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FROM THE SOUL OF THE SEA



In a small corner of the Mediterranean, a centuries-old tradition of weaving fronds retrieved from the sea still exists. Filaments produced by a rare mollusk are conjured into a glimmering thread called sea silk and spun as tenderly as if by mermaids

The fingers move delicately and patiently between the threads stretched on the loom. It is almost like watching a dance. This is a weaving technique, known in the Sardinian tradition of Sant'Antioco as *a punt'e agu* (like a needle), where the weaver's fingernail is used as if it were a needle, lifting the warp threads to allow the weft to be threaded through in order to create the decorative pattern. When you hold the finished piece up to the sunlight, you are struck by the golden shimmer of the work. This is because it has been woven from byssus.

The fascination of sea silk, also known by its other name, byssus, lies in its gleaming color and its history and production. The fiber comes from the tufts of filaments (the beard) grown by the *Pinna nobilis*, a species of bivalve mollusk that was once fished for its shell. The fibers are formed by the secretions of a gland

An antique *Pinna nobilis* shell from the Pes sisters' workshop (left). Three shuttles of thread (above, from right to left) show the natural color of the sea byssus, the golden thread after it has been treated with lemon juice, and a version that is a coppery bronze color following a different natural process



The Pes sisters, Giuseppina, left, and Assuntina, at work on an altar cloth for Iglesias Basilica (above). They use traditional weaving methods with linen threads as well as authentic sea silk, and adopt a noted Sardinian aesthetic of stylized figures in their depictions of a man and woman, shown on this tapestry (opposite). Tiny coral red or black pearls are sometimes found inside the shell of the mollusk (right), which is now an endangered species. Accordingly, the sisters use only antique byssus



inside the shell and they serve to anchor the mussel to the seabed. The secretions harden on contact with water to form fibers that can be almost eight inches long; when retrieved, and after a laborious cleaning process, these filaments become silky and lustrous, with tones ranging from gold to bronze.

The *Pinna nobilis* only lives in the Mediterranean, among the beds of *Posidonia oceanica* – a seagrass species that is also endemic here – and can grow to four feet in length. For this reason, sea silk production has developed exclusively in this area. Although its origins are unknown, they stretch back to antiquity. “We know nothing about how sea silk was used then,” explains Felicitas Maeder, a researcher and leading expert, who currently heads “Project Sea-silk” at the Natural History Museum in Basel. Her aim is to reconstruct the history and to draw up an inventory of the surviving traces of this Mediterranean cultural legacy. “The earliest and only proof that sea silk was used in antiquity is a fragment dating from the fourth century, which was found in 1912 in a woman’s grave at Aquincum (modern-day Budapest). Unfortunately, the fragment was lost in the upheavals of World War Two. The oldest existing sea silk artifact is a knitted cap dating from the fourteenth century and found near the basilica of Saint-Denis, Paris.”

It is difficult to put a precise date on the earliest production. In classical times, the term “byssus” was used to refer to a variety of fabrics, such as silk, cotton, and linen. “Byssos” (in Greek) or “byssus” (in Latin) was a fine linen used to wrap Egyptian mummies, for example. “Sea silk was already known as a textile, but it was never called byssus,” says Maeder. “The term was given different names in the different languages spoken around the Mediterranean.” It was only in the sixteenth century that the tuft of filaments growing from the *Pinna nobilis* became known as sea byssus, thanks to the naturalist Guillaume Rondelet who first coined the term because the quality of the filaments resembled that of linen byssus.

The largest manufacturing centers were in southern Italy, particularly in Sardinia and Apulia, but production dwindled from the mid-twentieth century, due to the shortage of *Pinna nobilis* on the seabed as a result of bottom trawling and pollution of its natural habitat. The species has been under EU protection since 1992, with a complete ban on gathering it either for consumption or for its fibers. This textile art has therefore become a rarity, but in Sant’Antioco it is still alive and handed down from one generation to the next thanks to the passion of weavers such as the sisters Assuntina and Giuseppina Pes. For 35 years they have hand-woven





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stunning items in silk, linen, wool, cotton, and other natural fibers using the local technique, a *punt’e agu*. The two sisters are a font of knowledge for sea silk production techniques, which they learned from Efisia Murrone (1913-2013), the last pupil of Italo Diana (1890-1967), the master weaver who set up a school and an adjoining workshop in Sant’Antioco in the 1920s, although both were closed at the start of World War Two. As well as weaving wool, linen, and cotton on the loom, Diana revived and taught the traditional craft of weaving sea silk. He sourced the byssus himself, buying it from the fishermen who collected *Pinna nobilis*, which was still permitted at the time, in the waters near Sant’Antioco; he removed the beards and then gave the rest back to the fishermen to sell or eat.

“We grew up in an environment where local traditions thrived,” recalls Assuntina Pes. “To start with, I was just curious about weaving, but it’s been my passion since I was about 10. Coming home from school, every day I would walk past a woman working on the loom. I always stopped to watch her. I got the chance to learn how to weave in the early eighties, when a pilot project for ISOLA [an institute to promote local crafts] got underway. The project was promoted by the Sardinian regional government to safeguard and develop local crafts and trades. In 1984, together with other young weavers, I started a cooperative, which my sister Giuseppina joined a little later. When we met Efisia Murrone, she taught us how to work with sea silk. She taught us everything she had learned from Italo Diana. Now it is our turn to pass on this knowledge to the younger generation.”

The Pes sisters work with one-hundred-year-old *Pinna nobilis* byssus, which they were given directly by Murrone and by Diana’s daughter, Emma. They follow the exact same hand movements and age-old techniques as the maestro’s school. (“We made a promise to Efisia and Emma that we would not let this ancient art die,” the sisters say.) First, the unprocessed byssus



is gently rinsed in the sea (the movement of the waves cleans it naturally) to remove impurities such as sand and shells. Once the beard is reasonably clean, it is washed in fresh water and laid out on cloths to dry in the fresh air. When dry, any remaining impurities are removed using a fine comb or tweezers. The next step is to card the filaments using a small carding comb with very fine steel teeth. The fibers are then separated, one by one, and spun using a small wooden spindle. At this stage the sea silk is ready to be woven. In order to produce that beautiful golden color, after spinning the yarn is immersed in lemon juice for a few hours and then washed, dried, and combed again.

Among the weavers of the next generation is 34-year-old Arianna Pintus from Carbonia. Sitting in her workshop, *Sa domu de su linu* (the home of linen), in the medieval village of Tratalias near Sant'Antioco, she remembers how, as a girl, she was fascinated by the world of textiles. Now she continues the tradition of weaving sea silk, using the fibers of the *Atrina pectinata*, a mollusk that breeds in the waters of the Indian and Pacific oceans. She organizes deliveries of the filaments to Sardinia. "I became interested in the world of weaving as a way of retracing my own roots and rediscovering ancient Sardinian culture and knowledge. This is how I became fascinated by byssus. It's part of my own culture since my ancestors came from Sant'Antioco," Arianna says. "After extensive research, I discovered that the byssus of the *Atrina* was being thrown away. This gave me the idea of using it for weaving, although it does not have the same potential as the *Pinna nobilis*. The fibers are shorter, finer, and more difficult to work. It takes time and a delicate touch." The manufacturing process, from cleaning to coloring (using lemon juice), is similar to that for *Pinna nobilis*. "It's a way to keep the tradition alive, while not breaking the law. Otherwise, I would have had to give up and wouldn't have been able to pass on this knowledge."

It is fascinating to watch Pintus embroidering on the loom, using the finger technique of *a mostr'e agu*. She makes wall hangings and other distinct and original items using her own homespun linen. The designs she uses are inspired by ancient Sardinian culture (trees of life, female figures, animals) and by her own feelings for nature. "Weaving is, above all, a form of introspection," she says. And when she bends over her loom, it is as if she is entering another dimension, one in which the threads are the protagonists. Linen (the earth) and sea silk (the ocean) come together in an imaginary dance of the elements, representing life itself. ♦

Translated by Lucinda Byatt



From top: Arianna Pintus using the technique *a mostr'e agu* (literally: "like a needle") to weave a design on a frame using just her fingernail; wooden spindles holding yarn ready to be worked; the golden fibers of byssus after cleaning and lightening in lemon juice



Opposite page, top: embroidery designs representing the tree of life, in lustrous byssus, at Pintus's studio. A keen exponent of traditional crafts, Pintus uses linen made from flax she has grown herself for the canvas. The tapestry is made with byssus

harvested from the *Atrina pectinata*, a mollusk from the Indian and Pacific oceans that is not endangered. Bottom: the "beard" of tendrils that holds the *Atrina pectinata* to its seabed home. Pintus carefully combs the fibers before separating them