 5 *bu* (71 cm); I recommend that students do not use swords exceeding this length.

Weight. A regular sword which is good to use will weigh from 1.1 kilograms up to 1.3 kg, including the handle and *tsuba*. If the sword is any heavier, the practitioner will have to use physical strength. It may appear all right while practicing *iaido* forms, but when cutting forcefully downward or executing *chiburi* (blood removal), the blade will often shake uncontrollably when brought to a halt. The root cause of many bad habits in swordsmanship is that the sword is too heavy. It is essential to use caution with a heavy sword.

Sori (curvature). The *sori* is measured at the deepest portion between the imaginary "length" line and the back of the blade. A *sori* of 5 *bu* (1.5 cm) is adequate for a sword of 2 *shaku* 3 *sun* (70 cm). Anything deeper or shallower is unsatisfactory for high class swordsmanship.

Mihaba (blade width). The ideal blade width will be approximately 1 *sun* (3 cm) at the *tsuba-moto* [base of the hand guard), and about 8 *bu* (1.4 cm) at the *monouchi* ("sweet spot," about 1/3 of the blade measured from the point). The balance of a sword with these measurements will be good. As with the *sori*, anything deeper or shallower will be unsatisfactory for high class swordsmanship.

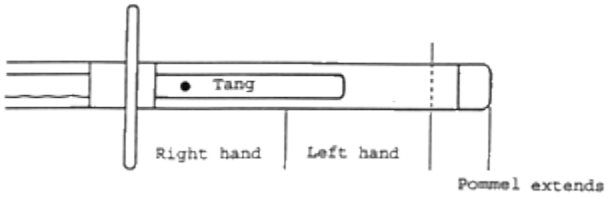
Nagako length. The length of the *nakago* (tang) affects the balance of the sword; this becomes very important for the principles of high class swordsmanship.

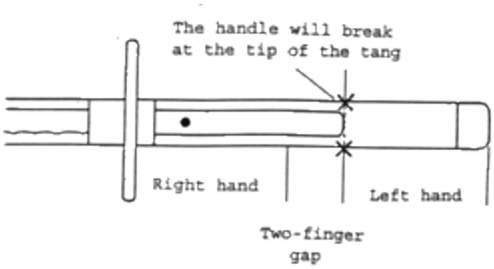
Generally speaking, *koto* and *shinto* swords will have a *nakago* of approximately 5 *sun* (15 cm). The standard handle length is 8 *sun* (24 cm). If the *nakago* is too short, when cutting through material, it can break where the butt of *nakago* meets the handle (fig. 4). If the handle is 8 *sun* the *nakago* should be 7 *sun*. If you have a long *nakago*, the balance point of the sword will be at the handle. Moreover, in the opposite case, if the blade-weight is light, a short *nakago* will improve the balance of the sword.

In the case of a heavy blade having a short *nakago*, the balance can be corrected by placing lead inside the handle cavity near the pommel. The blade will feel lighter because the center of gravity was shifted.

Some swords of the 1933-1945 period will have a short *nakago* because they were designed to be used with one hand so that a pistol could be used in the other. A sword with a short *nakago* should not be used for test-cutting; however if this is all you have, then please do so with the following advice.

When the *nakago* is short (about 15 cm long) a baseball bat grip should be used when test-cutting to provide additional support to the cut (Fig. 4). Only in this instance should the practitioner choke up on the handle, allowing an unsightly amount of *tsuka* to extend past the left hand.





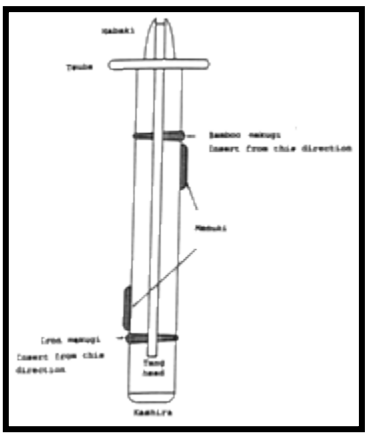
If a baseball bat grip is not utilized in this instance (e.g., if the "proper" grip is applied), the torque created by the wringing action, and the impact shock stress generated by cutting will lead to structural degradation of the handle where the *nakago* ends, and it will break [I have done this while practicing *kata* with an older Showa era sword that had the original handle. On this note, if you are using a sword with a handle over twenty years old, have the handle replaced.)

Hamon depth. A *hamon* (temper line) depth of one-third to one-fourth of the blade width is adequate. When the *hamon* is gaudily too deep, the blade is generally brittle and will chip easily; also, the blade will break easily. Worse yet, when the blade is hard, its *kireaji* (ability to cut well) will not be very favorable.

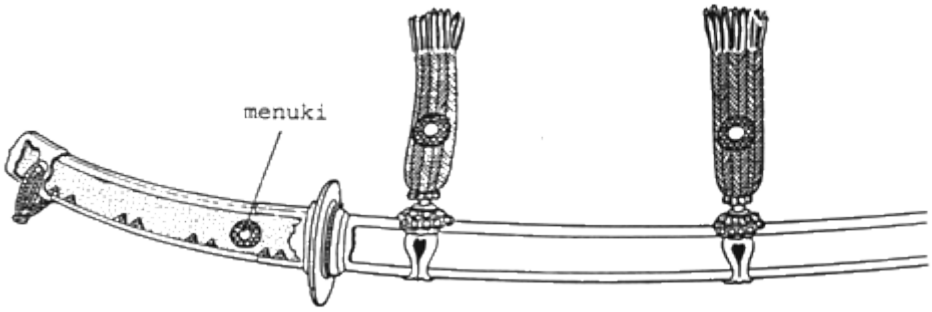
Mekugi. Swordsmanship is one martial art in which safety is of paramount importance. Always check the *mekugi* prior to practice, even if you are alone. Replace any *mekugi* that is thin, broken, or appears weak.

Failure to do a safety check can lead to disaster. A high school student was killed in Japan while he observed an *iaido* demonstration. The performer's blade was thrown from its handle into the audience because the *mekugi* had slipped from its housing. This terrible accident could have been prevented if the performer had checked his handle prior to the demonstration.

Ideally, the primary *mekugi* should be made of bamboo. Bamboo is the preferred material because it is flexible; even if it breaks, the fibers are resilient enough to prevent the blade from being propelled across the room. The handle should be designed so that the *mekugi* can be inserted from only the side of the *tsuka* which is covered by the palm. Therefore, the primary *mekugi* should be of bamboo, inserted from the right side of the handle; the *hikae* (reserve) *mekugi* should be manufactured of iron or steel and inserted from the left side.



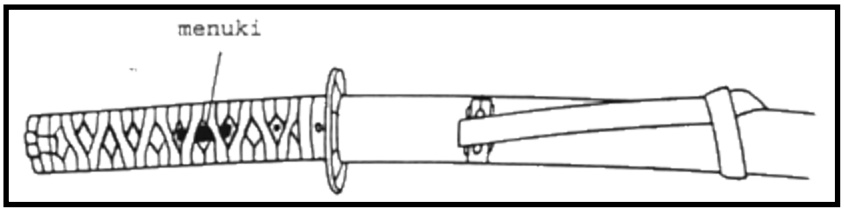
The metal-to-metal fitting of *hikae mekugi* to *nakago* might be smooth, lacking sufficient friction to lock in. Create a firm fit by roughening the outside of the metal *mekugi* with a file, hacksaw, or wirecutters. The resultant "teeth" will bite firmly into the soft steel of the *nakago* and prevent the metal *mekugi* from slipping out during training. In the interest of safety, pracioners of *Toyama Ryu* and *Nakamura Ryu* utilize two retaining pins (Fig. 6).



Menuki placement. *Menuki* are the ornaments afiixed to the handle, between the rayskin and the wrapping. They were originally decorations used to cover the sword retaining pins (*mekugi*); however, in later times they became practical in that when placed where the palm meets the handle, the resultant gap was filled. This "palm swell" created a more comfortable grip, quite similar to today's custom pistol grips which are designed to "fill" the palm.

The *tachi* was sworn slung from a belt with the cutting edge down. Therefore the right hand *menuki*, when viewed from the obverse (*omote*) side, was placed closer to the retaining pin (Fig.7); the left hand *menuki*, on the reverse (ura) side, was placed closer to the pommel.

When the *tachi*-styled sword transitioned in the late 16th century to the *uchigatana* (worn edge-up, thrust though a sash), the convention remained of placing the *omote menuki* close to the retaining pin (Fig. 8).

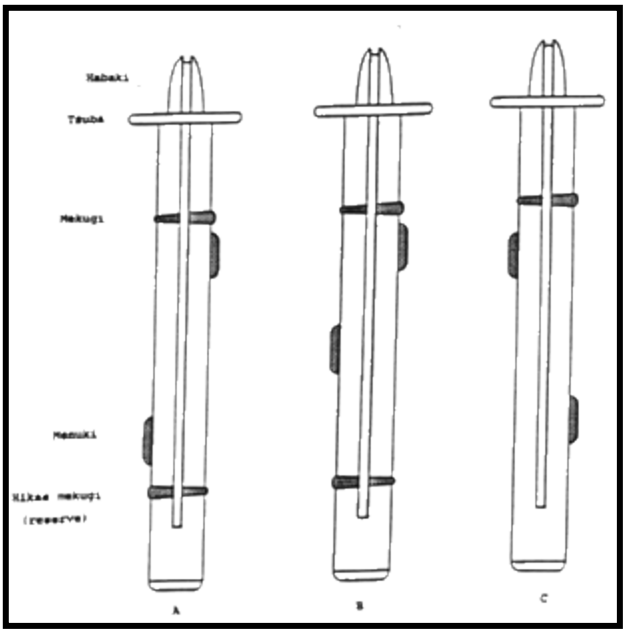


This practice resulted in the *menuki* being on the opposite side of the palm--practicality had been superceeded by strict adherence to format.

Few schools of swordsmanship retained the practical method of positioning the *menuki*. The one notable traditional style is *Yagyu Ryu*; the modern styles which adopted this method are *Toyama Ryu* and *Nakamura Ryu*.

Wrapping the *menuki* to the handle came about during the *Muromachi* period (1338-1573) when the fittings were generally in the *handachi* (half-tachi) style. The Imperial Army and Navy military swords of 1933-1945 were also outfitted in the handachi style, and the *menuki* were placed where the palms of the hand meet the handle.

Essentially, the *menuki* become useless ornaments for the handle when positioned in the *Edo* style. However, if the *menuki* are affixed in the handachi style, one's swordsmanship will become satisfactory. Ninety per cent of the swords used by today's *iaido* enthusiasts have the *Edo* style *menuki* placement.



A. This illustrates a good placement of the left and right *menuki* as the handle is grasped from above.

B. This illustrates a good placement of the right *menuki* when using only the right hand. The left *menuki* may be centered on the handle, as it will have no relation to the grasp. (Actually, there is no restriction stating that the left *menuki* must be placed lower.)

C. Edo period fitting (*uchigatana* mounting). Most swords today are outfitted in this manner. This positioning of the *menuki* is the least desired.

Groove. A sword with a groove will make a whistling sound when swung. Many high-ranking practitioners dislike swords with grooves; however, there are some high-ranking practitioners that like the groove. In the samurai period movies and plays, a whistling sound is dubbed in to appeal to the audience. Also, the novice believes that making the whistling sound while cutting shows good technique. This thought also prevails during *iaido* exhibitions. With the exception of experts, it is generally believed that an emitted sound is wonderful.

If a sword has a groove there is the chance that it will alert your opponent during the dark of night. This is not proper for high class swordsmanship, so the story goes. I have heard that a long time ago the term "*chi-nagare*" (blood flow) was used because the blood would flow down the groove as water flows down a ditch.

The presence of a groove has absolutely no relationship to whether the sword will cut well or not; however, it does have something to do with the weight and balance of the sword. The entire blade will be just a bit weaker with a groove, but dynamically speaking, it will also have more flexibility. The overall form of a sword with a groove is gracefully elegant, and generally speaking, there are many people who like this style.

Shinogi (ridge). The height and pitch of the *shinogi* is relative to the blade's ability to cut well. Many factors affect a sword's sharpness or dullness, and differ according to the swordsmith. The most important aspect overall is the blade width; what is more related to this, and has become the main question, is the height of the *shinogi*.

There are two styles of *shinogi*: raised, and flat. A sword with a raised *shinogi* will cut thick, hard material well; however, its penetration of soft material is poor. For example, when performing *suemono giri* (vertical cut) on horizontally stacked material such as rolls of rice straw, the sword's ability to cut well is reduced by half.

Compared with the previous example, a sword with a flat shinogi will cut soft material well; its penetration of horizontally stacked rolled straw will be good, and its sharpness will be satisfactory. However, if you make a mistake even while using the proper *tenouchi* (grip), the blade will bend. If I may offer an example, a sword named "*Seki no Magoro Kanemoto*" was well known as the best cutting sword in Japan. It was constructed with a flat *shinogi*, and the way it easily cut through material was its special feature.

Both "*Dodanuki*" and a *shin-shinto* "*Mito*" sword had raised *shinogi* and were known to be sharper than

Kanemoto; but, when performing *suemono giri* (*daigiri*-cutting on a platform), the *Kanemoto* cut through five stacked, layered rolls of rice straw while the others came to a halt in the third roll.

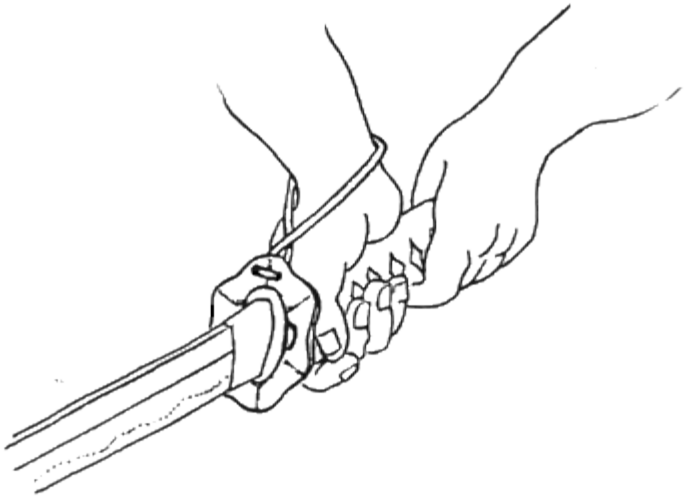
That was in the case of cutting on a platform: a sword with a raised *shinogi* will get stuck, which is a bad fault. The sharpness may be the same, but the proof is in the height difference of the shinogi. A blade with a raised *shinogi* is suitable for actual combat as well, but in the case of platform cutting, a definite difference becomes clear. In essence, a sword with a wide blade and flat *shinogi* will have perfect sharpness.

When cutting bamboo, the cutting ability of a sword with a raised *shinogi* will not significantly change. Its flexibility will be strong, and is suitable for bamboo. On the other hand, a flat *shinogi* has no flexibility and is unsuitable for cutting bamboo. When one's *hasuji* or *tenouchi* are wrong, the blade will often bend. In short, test cutting is similar to cooking. Different kitchen knives are used according to what is being prepared. A knife with a thick "back" will be used for hard vegetables and meat; a knife with a thin "back" will be used for soft items such as greens.

Fittings. The *fuchi* (support band) and *kashiya* (pommel), like most components of a sword, are often an expression of the owner. One of the most prevalent styles today is the *Higo* style (Fig. 11), named after the province of its adaptation (present day *Kumamoto*). The *Higo* fittings differ from others in that the *fuchi* tapers slightly from the *nakago ana* (tang slot) to where it meets the handle; the topmost crest of the *kashira* gently slopes downwards toward the the butt of the handle, much like a well worn hill. The *Higo kashira* has found a popular audience with today's *iaido* exponents because of its elegant style and its comfortable practicality: it will not cause blisters in the left palm as do other styles possessing a more linear construction. *Higo* fittings are well represented in *Toyama Ryu* and *Nakamura Ryu dojo*.

Tsuba. The *tsuba* (hand guard) is essential in that it protects the practitioner's right hand; however, the tsuba need not be overly large. As a matter of fact, if a deflection is properly executed, a *tsuba* is not at all necessary. However, we humans have a psychological reliance on the mere presence of a *tsuba*. Because the *tsuba* is so easy to replace, many practitioners try to find original pieces or modern reproductions to match their own personality. In doing so, they often choose large *tsuba*, one with dimensions exceeding 3 inches. A large *tsuba* is undesirable because it interferes with proper sword handling techniques by applying pressure to the back of the right hand. If you have a rim impression on the back of your right hand after training, your *tsuba* is too large. The preferred *tsuba* in *Toyama Ryu* and *Nakamura Ryu* is a small *tsuba*; an excellent example is the "*Nakamura Hanjiro*" *tsuba* (Fig. 12). The predilection for the smaller *tsuba* may have its origin with the model 1933 *shin gunto* (new army sword which had a regulation *tsuba* of about 2 x 3 inches--the sword techniques of the *Toyama* Military Academy were specifically designed with this sword in mind.

Nakamura Hanjiro Tsuba Nakamura Hanjiro was a well known practitioner of *Jigen Ryu kenjutsu* and one of Japan's first army generals. On becoming a general, he changed his name to *Kirino Toshiaki*, and he led *Meiji* government troops against the *Satsuma* rebels during the *Seinan* War (*Satsuma* Rebellion, 1877). In 1981 I was a guest on an NHK television (equivalent to ABC or BBC) production given in honor of *Nakamura Hanjiro*. Afterwards, an admirer of *Hanjiro* presented me with a replica of *Hanjiro's tsuba*. This *tsuba*, with its six gently undulating round lobes remains one of my favorites. It measures 2 x 3 inches and is devoid of artwork. There are openings on either side of the nakago ana (tang slot) for utility knives, and a set of *udenuki ana*. (Retention cord holes). Retention cords were used in battle much like the strap on a ski pole or a racquet ball racquet. *Udenuki ana* on *tsuba* produced after 1600 are probably ornamental, used to "balance" the overall *tsuba* shape and/or design.



Conclusion. I have traveled the length and breadth of Japan not just to test the sharpness of swords, but to express my thoughts and experience in my special area of *kireaji*. I particularly wanted to write about the ideal sword for actual use; however, because this field is so broad, I have only presented an abridgment. I do hope that this brief introduction to the ideal sword will be openly received, not only by those interested in swordsmanship, but also by those who study other martial arts.

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Source: *Nakamura Taizaburo, Nihon To Tameshigiri no Shinzui*
(The Essence of Japanese Sword Test Cutting).
Tokyo: Kodansha, 1980.