

The Soul of Silk: A Journey

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I've just landed in Siem Reap, and I enjoy a brief stroll outside to the arrivals terminal of this pleasantly small, manageable airport. It's a bright, friendly place—even the smoking lounge is decorated with plants and flowers.

Sambo Roern—my driver when I'm here, and he's available—picks me up and takes me the few kilometers to the city. It's still the rainy season, muggy and warm, with occasional downpours. Dust on the street, swirls up in the air.



The provincial capital Siem Reap is a destination for many tourists, who use it as a base to visit the nearby Angkor Wat, often staying for three days with a three-day Angkor Pass. By confining their explorations to the temple, these tourists seldom set foot in the “other” Cambodia.

Sambo, who has become a friend by this point, is always up for a great conversation about the current political situation and the country's affairs. He's been a driver for 15 years, and knows every turn by heart.

He's one of the hundreds of tuk-tuk drivers who make their daily rounds here, always on the lookout for passengers to offer day tours or one-way transports. “Hello, sir...”, “Tuk-tuk?” or “Where you go today?”, the drivers call out to potential passengers.

With Sambo, I set out on the trip that's been on my mind for weeks: to the weaving village I hold so dear. But first, I'd like to tell the story of why I've been returning to Siem Reap all these years.

And so it's here, a stone's throw from the Angkor Wat complex, hallmark of a centuries-long—but long past—high culture, and a stark contrast to the Cambodia of today, still a struggling country—it's here that I will tell the story of Kikuo Morimoto, a man who has distinguished himself like none other for his work with Cambodian silk and his preservation of the ikat weaving technique.

Kikuo Morimoto

I first got to know Kikuo Morimoto in the summer of 2013.

It was my first trip to Cambodia. A little note in my guidebook about silk and weaving tipped me off. Before my research for this trip, I didn't know much about Cambodian silk and its extraordinary beauty.

I had been interested in silk for a few years. I had visited weaving mills in Thailand and Laos and read about ikat, but my visit to Kikuo Morimoto and the weaving village “Project Wisdom from the Forest” far surpassed my expectations.

Before my trip, I set up an appointment to visit IKTT, the “Institute for Khmer Traditional Textiles”, to tack a visit to the weaving village onto my classic temple tour. I knew I could use a change of pace after two days of temples.

Sambo brought me to the village.

Back then, we could still drive right through the main area of the famous temple, onto an unpaved road of rust-colored dirt. Fifteen kilometers later, we reached the weaving village “Project Wisdom from the Forest,” also known as Chob Saom Village.

Mr. Morimoto's assistant, Ms. Minemura, was there waiting for us.



© Junji Naito Photographs

We sit on his veranda. He's made time for us, as he always does for guests. I'm overwhelmed by the warmth and charisma Kikuo Morimoto radiates, by the love for this village and its people which permeates his every sentence, by the gentle way he handles each piece of silk as he spreads it carefully before me.

This village is a place of beauty, of humanity, and of new beginnings; they've been producing textiles of the finest quality here for years.

This afternoon, a Japanese camera team for NHK Japan is starting to film a documentary about Kikuo Morimoto, so our first conversation takes place on camera. A bit unusual for me.

Today, several trips to this village later, I still have the feeling of being in a truly exceptional place.



Pidan / Wall hanging for religious ceremonies, produced by IKTT

Kikuo Morimoto is a silk enthusiast. A man with an incredible drive and a vision: to protect Cambodian silk and ikat weaving from disappearing entirely. He does this for himself, because it's his passion, and he does it for Cambodia and its people who are so dear to him. Morimoto hails originally from Kyoto, where he underwent years of training to pursue a career in traditional Japanese yūzen resist-dye technique. He is regarded as an expert in natural dyeing methods. Even today, 35 years after leaving Kyoto, he is one of the rare masters of this art, and his visitors are always excited to see samples of his work.

"I was painting the kimono," he always said when he spoke of his past.



Some of his old brushes, still in use after 35 years



Some of the master Morimoto's typical motifs: Tree of Life © Kikuo Morimoto / IKTT

Beginnings

It's been more than 35 years since Kikuo Morimoto first volunteered at a UNHCR refugee camp in Ubon Ratchathani, Thailand, near the Mekong. There was a textile school there, and as a skilled craftsman, he saw it as his duty to help. Refugees from Cambodia and Laos strived to improve their livelihoods by producing textiles and other products, just as they had always done. At first he thought he would stay for a year or two—but time flew by.

In a talk with Masaaki Kanai, President of Ryohin Keikaku, Morimoto said:

“When I arrived, not only Cambodians but also people from Laos and other regions were actually working and making use of their own skills to make a better life in the refugee camp. Actually, in those days, even though it was called a refugee camp, some of them did not allow any foreigners to enter, so it was up to me to take the textiles made by the refugees and sell them outside the camp; in this way I was doing something that's just like fair trade as it's called nowadays.”

[...]

“People who were living in the refugee camps were not allowed to sell goods freely, because some camps were strictly controlled by the United Nations, and such activities were not permitted.”

“People in refugee camps are supplied with food and water by the UN; but in reality I soon saw the Thai villagers living around the refugee camp were actually living an even harder life.”

[...]

“One day I visited the village and saw their traditional textiles, and for the first time I came across yellow raw silk, and I am still involved today. I used to be a kimono maker in Kyoto, and I had always thought silk was white, but here were these very beautiful yellow cocoons, which villagers handspun into yarn and then wove cloth. Everything started from this encounter, but life for the people making this cloth was pretty hard. I started thinking if it would be possible to sell their textiles to help increase their income. Since then, over the next 10 years I was doing this kind of thing with Thai people.”

In the same interview, Morimoto has this to say about the fascinating beauty of yellow silk:

„I asked a professor specializing in material engineering in Shinshu University to conduct several tests, including measuring the strength of the yarn. As a result, it was found that yellow yarn actually has some advantages compared to white yarn; for example, reflectance and shine. The cross section of yellow yarn is triangular and was found to be better than white yarn in its ability to reflect light; having more facets, it creates more reflections.“



At Nong Chan Refugee Camp © Kikuo Morimoto

A Piece of Ikat Silk

The catalyst for his engagement with ikat weaving was a piece of ikat silk that he saw on a visit to the Bangkok National Museum. A piece of patterned silk, about 60x80 cm in size, its refinement and artistry captivated him. The ikat was dyed a deep red, a color the likes of which Morimoto had never seen. He was certain that this ikat piece must have been woven long ago in Cambodia. He knew just the sort of master craftsmanship required to weave such an item, and he wondered if it might still be possible to reproduce textiles of this quality today. He decided to travel to Pey Village in the Bati district (Takeo province) after hearing from UNESCO Cambodia that there was still an active silk weaving tradition there.

He met an experienced weaver named Om Chiea, and wanted to know if she was still proficient in the old dyeing methods. Despite the language barrier, he managed to communicate what he was interested in. Although she herself used chemical dyes, she knew about the old recipes, and went to her garden to get a piece of stick lac beetle nest—the source material for the color red. Nests of the stick lac beetle (*Kerria lacca*) are collected from branches and mashed together, thus creating the basis for the dye bath in which silk strands are dipped.

UNESCO Cambodia was beyond impressed with Morimoto's accounts, and in early 1995 commissioned him for a research project on the current state of the country's silk-weaving tradition. It was a perilous mission: Kikuo Morimoto and his companions were in grave danger on more than one occasion, for encounters with armed Khmer Rouge soldiers were common in these remote areas. Millions of anti-personnel mines were planted throughout the countryside, and hostilities were by no means over.



Nests of the stick lac beetle (Kerria lacca)

The Khmer Rouge had indeed lost the war, but had retreated with their weapons to remote areas, where they continued to wage guerilla warfare for years.

For several months, Kikuo Morimoto traveled through the provinces by car, motorcycle, boat, and on foot, inquiring from village to village, weaver to weaver, in search of the last remnants of traditional weaving and silk. There were no usable maps, so he navigated using villagers' directions, descriptions, and sketches. When he reached a village he'd heard about from the market sellers in Phnom Penh, and when he had finished asking his questions, he would ask people what other weaving villages they knew of and would travel wherever he had a useful lead. As he went, he made hand-drawn maps so as to be able to find places again. By the end of his travels through different provinces, it was clear that traditional silk weaving and production were in critical condition, on the verge of complete disappearance.

During Pol Pot's reign of terror, survival was the only thing that mattered and the craft of weaving came to a standstill. Most of the trees which provided the raw materials for dyeing and weaving had been cut down.

Weavers did their best to keep their craft alive. Cheap white silk came in from Vietnam, and the quality of woven pieces deteriorated. At the same time, raw material prices rose, and middlemen skimmed off the top at the expense of the weavers. Chemical dyes were widespread, cheap, and easy to use. Patterns grew larger and simpler to make textile weaving faster, thereby selling more and raising families' income. The Cambodian weaving tradition, handed down for centuries, was on the verge of extinction. After three months, Kikuo Morimoto wrapped up his research in eight provinces and dozens of villages, sending UNESCO Cambodia a 30+-page report on the current situation of silk production and weaving.

UNESCO Cambodia was impressed, but there was simply not enough funding to compile these assorted findings into a rehabilitation program. The full report on this trip can be read at:

www.iktt.org under the heading: *Books*, or at www.crossing-textiles.at under the heading: *IKTT*.

In 1995, with the findings of his study as a starting point, Kikuo Morimoto began to craft plans to establish his own enterprise. He decided to stay in Cambodia and started a project in Takaor village (also named Ph Ta Kao Leu, in the Angkor Chay district) in the southern province of Kampot.



With weavers in Takaor Village, Kampot Province, 1995. © Kikuo Morimoto

The goal was to protect the rapidly disappearing production of Cambodian silk from total extinction. The most urgent task was supplying weavers with raw materials. For Morimoto, it was inconceivable to reestablish this weaving tradition without the ability to produce its traditional raw material—yellow silk from Cambodian silkworms. One could not function without the other. He wanted to weave exquisite ikat pieces just as they had been made 100 years ago.

In discussions with weavers, he gleaned that this yellow silk had still been produced here up until a few years before. But not anymore. So he started working with breeders from northeast Thailand in the Surin region, acquaintances from his time at the refugee camp. He brought their cocoons to the weavers of Takaor village in order to begin the breeding process.

“Without risk, neither good art nor anything else worthwhile will happen.”

One year later, in 1996, Kikuo Morimoto founded IKTT, the “Institute for Khmer Traditional Textiles” in Phnom Penh. In his travels through the provinces, Morimoto found only a few women who still possessed knowledge of the old craft.

He wanted to bring these women—all in their 60s—together, each with her own unique knowledge of dyeing and ikat production. He was convinced that if he could just manage to bring these weaver-women (the last generation of textile artisans) together in one place, with all the necessary “ingredients” for ikat weaving, if they could create and process the silk themselves, then it would be possible to bring this valuable textile directly to customers without any middlemen. Morimoto was certain that if they could reconnect the Khmer people with their cultural roots and identity, it would spark a new beginning.

„It was like bringing together the pieces of a jigsaw puzzle.“



© IKTT. *The first weavers who went to Siem Reap with Morimoto in 1995. Reunion with the “Silk Grandmothers”, 2015.*

Cambodia—The Years of Turmoil

Today, Cambodia is a nation on the upswing. But the wounds of decades of ongoing civil war are still palpable. With its economically successful neighbors Thailand and Vietnam, and pervasive poverty and corruption at home, it’s difficult for Cambodia to find its footing.

The darkest period of the country’s recent history was from 1975-79, when the Khmer Rouge

terrorized the entire country. While the seizure of Phnom Penh on April 17, 1975 by Pol Pot's army was initially perceived as a liberation of the Cambodian people, it soon proved to be a fatal blunder. The country rapidly became a communist agricultural state. Many people died of hunger and disease, and those who didn't adapt to the new system were murdered.

One quarter of the population, 1.7 million people, lost their lives in those years. By the end, the economy was destroyed. Drove of people were driven out of the cities and resettled, forced into labor in the rice fields, with no means of helping themselves. Nearly every Cambodian lost at least one relative; many lost their entire families. Official peace has only been in place since 1998, when the last of the Khmer Rouge surrendered their weapons.

Kikuo Morimoto spoke about this time and his own motives for an ARTE documentary in 2005:

"I wanted to help people bring their silk tradition back to life. This silk was made entirely by hand. There was so much heart and motivation in this process. The motivation to weave comes from inside, from the heart. This silk is like a human body—the emotions of the weavers find their way into the cloth. The negative ones, too.

That's why it was critical to me that IKTT treat the weavers well. This is a place where women can start a new life. We're not just weaving pieces of silk, we're also mending souls. I help them out, pay a good wage, and create an environment where they can devote themselves entirely to weaving. The silk is what they give back. I just love silk, so I do this for myself, too. It's my passion. And when I see the weavers happy, I'm happy, too. The weaving center is like a perch for birds of passage. They rest up and recover here, and one day they'll find the strength to fly somewhere else."

IKTT has trained about 400 weavers to date.

Cambodia Trip, August 2015

We're sitting on the veranda with Kikuo Morimoto. As the afternoon rain closes in outside, we chat about the ikat weaving village. He shows us a few pieces of ikat-woven silk sarongs from his extensive collection, which he's been building since his research trips to Thailand and Cambodia in the early 1980s. The collection is extraordinarily beautiful, consisting of around 200 textiles, including historical ikat pieces—some threadbare, others with a few repairs here and there.

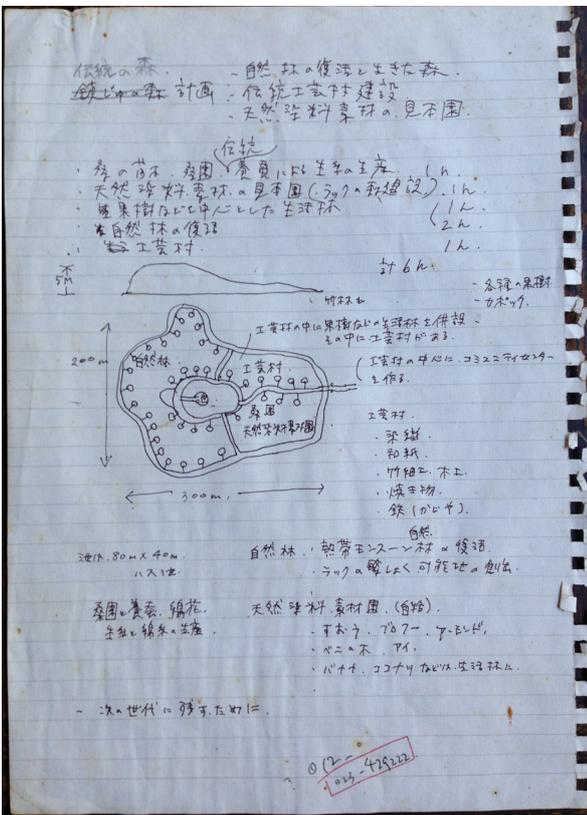


A very old piece of Sampot Hol from Morimoto's textile collection



Sampot Hol

Morimoto shows us pictures and sketches from the early days of the weaving village, when he purchased five hectares of wasteland (in the commune of Peak Snaeng, north of Angkor) with plans to establish an ikat weaving village, where the plants needed for dyes would be grown alongside the area devoted to textile production. In late 2003, the first families from the province of Kampot moved onto the newly acquired land.



Initial sketches for Project Wisdom from the Forest, PWF

Kikuo Morimoto was awarded the prestigious „**Rolex Award for Enterprise**“ in 2004, which not only gained him international renown but also supplied him with a considerable sum of money, enabling him to purchase some of the neighboring land and expand his plans.

We leaf through photo albums from this time, looking at the first sketches he drew on his flight from Japan, depicting the village, lake, building structures, and forest areas which now, 15 years later, are covered with meters-tall trees.

He shows us his extensive collection of weaving tools and components, many antiques, including weaving shuttles and pulleys, still as central to the weaving process as ever.

We also see a fine silk yarn, which Kikuo Morimoto says is the finest he's ever seen—such a yarn can't be produced anymore because the knowledge died with its weaver. It must have taken filaments from a mere ten cocoons pulled together into a single thread to produce this extra-fine yarn.



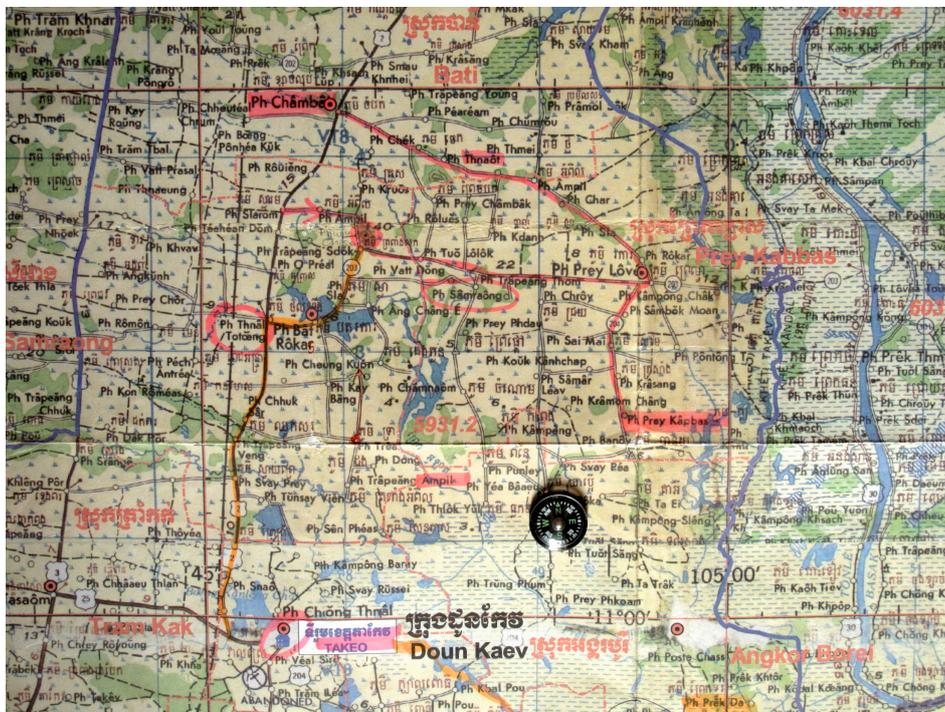
The new land, 2002



Aerial view, 2012

A bird flies onto the veranda. It sits on the railing, turns its head back and forth, and waits for a piece of banana, just as it does every day. Freed from the aviary where it was once kept, it flies here every day, “chit-chats” a bit, and relishes the treat from Morimoto’s hand. This afternoon, Morimoto tells us about his experiences in Takeo province and surmises that 20 years after his trip there, the region might very well still have an active weaving tradition. In his UNESCO report, he noted the provinces of Takeo and Kampong Cham as the most thriving traditional weaving areas.

So we make our way to Takeo. Upon our arrival via Phnom Penh, we take his advice and check out a little store in the Phsar Thmey (Central Market) that sells local maps (Administrative Map of Takeo Province).



Takeo (Krong Down Kaev) and environs

Some of the street and place names on these maps are totally different from those on the maps in our travel guide, and we spend quite a while searching and comparing, until we're halfway sure where we're going.

80 kilometers south of Phnom Penh, Takeo is the quiet, sedate capital city of Takeo province. At first glance, there's not much about this place to recommend, it seems pretty dead. Not a lot of tourists find themselves here. But Takeo is actually the perfect jumping-off point for excursions to the so-called Cradle of Cambodia: Angkor Borei and Phnom Da.

From the harbor, you can get to Angkor Borei in about an hour via Canal 15, a man-made water route built in the 1980s. This used to be a key center for trade, and goods are still transported today via this route between Vietnam and Cambodia.

We move into a simple guesthouse and start exploring the city. There's still not much going on, until we stumble upon a large, open plaza with some sort of street fair going on. They're selling everything under the sun here—mattresses, shoes, watches, clothing. We eat handsomely at one of the many food stands ("something with chunks of animal," Barbara says), and continue on our reconnaissance mission. We find a bar and brainstorm over beers about where to rent a motor scooter for the next day. So far, we've seen nothing for miles, which doesn't bode well for our next planned activity—riding to the villages.

The afternoon rain rolls in. Just before we get totally drenched, we slip into a little bar owned by a Frenchman named Fred, who lives here with his Cambodian wife and little daughter. After a long chat in stumbling English, he offers to lend us a motor scooter, since Takeo doesn't allow motorbike rentals to tourists. We take him up on the kind offer. The next morning, a cousin of Fred's wife brings the motorbike over. So it goes in Cambodia (somehow it always works out), and we're overjoyed to be able to embark on our village tour after all.

We're drawn to this quiet region because we hope to visit the weaving villages Kikuo Morimoto had shown us on our map. A 20-km long strip in the Samrong and Kabas districts, supposedly full of weaving villages. Places with intriguing names like Ampil, Prey Kabbas, Samraong, and Trapeong Svay.

Back in 1995, nearly every household had at least one traditional loom. The most commonly woven item was Sampot Hol Por, or sarongs, with simple and complex patterns in the ikat technique.

We had planned on exploring the villages for two days, which would give us time to stop at any point and follow the clackety-clack of the looms. For the first two hours, we rode along bumpy roads, past rice fields. It slowly dawned on us that we were completely going the wrong way.

We finally made it to the right road, bypassing Phnom Chiso toward Phsar Prey Love.

We made a pit stop in Samraong, then onto Prey Love, south at the fork toward Prey Kabbas.

The only thing we could scarcely find along this whole stretch was looms or weaving.

The usual afternoon rainstorm came along, forcing us to turn around.

Everywhere we went, we were enveloped by the gorgeous Cambodian landscape, its stretching plains of rice fields in every shade of green.

Just then, off the side of the main road, we spotted our first looms. There were one, two, three looms under nearly every house. We planned to come straight back the next day. No detours.



The next morning we have beautiful, sunny weather and head out once again—on the right road this time. We turn right at Phnom Chiso and take the main road. We find one family of weavers after the other. We meet unbelievably nice people the whole day long. No matter where we stop, look, or ask to come in for a moment, we are surrounded by such a warm, genuine friendliness and good cheer. Everyone wants to play host, kids come running to gawk at the foreigners, and older villagers try to



strike up conversations. Sadly, we only know a few words of Khmer, so we resort to stares of mutual admiration. We see ikat-patterned strands of color, stretched on frames and left out to dry in the sun. Intricate, complex weaves and simpler pieces, too. Of course we get offers to buy pieces here and there —and at a fantastic price, cutting out the middleman but still making the weavers a good profit.



On our last planned day in Takeo, we want to check out Angkor Borei and Phnom Da. It's 20 km due east on Canal 15 with the speedboat, and 40 minutes later we're at the base of the Phnom Da temple.

Breathtakingly beautiful, atop a hill with a sweeping view of the surroundings, this 12th century temple is built of red brick on a laterite foundation, reconstructed on the remains of an original Funan Era structure (6th century).

To top off this lovely tour, we decide to visit Angkor Borei, about 3 km away. A few steps from the gangway, the local museum displays historically significant items from the Funan Era. A worthy end to our day.

These days following in the tracks of silk showed us a weaving tradition which is still very much alive and deeply interwoven with everyday life—even if we didn't see any dye-producing plants or yellow cocoons like those in Kikuo Morimoto's village. Presumably the raw materials we saw were imported white silk and chemical dyes.



Phnom Da

From Silkworm to Silk thread

In IKTT Village, silk is being extracted from the yellow cocoon of the silk moth *Bombyx mori*. Unlike the overbred varieties of silk moth whose uniformly sized cocoons are used in the large industrial silk plants of Japan, China, and Vietnam, the yellow (Cambodian) cocoon retains its original shape and color. Kikuo Morimoto has always believed this species to be the closest to its wild ancestors.

Yellow cocoons have been used in silk production for centuries in Cambodia, as well as in Thailand and Laos. The caterpillar of the silk moth is a highly sensitive creature, requiring complete attention and meticulous cleanliness. The silkworms can be affected by insects, stress, noise; even heavy rain—which often lasts for days here—can suffice to kill the silkworm. They require an extremely stable interior climate and unvarying conditions.

Silkworms are bred here at IKTT village year round. I'm proudly shown the new house that has been built to rear the silk moth caterpillars. An airy, open space protected with insect nets. In the center of the room, a wooden shelf supports the large bamboo baskets (also covered with fine-meshed mosquito netting) in which the caterpillars are raised.



The yellow cocoon

The feet of the shelf are placed in water-filled aluminum cans to prevent insects from climbing up and creeping into the baskets. Constant care and attention is needed to keep a batch of worms alive for the full 35-day cycle until their next stage of pupation. One by one, each caterpillar is carefully placed on a prepared bunch of branches to begin cocoon spinning.



Silkworms feed exclusively on mulberry leaves. With the exception of a feeding break while molting into the next pupal period, they eat continuously.



Feeding the caterpillars with mulberry leaves



branch structure for cocooning

On the 33rd to 35th day, the caterpillar loses its appetite, grows restless, and searches for a place to spin its cocoon. Silk moth caterpillars are particularly sensitive in this stage. Within five days, they spin a cocoon to house the pupae developing into moths. On the 45th day, the cocoons are ready for harvesting. In this climate, with mulberry trees in season all year long, there are eight full silkworm cycles per year.

I remember my last meeting with Kikuo Morimoto on the veranda of his house. It was the morning after the Silkworm Festival in March 2017. I had always wanted to know how silk moth breeders know which cocoons are best suited to breed, which moths should be hatched, and above all how they know which cocoons contain males and which contain females. Two other guests, old friends of him, were also keen to hear Morimoto's answer. His explanation was as surprising as it was simple: the first worms to change their behavior and start cocooning are the strongest, and thereby the best suited for breeding. And the question about determining the gender of the worms in the cocoons was resolved just as quickly: the breeder can hear it. They shake the cocoon, and can hear its gender based on its sound, since different-sized moths sound different. In this way, 100 cocoons are selected for breeding; these moths will be hatched from the cocoon and will mate. A new generation is born from each female's 300 eggs.



From Mother to Daughter to Granddaughter

After the cocoons are spun, it's time to extract the precious silk yarn. Water is heated in an iron pot, until the outer filaments of a cocoon begin to separate at 80 degrees Celsius. The threads from 30-50 cocoons are gathered together and reeled at the same time. The count of these bundled threads determines the fineness of the resultant silk yarn. The unwound strands of a thread are rid of any impurities before the next processes of degumming and twisting.

The end-product, the silk thread, is then ready for the upcoming dyeing and weaving processes.



© Susan Boger Stem / Tribal Trappings 2010



The different layers of cocoon have several different uses. The outermost layer contains impurities from the silkworm's cocooning process, while the innermost layer is the best quality. In order to make silk strands soft and pliable for dyeing, they are rinsed in a bath of "banana tree ash," which primes the fibers to receive color deep within their fibrous structure.

- Red** – from the resin nests of the stick lac beetle (*Kerria lacca*)
- Yellow** – from the bark of the prohut tree
- Blue** – from indigo plants (*Indigofera tinctoria*), harvested before their flowering time
- Brown** – from coconut shells (*Cocos nucifera*)
- Grey** – from chopped lychee tree branches (*Litchi chinensis*)
- Black** – from the leaves of the Indian almond tree (*Terminalia catappa*)
- Orange** – from the seeds of the annatto (*Bixa orellana*)
- Green** – from over-dyeing yellow with indigo

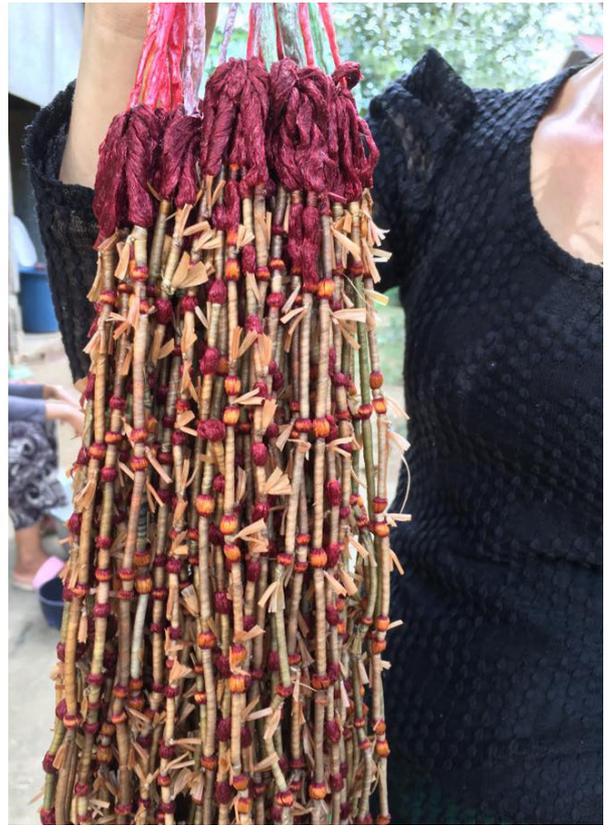
It should come as no surprise that the natural dyeing process is far more labor-intensive than chemical dyeing, where everything is done with a simple dip.

There's an old dyer's proverb: *"Dyed in a hurry will lose colour quickly!"*

But whereas chemical dyes lose color and fade within ten years, naturally dyed fibers only start to reveal their true beauty at this time. After ten years, a red will be deeper and more lustrous than it was at the beginning. Such a process requires patience and dedication. These techniques and secrets are handed down from generation to generation, from mother to daughter. And they're alive again today.



Master dyer Om Lay in the dye kitchen



Some afternoons, the task of dyeing calls for more than two hands. The hours spent assessing the quality and depth of each color are also prime time for catching up on village gossip.

Ikat

The art of ikat dyeing and weaving can be found in a number of different cultures and regions throughout Asia, including mainland Southeast Asia, China, Japan, India, and parts of Indonesia such as Sumatra, Bali, Sulawesi, and Java.

The word ikat derives from the Malaysian “mengikat” and means to tie or to bind. In Thai, ikat is called Mat Mii: Mat meaning “to tie” and Mii meaning “long thread.” Mat Mii and ikat both describe the process of binding threads with a water-resistant material before dyeing occurs.

There are several different techniques of ikat weaving: warp ikat, weft ikat and double ikat.

The following description refers to the weft ikat woven in Cambodia.

The Cambodian ikat is a weft ikat woven of silk on a multishaft loom with an uneven twill weave, which results in the weft threads showing more prominently on the front of the fabric than the back. In weft ikat it is the weaving of weft yarn that carries the dyed patterns. Therefore, the pattern only appears as the weaving proceeds. Weft ikats are much slower to weave than warp ikat because the weft yarns must be carefully adjusted after each passing of the shuttle to maintain the clarity of the design. (The Craft Atlas)

Weaving an ikat piece is a multi-step process. First, threads are prepared, degummed, and twisted; then, the weft threads are stretched on a special frame for binding. The number of threads bundled together depends on whether the finished piece is to have an intricate repeating pattern or a complex picture, for instance of Apsara dancers or of the story of the Buddha.

It's significantly more challenging to depict such figurative images, as these exquisite woven pieces rarely use the same pattern more than a few times in the entire textile.

The binding technique is similarly complex and labor-intensive, and the designers who let their imaginations flow into the woven image are true artists, their achievements all the more remarkable since there are no templates involved.



Dyeing the weft threads involves a number of steps depending on how many colors are used. Areas which are not being dyed in a particular color are bound (reserved) with a liquid-resistant material (at IKTT, banana fiber strips are used for this process) to prevent color bleeding in from the surrounding, exposed areas. These reserved areas are then untied, and new bindings are wrapped around other areas to protect them from the second dye bath. This process is repeated as needed, depending on the number of colors to be used. Some colors are accomplished by over-dyeing the same areas with different dyes.



For example, green is achieved by over-dyeing yellow sections with indigo or a blue dye. Between the removal of silk threads from the binding frame and the end of the dyeing process, it is absolutely critical to keep track of the order of threads. After the final dye bath, the weft threads are wound onto spools in a specific order and divided into sections based on the design; they are then woven as weft into the warp. The image that will eventually be seen on the woven piece is already present in the spools.





At the loom, each motif from the designer's imagination is realized, weft thread by weft thread, bobbin by bobbin.

A subtle blurring of color between neighboring areas is characteristic of finished ikat images, resulting from the fact that individual color regions can't be protected 100% by the resist-dye binding process. The designer and the weaver work together as a team. Not every weaver designs, and not every designer weaves.

"I call it, the memory of the hand."

In the midst of all my experiences in Cambodia concerning ikat and silk, I found one key detail missing: where does ikat actually come from? And how did it get to Cambodia?

In her book [Traditional Textiles of Cambodia](#), Gillian Green writes on this topic:

While in other parts of the world circumstances of custom or climate have preserved ancient textiles, none appear to have survived in Cambodia. Neither have any pseudomorphs been identified on archaeologically excavated bronze artefacts as they have from sites in Thailand and China. Fortunately, representations of their costumes are meticulously depicted on Khmer stone and bronze images, these media being sufficiently durable to survive the rigours of climate and ravages of insects visited on the textiles themselves.

Sculpted images – deities, semi-deities and mythological animals of the Hindu pantheon; Khmer royalty with their soldiers and retainers; the Buddha and bodhisattvas – all wear elaborate costumes and ornaments. Narrative bas reliefs at the Bayon portray the costumes of Khmer people of the lower strata of society including slaves, peasants and non-elite “free” people engaged in craft activities supporting the court, and even at leisure.

In addition to costumes, twelfth- and thirteenth-century bas reliefs show that textiles were also used to fashion parasols, fans, window blinds, curtains, upholstery and decorative wall hangings.

The sculptor-craftsmen seemingly delight in meticulously recording the patterns and details of pleating, knotting, looping, wrapping and layering that went into the costume construction.

[...] In the post-Angkorian period, the mid-fifteenth century onwards, information about silk weaving in Cambodia is hard to find but by the mid-nineteenth century comments by a Western official do indicate some silk production activity there.

[...] By the mid-nineteenth century, however, extant textiles with a clear provenance at last make an appearance. In 1856 a Royal “Gift of Mutual Respect” from Siamese monarch King Mongkut and the Second King Phra Pin Klao, were presented to the American President Franklin Pierce. The gift included three silk weft hol-patterned silk sampot chawng kbun hipwrappers and a similarly-patterned silk shoulder cloth. These textiles demonstrate a level of sophistication in silk weft hol weaving of the highest order in both technique and design. The confidence and skill displayed in the realisation of these textiles’ patterns speaks to a highly-developed and refined ability prevailing for a significant length of time previous to the mid-nineteenth century.

In addition their uneven twill groundweave, a technical characteristic almost exclusive to Cambodian weavers, strongly asserts the origin of the weavers. Interestingly, this technical feature has continued uninterrupted in Cambodian silk weft hol weaving to the present, 150 years later.

Kikuo Morimoto presented similar remarks in his [1995 UNESCO report](#):

Actually, the origin of Ikat works in Cambodia are uncertain. However the vestiges of the Angkor Empire at Angkor Wat or Bayon offer some interesting clues. On the bas-reliefs depicting the daily life of the people during that time or Apsaras (celestial maidens) with mysterious smiles, I have noticed that there are costumes with floral motifs or geometrical border patterns that very much resemble the Indian Ikat called Patola of the same period.

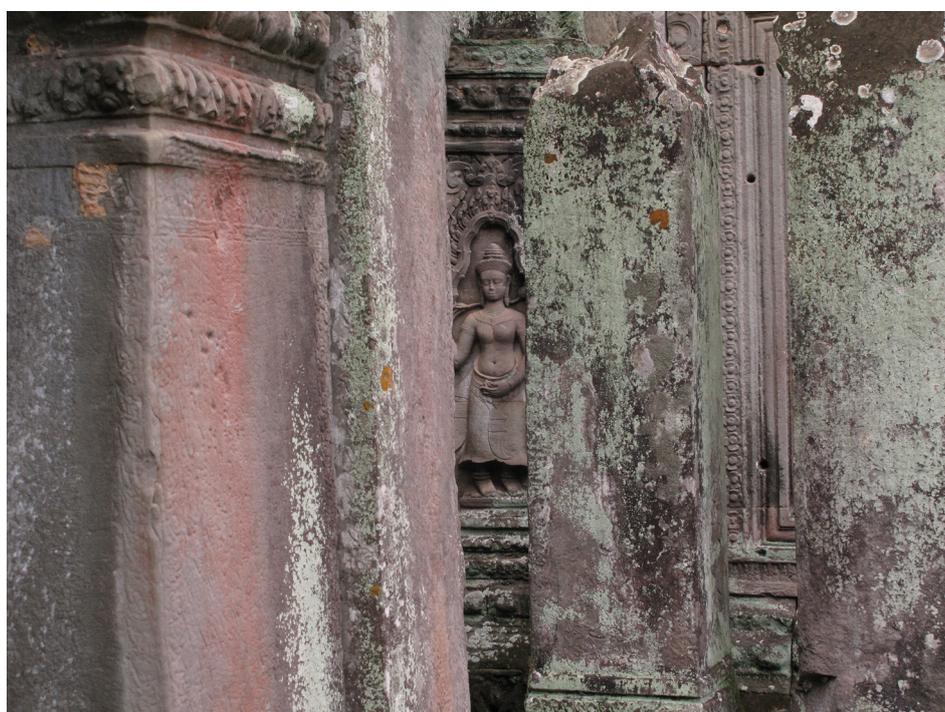
The maritime trade within the vast area stretching from India to China had been going on since the first centuries. This brought about much of Indian culture to Southeast Asia and resulted in the birth of the Indianized countries in this region, such as Funan in the 1st century and Champa in the 2nd century in the southwest of the Mekong delta and Shrivijaya on the Malay peninsula. (Ishii 1985) The Patola was one of the important products that was traded within this area.

Some historical records mention that the Patola was exported from India to the Malay peninsula in the 13th century and further passed onto the dignitaries of Indonesia. (Desai 1988) There are records of textiles being imported from India by the Angkor Empire. (Chou 1992) I would not be surprised if it was the Patola that was brought in and appreciated as a symbol of authority by the royalty. If so, it would be likely that the Sampot Hol has its roots in the Patola and subsequently developed its patterns and techniques through the centuries to become a uniquely Cambodian piece of art. The difference between the two fabrics is that the Sampot Hol is weft-faced twill woven while the Patola is plainly woven.

Cornelia Bagg Srey writes in her book [A Pocket Guide to Cambodian Silk](#):

[...] We do not know with certainty when the Khmer first began making silk. We do know that the people of the Mekong Delta believed to be their forbearers (sic) were engaged in international trade by the beginning of the Christian era, as evidenced by Roman coins and Indian commercial seals found at the ancient port of Oc-Eo. What followed was more than a millennium of Indianization, and it is generally accepted that the dyeing and weaving techniques used in Cambodia today, and many of the patterns, came from India. There were other kingdoms in Southeast Asia that underwent a similar Indianization, and they influenced Cambodian silkmaking, too.

Reports on the import of Indian textiles can likewise be found in Chinese emissary Zhou Daguan's notes on the court of King Sindravarman, where he carried out a government mission in 1296-97.



Prea Khan Temple

Silkworm Festival, March 2017

Shortly after returning from Cambodia in Summer 2016, I had already booked a flight for next March to be able to experience a one-of-a-kind event: the Silkworm Festival.

It has taken place annually since 2008, aligning with the first full moon of spring.

In the weeks leading up to the event, the entire village is in full preparation mode. For two days, they will celebrate and honor the silkworm, whose cocoons provide silk and with it the modest wealth of the village. Evidence of ceremonies honoring the silkworm can be found in ancient Chinese documents.

For a devout Buddhist, it's difficult to reconcile the killing of silkworms in order to harvest their thread with the Buddhist faith. To come to term with this, the festival and ceremony were founded.

Once a year, weavers and designers and their families take center stage. They get to wear the artful silk creations they've been making all year long, presenting them on the catwalk to an admiring audience. A stage is built, festival tents are pitched, and food is cooked for many people. All the villagers, from children to the elderly, are involved.

The shuttle bus brings us from Siem Reap's IKTT shop to the village. Many of Kikuo Morimoto's old friends have traveled here from Japan to celebrate with him and the villagers. A hair and makeup team, friends from Siem Reap, take care of styling, and models review the fashion show choreography they've been rehearsing for weeks. It's a singular atmosphere.



In front of Morimoto's house, guests present their gifts to him and take group photos. Makeup artists and stylists put their finishing touches on the models.





The audience takes its place under the large canopy. After a greeting by Kikuo Morimoto, the music plays, the curtain rises, and the show begins. The time has come to present the fruits of weeks of rehearsal to the audience.

Weaver-women and girls of all ages strut the catwalk, displaying artfully draped textiles that have been made in the village over the past year. Among them are ikat wall hangings (Pidan), which often take months to produce. The mood is unique.

Kikuo Morimoto delivers a few touching words of thanks, and the whole group, the master and his team, take the stage for a group picture. The guests are invited to the tables, where Cambodian delicacies await them as the daylight fades and the stage becomes a dance floor.

The electricity generator is working longer hours than usual today.





The sound engineer at work



The fashion show starts with the youngest girls





The Next Morning: The Ceremonies

A group of monks emerges from the nearby temple into the village to perform the ceremony. It's a quiet, tranquil morning. Everyone has the day off work, and solemnly dressed villagers await the beginning of this little celebration. A handful of festival guests who are staying the weekend are invited to participate, too.

The stage, yesterday's catwalk, is now festively decorated for this ceremony in honor of the silkworm. This is the first time I've had the chance to take part in a Buddhist ceremony and I'm deeply moved to share these precious moments with the villagers. An unforgettable experience.



Through all the amazing encounters this weekend, many new contacts have been made between textile lovers from different countries, all of whose passion for silk has led them to Morimoto's village. A crucial figure behind all these activities is Ms. Midori Iwamoto, who has lived in the weaving village for three years and works closely with Kikuo Morimoto.

Back to IKTT Weaving Village, September 2017

Back to this wonderful place. In the weeks leading up to this trip, I thought a lot about what it would feel like to return to this place that's meant so much to me. How it would feel without Kikuo Morimoto, who passed away in early July after a long illness.

Kenji Yatsu, the documentary filmmaker who made "Asian Beauty—Reviving Khmer Ikat Silk. A Japanese Man's Quest" gave me the sad news the day it happened. An immeasurable loss.

In the village:

It's lively and bustling as always. A group of Japanese students is sitting on the veranda, waiting patiently for the start of the workshop they've traveled here for this weekend. The connections to Japan are as strong as ever, and there are always groups of students coming to learn first-hand about the history of this village and its techniques of weaving and dyeing.

A group of children, dubbed the "Paint Group" by Morimoto, sits around the table on the veranda, drawing plants and flowers on mulberry paper. This Paint Group was always very important to Kikuo Morimoto. Village children of all ages sit together, leaf through books on botany and art, and paint whatever strikes their fancy. This was deeply rooted in Kikuo Morimoto's own personal history—as a young man during his apprenticeship, he would spend his free time browsing through his master's library, finding motifs he wanted to paint and thus developing his own signature style of yūzen art.

The Paint Group is about sharing the joy of painting, but it also allows for the discovery of young talent for the IKTT Institute.



In the mill next door, weavers are spooling, binding, dyeing, weaving, and developing new patterns and colors. The weavers' children are close by. They play near their mothers, who can keep an eye on them this way, or sleep in the hammocks hung between the looms. Children are at the heart of everything in the village. They are the future, and when they're not learning in the school for surrounding villages, they're here, close to their parents. While playing, they learn what may one day be their chosen trade, should they decide to remain here and study the crafts of weaving and dyeing.

Kikuo Morimoto's guiding principle was always this:

„Tradition is not something to be preserved. Tradition is something that has to be created.“

The “Project Wisdom from the Forest” village is still a lively place. Kikuo Morimoto’s house has scarcely changed since his passing. It remains an open house. People sit together, talk together, eat together. It’s a house where every guest is welcomed and served a home-cooked meal, where there are always cats running around somewhere, children wandering in and out, and the dog, Tiger, nibbling leftovers off the plates. The doors to Kikuo Morimoto’s rooms are open. Sou Sopeak opens them each morning and shuts them at night. There’s a small area set up in Morimoto’s memory, in accordance with Buddhist tradition. It’s a place for the many people who knew him to say their farewells. Kikuo Morimoto remains a part of everyday life, and his memory lives on.



The soul of silk, it lives here. In this house, in this village.



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IKTT in Siem Reap:
No. 456, Viheat Chen Village, Svaydongkum Commune,
P.O Box 93025, Siem Reap, Siemreab-Otdar Meanchey, Kingdom of Cambodia

According to the change of regulation, IKTT was renamed as
Innovation of **Kh**mer **T**raditional **T**extiles organization (IKTT).

IKTT Weaving Village “Project Wisdom from the Forest“
Chob Saom Village, Peak Snaeng, Angkor Thom District,
Siem Reap, Kingdom of Cambodia, postal code 17603

Sources:

Gillian Green, “Traditional Textiles of Cambodia“, 2003
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Interviews and personal conversations from 2013-2017

www.iktt.org	new website (Japanese)
http://www.ikttearth.org	website in English
http://iktt.esprit-libre.org/en/	earlier website, english version

Recommended books:

Junji Naito: IKTT - The Tree of Life
Kyoto, Shufunotomo, 2015, ISBN 978-4-07-400892-6

Cornelia Bagg Srey: A Pocket Guide to Cambodian Silk
Published by SINGHA BOOKS, 2016, ISBN-13: 978-069285302-3



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