

# BEAUTY, CHARM AND SPIRITUAL ASPECTS OF THE KERIS HILT MATERIALS

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The *keris*, also known as kris, is a typical Indo-Malaysian dagger originally created for religious rituals, therefore - considering its designated function – it cannot uniquely be defined as a weapon.

It is composed by different elements: the blade is the most important part of the opus, since it is the component mainly designated to transmit the spirit that the *keris* is believed to possess (*semangat*; see: Gardner 1937: 57) and make it a part of the traditional religious paraphernalia. The Malaysian name of the blade itself, *mata keris* (“eye”, or figuratively “heart”), reflects once more the idea of this hierarchy. The blade is protected, hidden from others gaze<sup>1</sup> and at the same time it is presented at its very best by an elegant scabbard often made of fine wood. The scabbard is also wrapped up by a metal sleeve (*pendok*) and, sometimes, enhanced by a chord, *tali*, or by a chiselled mask (*topeng*) and are both also made from metal the two elements serving as transitional elements between the hilt of the dagger and its blade - a ring shaped one (*mendak*) and the other shaped in the form of a small cup (*selut*).

The study of the hilt – named *hulu o ukiran*<sup>2</sup> – is an excellent way to introduce the *keris* and at the same time deepen the matter since, at the moment of its creation, are involved both history and religion of the island, the social rank and the economic prosperity of the individual to whom the object is intended and concepts such as superstition and traditional beliefs, that are always associated with the idea of the *keris* itself and to which they are thoroughly attached.

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<sup>1</sup> It was a common belief that in the past local experts could recognize and identify the *pamor* – the typical damascus pattern of the blade – and consequently the power itself of the *keris* only by watching at the *ganja*, the part of the blade uncovered by the sheath. In this case the owner of the weapon would have felt exposed and powerless: to prevent this occurrence it was a general practice to forge a *wulung* type *ganja*, without visible *pamor*. See V. Ghiringhelli, *The Invincible Kris* 2, pag. 88.

<sup>2</sup> The word *ukiran* generally make reference to the wood carving but it commonly refers to the *keris* handle, being wood the most used material for its making. In Surakarta and Yogyakarta (Central Java) the handle is instead named *deder* or *dederan*.

This broad range of meanings is given by the interaction of religions - Islamic, Hindu and Buddhist - and cultures typical of the Indo-Malaysian Archipelago, thus permitting the creation of a unique civilization. Traditional arts and crafts perfectly represent this process and are the final result of this accurate blending: the handle of the *keris* is one of the best examples.

The creation of the *ukiran* implies a relevant aestheticism and a deep knowledge of the traditions, even if the artisan - *mranggi* - must mainly possess a remarkable manual ability and master the most various materials in order to harmonize all the elements together to create a *keris* intended as a totality.

The aim of this essay is taking in exam and investigate a wide choice of materials selected for both their intrinsic and spiritual value.

### **Metal, *Logam***

The very antique specimens of *keris*<sup>3</sup>, named *sajen* -“offers<sup>4</sup>”- or *majapahit*<sup>5</sup> (Fig. 1), named after the old Hindu reign located in Java and Sumatra during the XIV century, were forged in one single piece. The hilt is shaped to represent a squatting human figure (understood as a “divine” ancestor) and shares the same material as the blade, iron (or steely iron), which is often meteoric and therefore a symbol of the cosmic force. It is an incredibly powerful material, which has an ambivalent potential, since it can protect from evil influences or it can also turn into their instrument. The choice between various types of iron or steely iron is very important not only in the *keris sajen* case, but also in the forging of the



*Fig. 1: Sajen type keris hilt. Observe the position of the human figure, squatting with the arms resting on the lightly reclined knees. (Ghiringhelli Collection).*

<sup>3</sup> For an in-depth exposition on the subject see also *Ensiklopedi Keris* by Bambang Harsrinuksmo.

<sup>4</sup> Considering these objects related to the religious field confirms that they were perceived as symbols or talismans, *jimat*, rather than merely tools.

<sup>5</sup> These objects are traditionally called *deder iras* in Central and West Java.

blade in general, as every metal is considered to have a specific power and properties that can be transmitted to the owner.



*Fig. 2: Exceptional gold made hilt, decorated with precious and semi-precious stones: it most probably represents Ravana (Rahwana) wearing a weapon similar to the double bladed Indian dagger haladie. Bali. (Ghiringhelli Collection).*

A clear example is the *raja besi*, considered to be the most powerful as it is known to confer the authority and the faculty to obtain obedience. The *aulia besi* would suit chiefs and religious leaders having a very strong magic power, whilst the *besi winduadi* has the faculty to make the owner invisible to the enemy. The *tumenggung besi* would be perfect for the royal officials, whilst the *bendahara besi*, “iron of the Treasurer”, is better indicated for bank merchants and civil servants. The *besi werani* is usually remembered in old books as an extremely powerful iron, and once again the *besi kursani* can guarantee good sales and makes the owner more attractive and also invulnerable to weapons. Lastly, the *besi kuning* - also called iron or iron sulphur - consists of a yellow coloured metal considered to be a real amulet that donates supernatural powers to the lucky owner of the weapon if added to iron during the forging of the blade.

Gold is a privileged choice for the creation of the *keris* hilt (*Fig. 2*), being a material distinguished for its incorruptibility – it does not oxidise and is immune to the attacks of the most common acids. It is symbol of eternity,

royalty and therefore divinity and - it is essential to notice that - it was once exclusively reserved to the royal court. Other privileged choices were noble leagues, such as *swassa* or *suasa*, composed by gold and copper, and *mas munda*, gold and



platinum and also silver (*Fig. 3*), symbol of purity, or brass and copper (*Fig. 4*) for the most common hilts.

The construction techniques vary from piece to piece: the metal can be reduced to a very thin layer and used to cover a structure with a resinous base or a kneading clay, or it can be forged in threads that are then woven around a wooden core; an other case is that for the hilts obtained with a solid fusion, presumably using lost-wax casting techniques.



*Fig. 3 (Above left): important hilt made of silver: it represents the demon Buta Nawasari. Bali. (Ghiringhelli Collection).*



*Fig. 4: Specimen made of metal, presumably bronze alloy. It is predictably quite heavy. (Ghiringhelli Collection).*

## Wood, *Kayu*

Wood is worldwide considered an exceptional material, symbol of the universal substance: woods and trees have always had a relevant position in the Indo-Malaysian magical world and for this reason they have always been considered a privileged choice for the creation of the *keris* hilt.



*Fig. 5: Kemuning wooden hilt: observe the beautiful blazes. (Ghiringhelli Collection).*



*Fig. 6: This picture shows a keris with a hilt and a scabbard entirely made of Timoho wood: observe the kendit, a belt that goes through the ukiran. Bali or Lombok island. (Ghiringhelli Collection).*

Wood is usually selected for its splendid grain and for its inebriant perfume; the grain is carefully examined when cut: during the selection process and the manufacturing of the hilt the waste of material is always extremely relevant. The privileged choices are the *Tayuman* wood (*Cassia Laevigata Willd.*), the *Kemuning*

(*Murraya Paniculata* Jack, Fig. 5), and the *Timoho* - or *Timaha* or *Timanga*, *kayu pelet* (*Kleinhovia hospita* Linn., Fig. 6). The first one, often with a fibre called *doreng*, is distinctive as it reflects the light in every direction, whilst the second is very appreciated by artists and presents a peculiar perfumed bark that is also used in cosmetic.

The *Timoho* is a wood believed to be possessed by a spirit that shows its presence through the characteristic black and dark brown stains visible on the surface: these patterns, known as *pelet*, are mostly appreciated not only for the strong aesthetic value, but also because each one has is considered to possess its own power. It is therefore believed that the *pelet* intensifies and strengthens the power of the *keris* blade, and so this type of wood is often used for the creation of hilts (Figg. 7-14) and also scabbards. Amongst the *pelet*, the one known as *kendit* (“belt”, Fig. 6), a dark horizontal stripe on the wood, would result as a good wish in trade and allows the owner to stay safe from dangers and obtain respect from others. The most precious *kendit* is the thinnest and is often chosen for royal *keris*. The *gandrung pelet* influences so much the owner that he is loved, respected and also famous: this is why the *dalang*, the puppeteers of the *wayang* - that highly appreciate these virtues - value so much this kind of wood. The surface of the *ceplok banteng pelet* is sprinkled by large sparse and blurred stains and the possession of a *keris* with an hilt or a cover made with this specific wood increases the authority of the owner; the dense stains of the *ceplok kelor pelet* guarantee to whom possesses such a *ukiran* to be prevented from a negative behaviour.

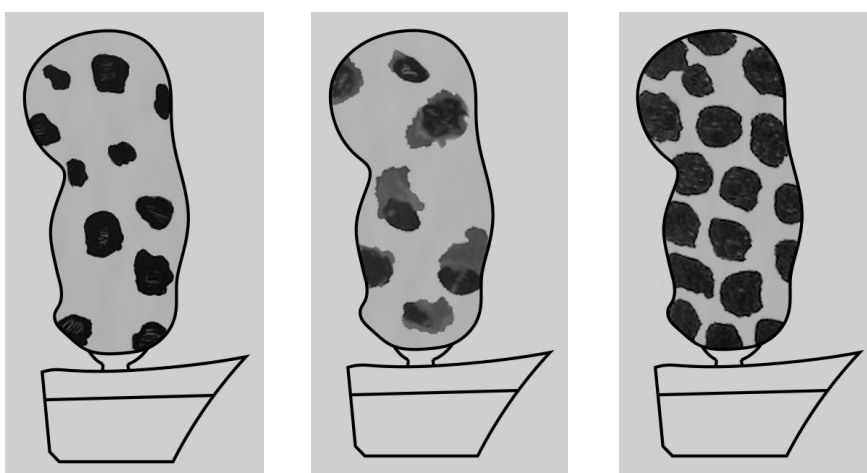


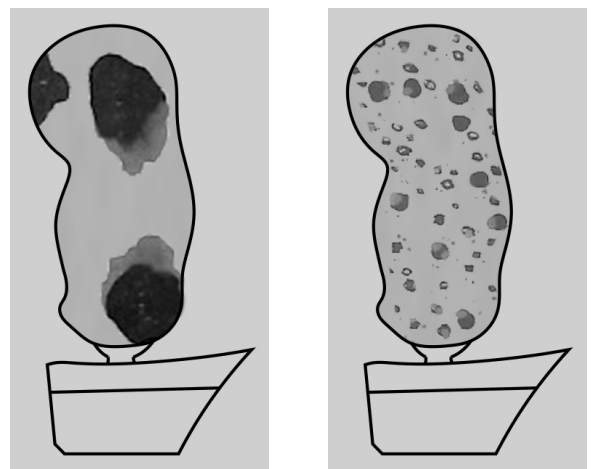
Fig. 7, 8 and 9 (left to right): Gandrung type pelet, ceplok banteng pelet and pelet ceplok kelor. (Graphic design by the Author).

Two very different *pelets* are the *segoro* (or *segara*) *winotan* and the *sembur*: the first one presents a very large sparse circular strains – usually two or three – whilst



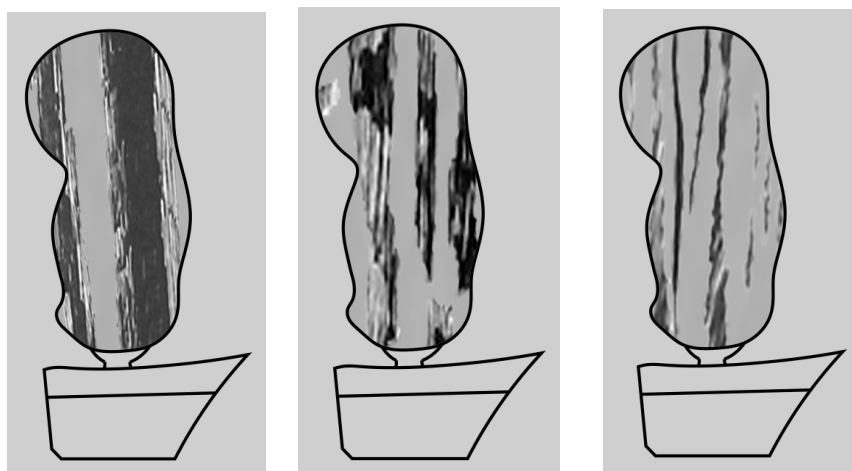
the second sports countless tiny spots that cover the entire surface. It is interesting to remember the specific power of the *segoro winotan*, which would increase the wisdom of whom comes into possession of it. To the *sembur* a more general power is attributed.

The *pelet tulak*, *doreng* and *dewandaru* are known for their specific striped pattern. The first has parallel stripes in a darker colour at the centre that lightens on the edges. The second shows a very peculiar pattern that has been compared - for the extraordinary similarity - to the stripes of the tiger fur, whereas the *dewandaru* type alternates larger and thinner stripes. The power given to the third *pelet* in particular is to guarantee richness and prosperity to the lucky owner.



*Fig. 10 and 11: Segoro winotan pelet (left) and pelet sembura (right).*

The *Timoho* tree is cut only on certain days determined by the local customary laws and traditions (*adat*) and chosen according to the natural alignment of the tree to a specific cardinal point. In Bali this tree, called *Purnama Sadha*, is considered a gift of the gods and therefore it is never covered with any kind of material, not even gold. In Lombok and Sumbawa this wood is called *Kayu Berora*.



*Fig. 12, 13 and 14 (left to right): Tulak pelet, doreng type pelet and pelet dewandaru. (Graphic design by the Author).*



Fig. 15 e 16: Antique wooden grip: the surface is finely engraved with curls and spirals. The second picture shows details of the long hair. Sumatra. (Ghiringhelli Collection).

Mostly chosen is also the *Kernong Akar* (*Murraya Exotica*) which has very similar characteristics to the already mentioned *Kemuning*: both are also known with the name of Chinese myrtle. Above the other selected trees, it has to be remembered the *Cendana* in its varieties – the sandal wood, from the Sanskrit *Candana* – such as the *Cendana Putih* (*Santalum Album*), a light and non aromatic wood and the *Cendana Wangi*, very perfumed instead. Also the *Trembalu* (*Dysoxylum Acutangulum* Mg. – *Cassia Glauca*), especially its yellow coloured variety, with the grain named *nganam kepang* which recalls a binding method used for the traditional wickers. Teak wood, known as *Jati* (*Tectonia Grandis*), presents various types: the Java teak is the heaviest and it is more difficult to work compared to others; in particular root-wood is the most selected part. The *Cukila*, a wood from a tree that grows on the slopes of the Sumbing volcano, the *Ambon* - *Aleurites moluccana* – it comes from a tree called “of the lights” (*Lichtbaum* or *Kerzennussbaum* in German) - whose bark is used to paint and dye in black. Others are the *Kayu Arang* or *Hitam* (ebony) and the *Manikara Kauki* (sapodilla wood), frequently used for *keris* hilts that do not follow the *pakem* guide - “the principles guide”; the oily *Kayu Sawo Manila* (manila-wood - *Manikara Zapota*) especially in Sumatra, the *Kendayaan* (*Bauhinia malabarica*), the *Kayu Celagi* (*Tamarindus indicus*), the *Kayu Gemia* - *Bouea macrophylla* - a reddish





Fig. 17: Kocet-kocetan type of wooden grip: it was once reserved to holy men and religious leaders, Bali. (Ghiringhelli collection).

hardwood often used for hilts in Malaysia, the *Kayu Awar Awar*, the *Kayu Serut*, the root wood of *Mawar Hutang*, the *Kayu Akasia*, the *Kayu Kelengkeng (longan)*, the *Kayu Asem*, the *Kayu Sangkuriyang*.

All these woods are thought to possess a *semangat* (spirit) but in Malaysia, for instance, none of them is considered having a stronger power than *kayu kemuning*, who's tree was the Dewi tree, reserved to kings and nobles: in the past it was a good more valuable than gold.

As already mentioned, the "Spirit" who is thought to live in the tree receives noticeable attention. Explanatory is the so called "wood of the warm rain" - *Kayu hujan (o udan) panas* – that has to be cut, according to tradition, only when it is raining and sunny at the same time. The *Gaharu*, or aloe<sup>6</sup>, is another wood that is considered to possess a spirit: it has a shiny black colour, very similar to onyx and it is considered to have strong therapeutic properties. It is known for its superb aroma and it is used as incense.

Fragments from this wood that seem to have

been engraved in human or animal features have special magical virtues and are called *gaharu merupa*. The *Kayu tas* is a wood believed to protect from tigers, whilst the *Sawo (Achras zapota)* has been thought as the symbol of prosperity. The legendary *Nagasari (Michelia Champaka – Mesua Roxburghi – Rottlera Tinctoria)*, symbol of Shiva and his wife Uma, is found very frequently in religious Hindu and Buddhist iconography. It is not the only case of tree sanctified to the gods: The *Kepuh* type from the *Bombax* family is dedicated to Durga<sup>7</sup> and the *Warigin*, banyan, is also considered sacred in Indonesia. A couple of these trees were always planted inside the *alun-alun*, a quadrangular open space inside the *keraton*, the royal palace.

<sup>6</sup> This type of wood is called *ud* in arabic e *zhen xian* in chinese.

<sup>7</sup> This type of tree is particularly feared because it is believed that under their branches gather spirits and demons, and for this reason devotees of the witch Rangda usually congregate where it is growing.



Fig. 18: Jawa demam type of wooden Ukiran (“feverish or quivering Javanese”); the engraved figure is Garuda, divine vehicle, rendered with great abstraction. (Ghiringhelli collection).

### Ivory, *gading*

Many archaeological evidences prove the use of this splendid material since the prehistoric age. It was used for three main purposes: religion or magic, everyday use and as ornament. The biggest source comes from the elephant tusks (Fig. 20, 22, 23 and 24): the African elephant (*Loxodonta africana*) - whose huge tusks represented a privileged trade product between continents - the Asian elephant (*Elephas maximus*) and the Sumatran pachyderm (*Elephas maximus sumatranus*), the latter considered the best types for the creation of the *keris* hilt.

Also the fossil ivory<sup>8</sup> from the Mammoth found in Siberia was skilfully worked by the local artisans, together with the teeth of the



Fig. 19: Mammoth molar fossilized tooth hilt. (Ghiringhelli Collection).

<sup>8</sup> This substance is still much appreciated in the field of the artistic handcrafted cutlery: the extremely long underground staying of the tusks, in contact with iron ores, enriches the outer layer of the ivory (the so called “crust”) in deep and colourful veinings.





*Fig. 20: Important Balinese elephant ivory ukiran, decorated with gold and gems: it probably represents Bhima with the Amrita (Amerta) vessel, like his father – the god Vayu. (Ghiringhelli Collection).*



*Fig. 21: Interesting ukiran carved in marine ivory: it represents a man with a turban and a beard, maybe a Wali, one of the nine saints (Wali Sanga) who contributed to the spread of Islam in Indonesia. (Ghiringhelli Collection).*

animal (*fossil geraham gajah*, Fig. 19), traditionally highly requested for their ability to keep back the evil influences of the sorcery (*guna guna*). This material is actually very difficult to carve: composed by a succession of very hard layers of vitreous aspect and others very fragile and much less compact, it could be engraved only by a very experienced *mranggi*. Also the elephant's tooth have been used, easily recognisable for its typical structure.

The marine environment has always given other varieties of ivory (Fig. 21) to the skillful artisans of the archipelago, such as the one obtained from the walrus tusks,





Fig. 22: The picture shows a keris with both hilt and scabbard entirely carved in ivory. (Ghiringhelli Collection).

from the long tooth of the narwhal, or from the sperm whale<sup>9</sup> or the sea cow (*duyung* in *bahasa melayu*) teeth and the *keris* hilts engraved in those material are embellished by the splendid shades typical of each different kind of ivory. In India it was thought that marine ivory - especially from narwhals or walrus - was a great antidote against poison and it could cure inflammations.

Also hippo's canines were used, but they were only obtainable from long distance trade: the hilts made from this material together with the walrus tusks were highly appreciated, not only for the rarity of the material itself but also because thought to provide a firmer grip than other materials .

Excellently engraved, ivory was polished with thin abrasives and lastly with grinded bamboo fibres. The natural patina was emphasized by dyeing the grip with oil, opium essence or with arsenic sulfide

solution<sup>10</sup> – a yellow coloured mineral – that enhanced the warm colour of the material.

It must be said, sadly, that in the last decades of the last century various synthetic materials have been used to artificially imitate ivory<sup>11</sup>. However, they only succeeded to copy the aspect, without having comparable results in reproducing the elasticity and undeniable beauty of real ivory.

<sup>9</sup> Sperm whale ivory has a dark glazing toward the side inserted in the bone, while the walrus tusk shows a typical marbled “eye” that often lies in the middle of the *keris* handle.

<sup>10</sup> From *Rino Horn and Elephant Ivory*, in “Arts of Asia”, September-October 1991.

<sup>11</sup> Between the various materials derived from petroleum, we can mention a product named avorin, derived from ivory powder molded with resins.



*Figg. 23 e 24: couple of sundangs (keris from the Sulu islands, southern Philippines): the hilts present a large pommel carved in elephant ivory and are strengthened by a complex fibre binding and by watermarked metal bands. (Ghiringhelli Collection).*

## Horn, *tanduk*

The most used animal horns are obtained from buffalo and rhinos. The first one, water buffalo or carabao (*Bubalus bubalis*) is considered to represent the Good and its horn is considered depository of a supernatural force: this material can be polished up to get an intense black (or shining white shades in case of albinos) and the most antique hilts gain, as time goes by, shades of a very particular green (*Fig. 25*).



*Fig. 25: Buffalo horn hilt representing Ganesh. Observe the ring element, mendak, located at the base. (Ghiringhelli Collection).*

The rhino horn, also made of keratin, comes from the Indian specimen and from the endemic species of Sumatra and Java, which used to be more common in the natural environment of the Archipelago. It is a translucent and lightly opalescent material in which are clearly recognisable the fibres from which it is composed of (*Fig. 26*): it is used to create magnificent sculptures and it has always been considered as a symbol of strength, sexual vigour and authority. It is thought to have aphrodisiac and purifying properties that were mostly appreciated by different civilizations, varying both for temporal and geographical distribution.

Sometimes it is possible to identify deer antlers *keris* hilts made from sambar antlers (*Rusa unicolor*), that have a less spongy material inside compared to others specimen that are common in the western hemisphere – thus certainly making them a



good choice for the construction of hilts. Some specimen from Bali are made from American moose antlers (*Alces Alces*).

It must be said that an *ukiran* made in horn is very desirable as the beneficial virtues of the materials will increase and emphasize the power that the blade is considered to possess.



*Fig. 26: Rare java demam ukiran type made of rhinos horn. (Ghiringhelli Collection).*

### Plant fibre, human hair (*rambut*) and animal hair

The wooden *cecenangan* type cylindrical shaped hilts typical of Bali and Lombok present sometimes a plaited cover made with twisted coconut fibre, thus providing a firmer grip. (Fig. 29). Also the use of equine mane has been documented, however the most unusual material for the *keris* hilt remains the hair of the inhabitants of the Archipelago.



*Fig. 27 (above): Antique hilt made from ebony wood showing human hair inserted in the designated hole for the blade tang. (Ghiringhelli Collection).*

*Fig. 28 (left): Detail of the engraved figure's face.*

Besides being tightly rolled up around the hilt, they can also be found inside of it (Fig. 27), around the weapon tang (*pesi*, o *peksi*), instead of the traditional cloth used to fix and consolidate the handle and the blade. Human hair has a mystical and talismanic meaning in the Indonesian archipelago: it is thought to release spiritual



*Fig. 29: wooden grip covered with twisted horsehair. Bali or Lombok island. (Ghiringhelli Collection).*

force<sup>12</sup> that remains in them even after being cut. Important personalities' hair or local heroes' one are offered to divinities<sup>13</sup> or carefully conserved, making them a powerful talisman (*jimat*) used to protect from black magic and also giving a high spiritual resource to the owner. The hair of the famous Bugis chief Arung Palakka, for example, have been added to the crown - *mahakota* – of the Bone *raja* treasure and it is believed they are still growing.

### **Other materials**

Apart from the other commonly chosen materials for these small works of art, it is important to remember animal bones (*Fig. 30*), especially the ones of the wild ox (*banteng*), symbol of strength in Indonesia and the wale bones. These are often used in Madura for the construction of the transversal part of the *keris* scabbards and the hilts, with the intention of emphasizing the geographical and therefore political independency of Madura from the island of Java (Greffioz, 2009).

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<sup>12</sup> Note that this theory is also present in the traditional western beliefs, giving evidence to a common shared ideological foundation.

<sup>13</sup> An interesting example is given by hair and nails of the Sultans of Central Java, traditionally offered to Ratu Kidul, goddess of the Southern Seas.





Fig. 30: Specimen of hilt made in dyed red bone. (Ghiringhelli Collection).



Fig. 31: Hilt carved in tridacna gigas shell. (Ghiringhelli Collection).

The creation of a bone *ukiran* requires special attentions, such as the insertion of a stopper made of the same material in the cavity, since it would stay open once the marrow sponge is extracted and the dyeing with vegetable substances of the finished opus. Other than the marine ivory, the mother-of-pearl and the huge shell valve of tridacna (*Tridacna gigas*, Fig. 31) are collected from the marine environment. These are very important for the symbolism connected to them: the shell, the oyster and the pearl are considered a fertility source, and the magical power is attributed for their similarity with the vulva, with which they share the procreative power. The shell provides protection against infertility, doom, natural disasters and crop failures. The tridacna shell is a shiny white colored material, uncommonly heavy and giving a peculiar waxy sensation when touched.

Another exceptional material is the *akar bahar*, a splendid shiny black coral with very faint shades of red: it is also used to make talismanic ornaments for its high aesthetic and spiritual value.

The hilts are often decorated with precious stones or pearls in glass paste that are sometimes applied on transitional elements – *mendak* and *selut* - by which the hilts separated from the blade. In Java, the diamonds - *berlian* – extracted from the famous diamond mines of Kalimantan are the first choice for those elements, but so are smaller quartz or hyacinths - a red zircon variety. Diamonds and white zircons are also set on the metallic hilts from East Java and Banjarmasin, Borneo. This operation was usually made in Martapura, in Kalimantan, major mining pole of the island. In Bali, rubies and sapphires - *batu delima* e *batu nilam* – have always been the choice of excellence, as they represent strength and purity, whilst diamonds are thought to neutralize poison.



*Figg. 32 e 33: Ivory hilt (above and lateral view) of exceptional quality that shows a very peculiar wooden insert in the summit: the talisman is set between the spiral hair of the divinity, who's body is wrapped and partially masked by the vegetation. (Ghiringhelli collection).*

Other extraordinary materials can be set on top of the hilt: an example is a small piece of meteoric rock (*batu bintang*, literally “star rock”), vehicle of the superior spirit. Also can be used the peculiar knot that is formed in the connection point of two branches of *prenjalin petuk*, an osier willow: this is a particularly difficult part to cut and is said it can release a peculiar red and blue fluorescence. It is also chosen - for its talismanical value - the core of the kelor tree (*galih kelor*), extremely rare because often too soft, and therefore impossible to extract, or even missing. These three amulets are considered capable to keep back any negative influence.

The large variety of materials here discussed, together with the incredible complexity of shapes - according to their geographical origin and cultural influence - evokes to anyone approaching those little masterpieces an idea of deep intricacy, giving back once again the idea of intense symbolism imparted by the *keris*, thus providing to make the *ukiran* one of the most desired object by art collectors worldwide.



## References

- Abrams, Harry N. (1987), *Ivory. An International History and illustrated Survey*, Times Mirror Books, Belgium.
- Draeger, Donn F. (1972), *The Weapons and Fighting Arts of Indonesia*, Tuttle Company Inc., Singapore.
- Gardner, Gerald B. (1936), *Keris and Other Malay Weapons*, Progressive Publishing Company, Singapore.
- Ghiringhelli, Vanna e Mario (1991), *Kris gli invincibili. The Invincible Krises*, BE-MA Editrice, Milano.
- Ghiringhelli, Vanna (settembre - ottobre 1997), “Keris Hilts Materials”, in *Arts of Asia*, vol. 27 n. 5, Arts of Asia Publications Ltd, Hong Kong : pp. 91 - 98.
- Ghiringhelli, Vanna (2007), *The Invincible Krises 2*, Saviolo Publisher, Milano.
- Ghiringhelli, Vanna (2011), *Kris Hilts. Masterpieces of South-East Asian Art*, 5 Continents Editions, Milano.
- Greffioz, Jean (2009), *Poignèes de kris. Petits chefs-d'oeuvre d'Indonésie*.
- Harsrinuksmo Bambang, (2004), *Ensiklopedi Keris*, Gramedia Pustaka Utama, Jakarta.
- Haryoguritno, Haryono (2006), *Keris Jawa. Antara Mistik dan Nalar*.
- Jensen Karsten S. (2007), *Krisdisk. Krisses from Indonesia, Malaysia and the Philippines*, supplemento a Jensen K. S. 1998: *Den Indonesiske Kris, et symbolladet våben*, Copenhagen.
- Junus, Toni (2011), *Pesona hulu keris. The Beauty of Keris Hilt*, B. Sanders Publisher, Jakarta.
- Maisey, Alan G. (maggio 2013), “An Interpretation of the Pre-Islamic Javanese Keris”, in *Arms Cavalcade*: pp. 20 – 51.
- Noor, Farish A. and Khoo Eddin (2003), *Spirit of Wood. The Art of Malay Woodcarving*, Periplus Editions, Singapore.
- Osman, Mohd T. (1989), *Malay Folk Beliefs, an Integration of Disparate Elements*, Percetakan Dewan Bahasa dan Pustaka, Kuala Lumpur.
- Skeat, Walter W. (1900), *Malay Magic, an Introduction to the Folklore and Popular Religion of the Malay Peninsula*, Londra.
- Singer, Noel F. (settembre – ottobre 1991), “Rhino Horn and Elephant Ivory”, in *Arts of Asia*, vol. 21 n. 5, Arts of Asia Publications Ltd, Hong Kong : pp. 98 – 105.
- Solyom, Garret and Bronwen (1978), *The World of the Javanese Keris*, East-West Center Honolulu Hawaii, printed in the USA.

- Tammens, G. J. F. J. (1994), *De Kris. Magic Relic of Old Indonesia*,
- Tammens, G. J. F. J. (2001), *De Kris 2. Magic Relic of Old Indonesia*.
- Van Duuren, David (1996), *The Kris. An Earthly Approach to a Cosmic Symbol*, Pictures Publishers, Amsterdam.
- Van Zonnevald, Albert G. (2001), *Traditional Weapons of the Indonesian Archipelago*, C. Zwartenkot Art Books, Leiden.