



Mapping Shared Threads: Knowledge Exchange as a Strategy against Craft Extinction

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Abstract

In recent decades, fast fashion, increased automation, and the outsourcing of production have heightened the risk of loss of intangible cultural heritage, valuable local customs, and knowledge preserved in crafting practices. However, this sparked a counterwave of people who value uniqueness, quality, and slowing down, without denying the availability of technology. Focusing on the exchange of information embedded in weaving products across the ages, this paper argues that community engagement and participatory approaches can help revive and sustain practices and craftspeople who fall short of state priorities and face extinction in the coming generation. By mapping the recurrence of concentric diamonds in flat weave across the globe and analyzing instances of information exchange regarding technology and materials, this research shows that there is solid historical evidence of using the latest technology and communication channels to keep the craft of weaving alive and relevant through innovation and local interpretation. The interdisciplinary investigation uses digital visual analysis and mixed methods, including analytical approaches on graphic content, comparative and interpretative methods, and practice-based knowledge. The visual data displayed on the map compiled in this study elicits graphic commonalities beyond borders and raises questions about transmission, influence, innovation, as well as appropriation and ownership. The questions are addressed by comparing literature from the perspective of the production of culture: distribution, consumption, and ownership of weavings. It then analyzes the relevance of exchange routes and of synchronous means for the parallel development of techniques and narratives. The findings reveal that moving from acting in isolation or from a top-down delivery to a community-led method of learning and growing, utilizing digital platforms, can bridge physical divides and bring together craftspeople who already have so much in common, from techniques and stories to struggles and challenges.

Keywords

Weaving technology; weaving motifs; weavers; living heritage; community learning.

Introduction

On a study trip in 2008, I first realized with certainty that folklore motifs were not isolated symbols owned and occasionally used ideologically by a specific nation. I had had the intuition before, during my travels, but that trip sparked something more. I found myself in the heart of the Swiss Alps, in Scharanz, in front of a red concrete house built by our teacher, arch. Valerio Olgiati, covered in molded hexafoil roundels. Upon inquiring, he told me that the client was very attached to a wooden chest his grandmother had kept in the house where he spent his youth. That chest, similar to those in Romania and to the wooden gates of Maramureş, was covered with a composition of hexafoil roundels – symbolizing different aspects of hope and rebirth. The architect took that symbol and carved it into the concrete molds. I was not only struck by the similarity of the discourse but also by the meaning-making and the translation of this meaning from one object to another.

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Figure 1. Artist house and studio in Scharanz, CH. Architect Valerio Olgiati. Hexafoils were carved into the wooden molds for the exterior and interior walls, thus yielding a raised image of the sign. Photo Ilinca Maican.



Figure 2. Wooden dowry chest, part of the Minovici Villa Collection in Bucharest, RO. Different complexities and dispositions of hexafoils. Photo Ilinca Maican.

During my learning journey as a surface pattern designer, I came across this sign in different traditions. The Sun is a powerful sacred symbol in many cultures, taking different guises depending on the material it is used on. The hexafoil is mainly used in carvings: wood and stone, both in the interior realm and in outside structures, and sometimes in painted decorations. In some traditions, it is also linked to the protection and preservation of life force (Harkness, 2024). However, on other types of objects, such as weavings and ceramics, the solar symbol appears in other forms, such as diamonds, lozenges, and Xs. The symbols kept recurring across different traditions and territories, with slight nuances. This motivated me to pay closer attention to whether they were connected at a certain level or had traveled from one area to another through migration or trade.

I chose to focus on weaving patterns partly because of personal affinities and primarily for visual impact. Different crafts appear in our daily lives in varying amounts. Wood

carvings may have been prevalent in the past, but are now confined to sculptures and small objects. Stone and marble carvings have long adorned imposing facades, but have not been extensively decorated since the 1920s. Pottery is likely more spread and intimate in everyday use.

On the other hand, fabrics, be they in the form of garments or interior decorations, have a significant visual impact. Not only do they speak today, in the age of personal branding, of identity building and personal meaning-making, but they have been doing this in one shape or another across the ages. Used as identifiers in battle (ICH CAP, 2013), as status symbols (Adom, 2024; Arnold et al., 2015; Fraser-Lu, 1990), and for tribe identification, fabrics have been all about a common understanding of belonging and differentiation. Moreover, textiles and weaving have shaped the concepts and identifiers for our languages themselves. For the Eurafrikan Mediterranean, the etymology of “text” comes from the Latin “tessere”, meaning the act of weaving. Buddhist writings are named for the action of “stringing together”, known as “sutra” (Dhamija, 2015).

The general investigative topic is the relevance of exchange between crafting communities that are not in direct physical proximity to one another. The first question guiding the current research is whether exchanges between distant communities practicing a similar craft are relevant and can be fruitful in addressing shared contemporary challenges. Have such exchanges been successful in the past? What are the opportunities for such exchanges today, and what risks do they entail?

In recent decades, fast fashion, increased automation, and the outsourcing of production have heightened the risk of loss of intangible cultural heritage, valuable local customs, and knowledge preserved in crafting practices. However, this sparked a counterwave of people who value uniqueness, quality, and slowing down, without denying the availability of technology.

This paper argues that crafts are among the cultural manifestations that connect people, regardless of their global positioning, whether in the Western or Eastern hemisphere, above or below the Equator. Focusing on weaving, the study illustrates this common ground by mapping the recurrence of a sign – concentric diamonds, stepped and straight-edged – in flat weavings around the globe and charting the variations of the sign across the corresponding regions on a world map. The visual data displayed on the map compiled elicits graphic commonalities beyond borders and raises questions about transmission, influence, innovation, appropriation, and ownership. The questions are addressed by comparing literature from the perspective of the production of culture: distribution, consumption, and ownership of weavings. The study then analyzes the relevance of exchange routes and the possible synchronous means for the parallel development of techniques and narratives.

The findings reveal that, in an age when information and goods travel much faster, farther, and less controlled than before, craft practitioners, whether individuals or communities, have the experience to learn from each other and exchange best practices to help preserve and promote their respective work and traditions. At the same time, celebrating the nuances and diversity, the reasons behind the technical choices, and the variety of discourse or stories attached to each conjugation of form or color helps us remain locally relevant and not succumb to unconscious uniformization.

Basic notions of weaving

From a creation perspective, the production of textiles has yielded one of the most complex productive chains in the world (Figure 3), which, in turn, has served as a model for the automobile industry chain in Japan and for the industrial production of paints (Arnold & Espejo, 2013). From collecting and growing the raw materials to preparing the fibers, dyeing them, and weaving, the chain continues with cutting and sewing and

distribution. The three basic ingredients of a woven product are yarns, dyes, and weaving implements (looms).



Figure 3. Textile production and trading routes
Graphic created by Ilinca Maican with Napkin AI software

Before synthetics appeared in the mid-20th century, natural fibers could be either vegetal or animal in origin. Among the vegetal fibers, we can count cottons, linens (of flax, mulberry, or hemp), and some more regionally typical variations, such as ramie in the Korean peninsula and China, different types of reeds in Northern Africa, abaca, banana, and pineapple plants in South America and the Asian Mediterranean. The essential characteristics a plant must have in order to be made into yarn are: high-quality cellulose in fibrous structures in at least one of its components (stems, leaves, etc) and tensile strength of the fibers.

Fibers of animal origin are mainly wools sheared from various animals such as sheep, camelids, goats, yaks, etc., or silk produced by silk worms. Genetic traits that determine how well a type of wool can be turned into yarn are: fibre diameter (the smaller the micron count, the softer and better draped the yarn), fibre length (the longer the fibre, the more efficient the yarn-making process), and crimp (the more consistency in the waviness of the fibre, the stronger the yarn and the better thermal insulation).

For silk worms (*Bombyx mori*), the desirable traits are increased yield and high silk quality (sheen, tensile strength, texture). The harvesting process from the cocoons is lengthy, labor-intensive, and destructive for the cocoon. It can only take place in regions where the mulberry plant is available for the silkworm's feeding and metamorphosis, as the cocoons are very fragile. Innovations so far have focused on increasing the amount of silk produced by a cocoon and on improving silkworms' resistance to disease. However, the latest genetic research is also aimed at increasing tensile strength by borrowing traits from other species, such as arachnids (Pavithra et al., 2024).

Once collected, the fibers are prepared in different steps. Vegetal fibers need to be peeled from the plant (for stems and leaves) or gathered and separated (for cotton), then treated (to alter the chemical state by rotting or immersing in a special liquid). Animal fibers, too, undergo various types of cleaning, disentangling, and selection of different qualities (older, thicker fibers, softer, newer fibers). In the case of silkworms, the threads are collected by first thermally treating the cocoons, then untangling the single thread spun from each. This can be between 700 m and 1,000m in length. However, even at an early stage, several threads are held together to increase resistance. All types of fibers are subsequently lanced, spun, and wound into skeins, then braided.



Figure 4. -Linen fibers, pigments, and dyes used to color them.

Middle Kingdom (2055-1985 BC) El Assaif-Luxor. Display in the National Museum of Egyptian Civilization, Cairo. Photo by Ilinca Maican

At this stage, the yarns are ready for dyeing. Pigments can traditionally be mineral, vegetal, or insect-based (Figure 4), and as recently as the mid-19th century, chemical. Growing the desired plants and collecting the minerals are the first steps in the dyeing process. This is followed by grinding and fermenting. To ensure pigment transfer, specific mordants are used depending on the targeted fibers. The last step is fixing, either through bathing in specific substances or through exposure to UV rays. Following these first two procedures, the yarns would now be ready for the textile-making process itself. The main actions here are planning the textile (patterning), warping up the threads (tautening and applying the structure), weaving, finishing (sewing off the edges), storing, and guarding the instruments.

Planning the textile used to be transmitted exclusively through observation and the repetition of actions, with results seen only at the end of the process. Some communities used samples of motifs on fragments of cloth or entire lengths of cloth as models for non-repeating sequences (Arnold, 2015). In cases where the pattern is constructed during the dyeing process (as seen in the ikat weaves of the Asian Mediterranean islands), the patterns are planned by wrapping the yarn around bamboo sticks, which then serve as pattern trackers (De Jong & Kunz, 2016).

The process of weaving involves several parallel longitudinal threads called “warp”, which are intertwined with a series of horizontal threads called “weft”. The warp is taut between horizontal beams called “warp beam” and “cloth -” or “breast beam”. Odd and even warp threads are separated by a “shed stick” and a “heddle rod”, which run horizontally and are mobile in the vertical axis. Various tools may be used to pass the weft between the warp threads, such as spools, shuttles, or plain fingers (the latter practiced in Ghana, New Zealand, and Peru).

Body tension looms, still in wide use in South-East Asia, Africa, New Zealand, and South America, are the simplest form of looms and use a back strap of leather, wood, or padded

matting to keep the warps taut. Some variations of these looms combine features of the floor-frame looms and the back strap.

There is also a type of horizontal loom called band or card looms. They have the warps taut between two fixed elements (trees or posts) and use clay or wooden square cards to keep the odd- and even-straps separated. This technique is still used to make Kente fabrics in Ghana and some types of ikat weaves in Bali and South Sulawesi.

Frame looms include horizontal and vertical frame looms, A-Frame, and pedal looms. They are larger structures usually made of wood, which allow for complex, intricate weaving patterns. On the other hand, they are more challenging to set up and less mobile than the card- or body-tension looms. They would be better suited to a seasonal or fixed workshop than to itinerant peoples. Depending on the number of warp threads that the weft goes over and under, the resulting pattern may be a simple weave (1 over, 1 under), tabby (1/3 or 1/4), twill (2/1 or even 4/1), to name just the most common.

Methodology

The interdisciplinary investigation uses visual digital analysis as a starting point. By mapping occurrences of the diamond symbol across territories around the world, the research lays the foundation for a common visual language at a global scale. It then uses mixed methods, including analytical approaches to digital graphic content, comparative and interpretative methods, and practice-based knowledge, to investigate instances of information exchange, parallel pattern development without direct contact, strategies, and the associated risks.

The map shown in this paper (Figure 5) depicts the recurrence of concentric diamond patterns in flat weavings produced by communities around the globe. The patterns are laid over the territories where these communities are found. These sometimes coincide with political boundaries, but, in most cases, are transnational or regional areas. For graphic legibility, in small territories, the graphic extends across the country's entire political footprint.

The diamond and stepped diamond were chosen as search parameters for several reasons. On the one hand, geometric abstract shapes are more versatile as visual systems and as narrative creators than figurative patterns. Secondly, the diamond or rhombus is both a basic shape in weaving and a challenging one to achieve, as shown later in this paper. Thirdly, it works both as a stand-alone pattern, governing an entire piece of cloth (such as the Mexican *huipil*) and in combination with other shapes and patterns.

The data-gathering and interpretation methods began with visual data scraping, followed by qualitative nuance through online catalogs, museums, and academic papers, and a comparative analysis of weaving techniques. In the first instance, visual data was gathered using Google Lens and Pinterest image-matching, with graphic patterns similar to those of Romanian *Scoarțe cu Roate* designs. Subsequently, the intended shapes were specified as stepped and concentric diamonds to broaden the search. This yielded a collection of visually similar images from areas across the globe. The visual data was narrowed down to images with a solid amount of verifiable information, complemented by a balance of archival and contemporary pieces. Following this initial phase and mapping, an exploratory research was conducted on museum catalogs, academic writings, websites, and video content related to each previously identified area and object. Comparative and interpretative methods were used in accordance with Peterson's production-of-culture perspective. This places the symbolic object at the center of a two-way system comprising technology, industry structure, community and organizational structure, consumer market, law, and regulations (Peterson & Anand, 2004).

The initial use of Google Lens and Pinterest image matching is not accidental. Practice-based knowledge shows that these tools are quick and free to use and are a cornerstone for creative individuals, whether active in crafts or just visually oriented. From a virtual anthropology perspective, they are relevant for their reach and accessibility (timeliness and cost). They also provide a large and varied data set. However, the lack of transparency behind the algorithm needs to be acknowledged, and the information behind the images rigorously checked against accredited sources.

An annex to this paper includes all the original images I used for the map, along with as much information as was available on the fibers, pigments, actual weaving technique, provenance, and chronology. The images and their respective information are available online at this address: <https://ilincamaican.com/research>.

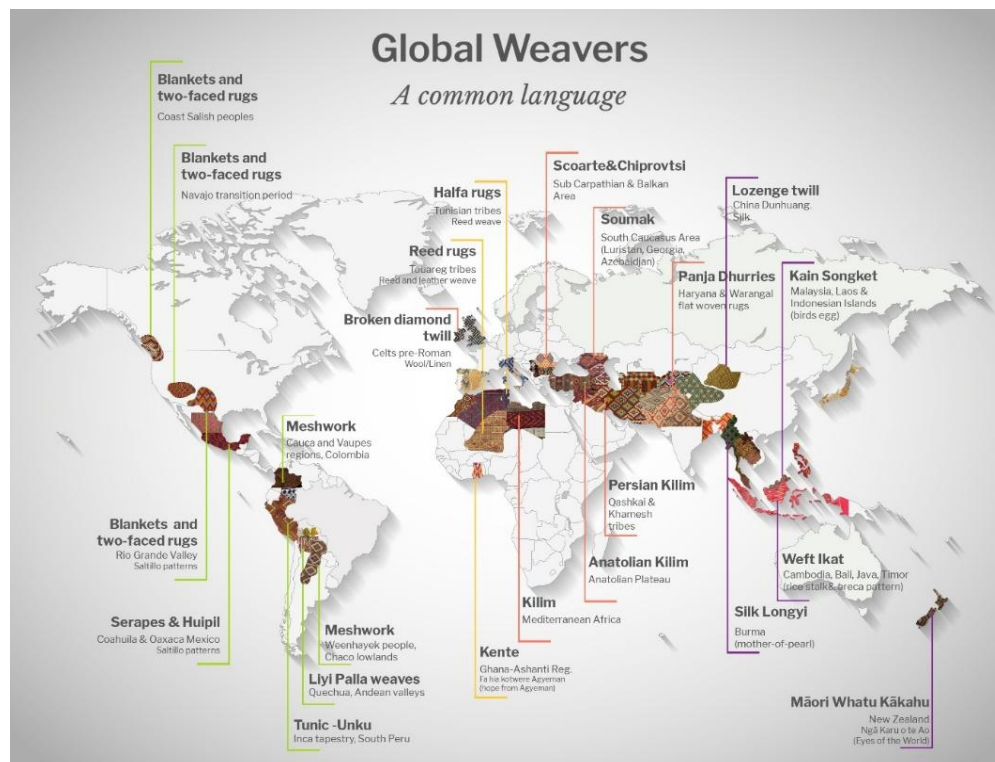


Figure 5. Global weavers map

Instances of concentric (stepped) diamonds in flat weavings around the globe. Map compiled by Ilinca Maican on a world map designed by Freepik.

Findings and observations

The map in Figure 5 is a Mercator (cylindrical projection map) centered on Europe and the Atlantic Ocean. This, in itself, is worth mentioning as an example of a Eurocentric approach. The availability of free or inexpensive digital graphics depicting a 2D map centered on the Pacific Ocean is quite limited compared to those depicting Eurocentric maps. In this case, it is a conscious personal choice that complements the starting point of the image search, i.e., the Romanian *Scoarțe cu Roate*, which is right at the center of the map. On this world map, 47 shapes roughly correspond to countries or community territories. There are 6 instances in the Americas, 13 in Europe and Africa, 22 in Asia, and 1 in New Zealand. Each cluster of territories sharing a weaving technique and its denomination is labeled with that particular technique and the population of weavers or the area that produces it.

The highest density and variety can be observed on either side of the Tropic of Cancer: in Northern Africa, Southern Europe, the Balkans, Anatolia, Central Asia, the Northern Part of the Indian Peninsula, China, and Japan. With the exception of the Chinese and Japanese rugs, which are made of silk, and the Touareg and Tunisian rugs, which are made of a mix of reeds and leather, most other rugs are made of wool. The Asian Mediterranean also has a high density of instances, which are produced in silk or cotton. In the Americas, instances develop longitudinally, mainly in mountainous regions. Some of the instances are made of wool, while others are made of cotton. Two notable remote territories are the Ashanti of Ghana, who weave colorful cotton, and the New Zealand Maori, who weave muka fiber from flax leaves.

The fact that this map is not a complete, exhaustive cartography of every community and territory that produces a similar pattern needs to be addressed. Although such a comprehensive approach is not the main aim of this case study, we acknowledge that the data presented here are subject to the limitations of time and internet resources available. Using the current map as a starting point, one of the research projects I have in mind is a collaborative 3D digital map in which individual craftspeople and communities can upload their own instances of the concentric diamond weaving pattern.

In the following sections, there are examples of periods and of how weaving technology traveled and was exchanged across certain territories.

Historical trade routes

Examining the technological changes that occurred along the Silk Road is relevant. First named *die Seidenstraßen* by Baron von Richthofen in 1877, they described how territories from the Pacific Ocean to the Mediterranean and from the Red Sea to the North Sea were connected by trade routes and an extensive infrastructure of settlements, communities, and organizations.

Regarding the current focus of this research, concentric diamonds have been a weaving pattern since at least the 8th century BC. Depending on the technology available in the respective communities, i.e., initially body tension and card looms, only *broken diamond* or *lozenge* patterns were available, which appeared to have more rugged or stepped edges (Figure 6, image on the left). They can be seen on the map as Celtic territory in the British Isles, but were also present in Scandinavia and early China. Starting in the 5th century BC, in both the Roman Empire and the Warring States of China, the fixed-frame loom, anchored at both warp ends, became widely used. As Martha Hoffman demonstrated in her 1964 book “The Warp Weighted Loom”, this allowed for longer floats, which in turn meant that the weft could span more than two warp threads, and thus allowed for symmetrical diamond (Figure 6, image on the right) shapes. This is a noteworthy example of technology that allowed for different visual representations.

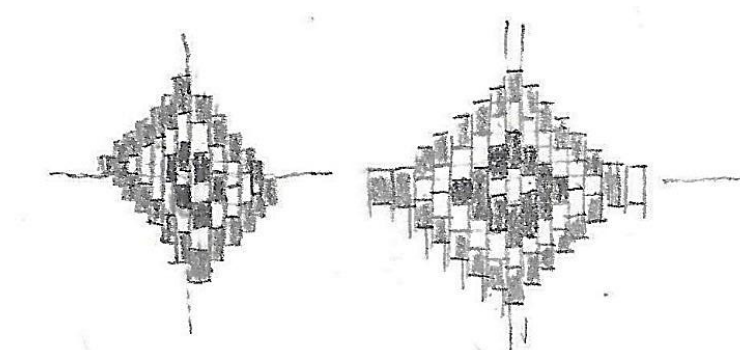


Figure 3. Broken diamond and symmetrical diamond
Weaving detail by Ilinca Maican

In his 2015 study, Zhao Feng shows how weaving, loom types, and pattern structures (repeating sequences) evolved through the exchange of knowledge, whether commercial or diplomatic, in ways that benefited both China and other territories along the Silk Roads (Feng, 2015). He refers explicitly to *Jin*, a warp-faced compound tabby; *Twill Jin*, a warp-faced compound twill common in Warring States China (5th-3rd century BC); *Taquette*, a weft-faced compound tabby first discovered in Massada (Israel); and Central-Asian and Chinese *Samit*, a weft-faced compound twill. The use of three different types of looms allowed the evolution from patterns that repeated only in the warp direction (vertically, one under the other) to those that repeated in the weft direction (horizontally), and finally to those that repeated in both warp and weft directions. The first complex loom, which allowed for warp-repeating patterns, was the multi-shaft loom. The number of shafts and treadles was always equal, and only allowed warp repetition. The discovery on the Mediterranean East Coast of the Pick-up 1-N Systems enabled the control of multiple cords by a single thread, forming a pattern unit for the warps. Thus, this allowed for the weft repeat. The last type of loom to be perfected in the 6th century was the drawloom, which uses both a draw-boy and the 1-N system and permits repeats in both directions.

Regarding the end of the Middle Ages, Giorgio Riello analyses the availability of fibers across different regions worldwide. He proposes “spheres of textile production in the early modern period” (Riello, 2015). He identifies the spheres of European wools, Chinese Silks, and Indian cottons from the 1300s to the 1800s. Considering climatic relevance, preparation process difficulty and length, manufacturing costs, and the possibility of changing the aspect according to culture, fashion, and program, Riello argues for the eventual success of cotton as the most versatile fiber, which has enjoyed and continues to enjoy the greatest success among natural fibers.

Linen, although widely available in its various forms (hemp, flax, ramie), was produced in Europe, China, Japan, and the Mongolian Empire. It was mainly used in peasant households or for higher-traffic undergarments, but it offered little in the way of structure, drape, or resistance to crinkling. Furthermore, the lengthy production process, which could take up to 18 months from harvest to woven fabric, made linen a less successful fabric. It is interesting to note on Riello’s evaluation that what made linen less successful was not its lack of versatility or availability around the globe, but the lack of economic viability, paired with the less glamorous aspect. Whereas linen’s lengthy process is similar to that of silk, its aspect does not match the smoothness and luster of silk. Moreover, the factual monopoly China held over the prime matter and the technology for a long period gave silk an aura of desirability and high economic value.

The other three types of fabrics Riello addresses had more localized spheres. Wool remained, from the 1300s to the 18th century, largely a European product, despite some production along the Eastern Mediterranean Coast, mainly for local use. Aimed at regions with harsh climate conditions, it was used for insulation in cold weather and to protect against wind. However, it was not until recent years that its moisture-repelling qualities and breathability have been harnessed. In the past, this essentially closed the wool off to warmer climates. With the opening of routes over the Atlantic, sheep were brought to North, Central, and South America. In the latter, they joined the extant weaving traditions of the local Inca peoples, who used camelid hair to spin yarns.

If we focus on the other two Mediterranean regions (the American and Asian), we will observe an interesting mix of available fabrics being developed besides cotton, which is widely grown in these regions. Cotton had been the main fiber for the Pueblo Indians in the southern Regions of North America until the introduction of *churro* wool by the Spanish. The latter also brought the technique of indigo dyeing from Mexico to the Rio Grande Region. The Pueblo and Navajo peoples adapted their vertical and body tension looms to weave wool by the end of the 17th century (Fisher, 1994).

In the Andes region, the Spanish encountered an already sophisticated weaving tradition in cotton and camelid wool. They brought along sheep wool, silk, and the treadle loom. The Andean cultures nevertheless maintained some of their own weaving techniques, such as the discontinuous weft technique, which allowed for complex patterns and shapes, and the *cumbi* tapestries, which were highly regarded in the colonist trade (Thepaut-Cabasset, 2017).

On the edges of the Asian Mediterranean, India had developed a highly sophisticated cotton production cycle as early as the turn of the first millennium. The fabrics ranged from light, airy muslin weaves to heavier chintzes, calicos, and denims. Dyed and block-printed Indian cotton was being traded from West Africa to Japan. The Ashmolean in Oxford holds 14th- and 15th-century decorated fragments excavated in Cairo and on the Sulawesi Islands from the same period, with nearly identical patterns.

The Dutch traders carried out another cross-continental transfer of technology. They brought *batik* (wax color-blocking of cotton fabrics) to West Africa (Ghana, Nigeria, and Côte d'Ivoire). However, the motifs used and locally available pigments differed to such an extent that the two regions developed significantly different decoration patterns.

These examples show that both technology and imagery have traveled along the channels most common at a given time: over land or over sea, driven by curiosity, novelty, and the pursuit of economic gain or status. New pigments opened new creative horizons, and new techniques enabled refinement and a broader visual language. Some newly acquired symbols were incorporated into local lore or rounded loose narrative threads. These cultural transmissions occurred both organically and in an organized fashion, driven by a specific economic purpose.

Commonalities beyond physical exposure

Before stepping closer to the present, the study explores some hypotheses that account for common visual patterns beyond trade routes and physical exposure. Some First Nations' weavings denote commonalities in a time when colonization had not yet started, and exchange through historical trade routes was not yet active. Peruvian pre-Columbian motifs, as the ones found on Maori cloaks, are just a couple of such examples, that beg for further investigation.

The first hypothesis concerns the parallel development of a given shape due to the similarity of the weaving technique. The most basic shapes that can be woven are vertical and horizontal lines or stripes. Creating a diagonal line entails revealing each weft only above certain warp threads. Referring back to Figure 6, we can appreciate the revolution in accuracy the fixed-frame loom brought in, facilitating something as basic as symmetry. The challenge of creating a symmetrical shape using diagonals was met by Inca weavers, who opted to sacrifice continuity. Similar to some communities on the current territory of Iran, they used an interrupted weft technique, cutting and tying the knot on the underside of the warp threads. What was gained in graphic quality was paid for in time, attention, and a single-sided surface.

The diagonal lines of diamonds were also especially desirable for their tessellation properties. As stripes and squares, regular diamonds can completely fill a given area without the need for any intermediary shapes. As such, diamonds and, by extension, chevrons and zig-zags were bound to be a frequent technique for creating a surface before they became individual, stand-alone motifs. What is more interesting is the process of abstractization and the meaning-making behind the shapes themselves. The translation of water through parallel zig-zag lines appears in weavings from Asia, Africa, South America, and New Zealand. However, these iterations mostly refer to continental waters. Larger water surfaces, such as seas or ocean shores, yielded a squared-out spiral we can recognize in Greek and Peruvian weavings, to name just two traditions.

The inclination towards parallel zig-zags may have an additional reason rooted in neuroscience investigations into severe migraines and the optical illusions individuals experience during intense migraine episodes. As early as 1971, Whitman Richards suggested that the zig-zag shapes of fortified optical illusions, which precede a migraine, would reflect a similar organization of the visual cortex (Richards, 1971). More recent studies from 2007 to 2010 have used graphic representations of larger numbers of subjects to correlate the causes of these shapes with pathophysiological mechanisms.

The repetition, high-contrast alternation, or concentricity of a pattern can be seen as a means of translating a dynamic, constantly pulsating visual pattern into static forms. Neuroscientist Oliver Sacks points out in his 2012 book on hallucinations that the permutation of visual shapes during hallucinations suggests the dynamics of large populations of neurons, particularly the role of cellular autoorganization in generating complex patterns of action. A growing number of neuroscientists are working on the hypothesis that the autoorganization of visual neurons is a crucial condition for visual perception. If this proves to be true, it would mean that the outward manifestation of such patterns is embedded in our anatomy much deeper than the conscious mind.



Figure 4. Navajo "Eye-Dazzler" patterned rug

Circa 1920, part of the collection of Museum der Kulturen, Basel, CH. Photo by Ilinca Maican

Passing from tessellating diagonals to diamonds and lozenges and attributing symbolic value to them is a highly interesting phenomenon. The semantics and symbolism of concentric diamonds are varied and multifaceted, but share a common core. Various graphic dictionaries are companions for anyone who wants to connect, understand, and empathize with the symbolism woven into fabrics. For the concentric diamond, such meanings range from an iteration of the Sun, as god, as Father, as Protector (the Balkans, the Inca Andes); a warding eye guarding against evil or ill-wishers (Marocco, Iran, Turkey, India); ancestors awarding protection (Coast Salish and Musqueam peoples of North America); a guarding Mountain reflected in a lake, offering both protection and life source (Quechua). Countless narratives trace back to the cosmology and mythology of each community, while also revealing a common core of protection. We can simply bear witness to this common thread and relish in the diversity of stories.

On the other hand, we may consider Carl Jung's perspective on archetypes and the collective unconscious (Jung, 1933-1959). His thesis states that, beneath any personal experiences or sensations that may influence the human mind, each human is born with a preset, shared layer of the psyche common to all. If we think of the neural pathway theory previously stated, or of the inherited somatic reflexes we are born with

(breathing, blood pumping, swallowing, holding the breath underwater), it may not be such a long stretch.

Furthermore, Jung's research into the archetypes we share across different declinations and myths can well explain the commonalities among the narratives that accompany the symbols shown on this map. Variations on protection. Some of Jung's work has been contested. However, we regard it as an emphasis on what links communities, rather than what separates them.

Global trade and online exchange

The Industrial Revolution brought even more focus on diversified material sourcing and the distribution of produced goods. After the two World Wars, the General Agreement on Tariffs and Trade was signed in 1948. It was followed in 1995 by the founding of the World Trade Organization, which has 166 member states and accounts for 98% of global trade. Just five years previously, in 1990, the World Wide Web was launched, with the first web browser. In 1994, the first security protocol for online payments (SSL) was released. Over the past 30 years, global trade networks have seen faster delivery and exchange than ever before. Even though some major economic players are currently challenging agreements and mechanisms, the question of information exchange remains open.

In early 2024, the United Nations Conference for Trade and Development (UNCTAD) published the Creative Economy Report 2024. This report highlights the growing significance of creative goods and services in the global economy between 2010 and 2022. At the beginning of this interval, four online learning platforms for various creative skills went live online: Skillshare, Domestika, Kajabi, and Udemy. Only a few years prior, there were already three crowdfunding platforms for artistic initiatives: Artistshare, Indiegogo, and Kickstarter. In 2018, at mid-interval, the Committee of Ministers of the Council of Europe, alongside experts, artists, and policymakers, discussed possibilities for responsible innovation in the artistic fields and how Artificial Intelligence may affect perceptions of human uniqueness. The last years of the interval, amid the coronavirus pandemic, saw periods of isolation, economic fluctuations, and a push to move many activities online. In 2022, OpenAI launched the first public version of ChatGPT, and UNESCO compiled a report addressing culture as a public good.

There are a couple of points we consider important for this research, as illustrated in the above snapshot. First, two structures of global governance – UNCTAD and UNESCO – addressed cultural goods and services at a global level. This suggests a movement of cultural goods relevant to the global economy. The movement of cultural goods across borders, communities, and cultures is likely to have ripple effects on the communities they cross and enter.

Secondly, online courses for creative skills were a marketable product ten years before the pandemic drove almost all learning online. Beyond offering course packages in various formats, they also provided online communities. When Discord launched in 2015 and Circle in 2019, focus-based, user-controlled online communities became publicly available.

Thirdly, when the coronavirus drove activities online, many artistic platforms that had previously been face-to-face businesses – museums, theatres, and galleries – invested capital and ideas in creating online experiences. We no longer find ourselves forced to interact and exchange information online, but our ability to do so, along with the tools available to us, has opened new possibilities.

Nonetheless, there are certainly risks that need to be addressed when using digital communication platforms. Just as there was a directionality to the interactions presented in the trade routes chapter, there is also a risk of imbalance with digital platforms.

Extractive policies rooted in power imbalances during colonial trade take other forms today. Even in cases of peer-led communities, an instance of power may be that of language. A language spoken by many, for example, English or Spanish, may be a good idea for creating a wide circle, but it also carries memories of colonialism in cases where it is a historical heritage rather than an independent learning choice. If regulated, addressed, and consciously managed, a widely spoken language can indeed lead to more opportunities and the celebration of local nuances.

Another potential risk is the mingling of signs and the contamination of narratives. Already addressed as a risk of exchange even before the age of the internet, this challenge is a byproduct of taking items with a certain meaning out of their context. This topic is widely discussed in research and literature regarding the commodification of goods, museum studies, migration studies, and digital anthropology, to name just a few fields. The first step in mitigating this risk is to be aware of it, address it frequently, and openly talk about the positioning of the individual craftsperson and their community towards a more archival or more experimental approach.

Conclusion

As Luckman and Andrew (2020) argue, the rising interest in analog activities and crafts is largely enabled by digital technologies. They discuss a shift from uninvolved observation and subsequent repetition to learning by making and synchronous how-to tutorials. This involves a blend of access to online information with a hands-on time investment to acquire and build a new skill.

We can further acknowledge Andersson's "long tail" distribution, which posits that the total number of niche items sold in small quantities outweighs the number of popular best-sellers (Anderson, 2007). This point of view has encouraged micro-entrepreneurs, including craftspeople, to focus on select niches and on a business model that is not based on large quantities and widespread popularity, but instead targets select consumers. However, this model also suggests that the micro-entrepreneur must develop additional business skills or join a community with the necessary infrastructure. Examples of such community support groups for craftspeople already exist both for specific regions (e.g. *Native Startup ChangeLabs* aimed at the Navajo communities, *Artijaan* focused on the crafts women of Afghanistan), as well as for wider spread areas (*Woven Women* – an online platform for craftswomen which includes members from India, Romania, the Netherlands, France, Bulgaria; *Evolution* – an online platform for surface pattern designers with members from Romania, Sweden, Spain, New Zealand, the US, Dubai, Morocco etc).

We can thus argue that by using common ground and values, and by tapping into new knowledge that becomes necessary for thriving in one's craft, there is room for community support and growth beyond the immediate physical vicinity. Moreover, digital platforms enable community engagement and participatory approaches, which, in turn, can help activate and engage communities whose work and heritage fall short of state priorities and risk extinction in future generations. The question that might guide future research is how values shared by members of the artisan economy and craft practitioners, such as understanding quality, authenticity, and localness, can be effectively transmitted and shared online or remotely. Learning communities, particularly online learning communities, provide a pathway for small craft entrepreneurs to grow, raise awareness, and engage a new generation of craft practitioners.

References

- Adom, D. (2024). Asante Kente: A Home Craft and a Cultural Repository of the Place Identity History of the Asantes. *SAGE Open*, 14(1). <https://doi.org/10.1177/21582440231224780>

- Anderson, C. (2007). *The long tail: How endless choice is creating unlimited demand*. Random House.
- Armah, L., Adjei, D.A., Bismark K. M., & Kudese D. W. (2023). Emblematic Interpretation of the Designs of Selected Kente Fabrics among the Ashanti People of Ghana. *Art and Design Review*, 11(3), 263–280. <https://doi.org/10.4236/adr.2023.113020>
- Arnold, D. Y. (2023). Los textiles andinos teñidos por amarras, el motivo del punto en el rombo y su patrón de difusión: felinos, serpientes y el cultivo del maíz en un mundo en transformación [Andean textiles dyed using tie-dye techniques, the dot-in-diamond motif and its pattern of diffusion: felines, serpents, and maize cultivation in a changing world]. In C. Simmons Caldas & M. Valls y Garcia (Eds.), *Tejiendo imágenes. Homenaje a Victòria Solanilla Demestre*. University of Nebraska Consortium of Libraries - UNCL. <https://doi.org/10.32873/unl.dc.zea.1403>
- Arnold, D. Y. (2016). Artes bajo la influencia: pautas sobre los nexos entre las prácticas textiles de los Andes surcentrales y las artes gráficas de las tierras bajas [Arts under influence: guidelines on the links between the textile practices of the south-central Andes and the graphic arts of the lowlands]. *Estudios Sociales del Noa*, 17, 19–52.
- Arnold, D. Y., & Espejo, E. (2019). *Ciencia de tejer en los Andes: Estructuras y técnicas de faz de urdimbre* [The science of weaving in the Andes: structures and techniques of warp-faced weaving]. Second digital ed. ILCA, Instituto de Lengua y Cultura Aymara.
- Arnold, D. Y., Espejo, E., & Maidana, L.F. (2015). *Weaving Life. The Textile Collection of the Museo Nacional de Etnografía y Folklore, La Paz, Bolivia, Following the Productive Chain*. Museo Nacional de Etnografía y Folklore, Fundación Cultural del Banco Central de Bolivia.
- Chitrakar, S. (2022). 4th international conference on heritage management education and practice. *Heritage in the Post-COVID-19 World*. Centre for Heritage Management, Ahmedabad University.
- Creators-People and Their Works*. (2024). Museum der Kulturen, Basel, Exhibition Catalogue.
- De Jong, W., & Kunz, R. (Eds.) (2016). *Striking Patterns: Global Traces in Local Ikat Fashion*. Museum der Kulturen, Hatje Kantz Verlag.
- Dhamija, J. (2015). Textile: The non-verbal language. In M.-L. Nosch, Z. Feng, & L. Varadarajan (Eds.), *Global Textile Encounters* (pp. 303-306). Oxbow Books. <https://doi.org/10.2307/j.ctvh1dpz7.35>
- Ebert, C., Frisch, S., Harlow, M., Andersson, E., & Bjerregaard, L. (Eds.) (2018). *Traditional Textile Craft: An Intangible Cultural Heritage?* 2nd ed. University of Copenhagen.
- Feng, Z. (2015). The Development of Pattern Weaving Technology through Textile Exchange along the Silk Road. In M.-L. Nosch, Z. Feng, & L. Varadarajan (Eds.), *Global Textile Encounters* (pp. 49-64). Oxbow Books. <https://doi.org/10.2307/j.ctvh1dpz7.8>
- Fisher, N. (Ed.) (1979). *Rio Grande Textiles*. Edited by Nora Fisher, 2nd ed, exp. 1994. The Museum of New Mexico Press.
- Fraser-Lu, S. (1990). *Handwoven Textiles of South-East Asia*. Oxford University Press.
- Frimpong, C., & Benjamin, K. A. (2013). A Comparative Study of History, Equipment, Materials, Techniques and Marketing Approach of Traditional Weaving in Ghana. *Arts and Design Studies*, 7. www.iiste.org
- Harkness, D. (2024). *Black Bird Oracle*, Ballantine Books.
- Jung, C.G. (1959). *Archetypes and the Collective Unconscious*, Vol. 9, Part I, Princeton University Press.
- Klein, K. (Ed.) (1997). *The Unbroken Thread: Conserving the Textile Traditions of Oaxaca*. Getty Conservation Institute.
- Krody, S. B., Serife, A., Walter B. D. & Kimberly, H. (2018). *A Nomad's Art : Kilims of Anatolia*. George Washington University Museum: Textile Museum.
- Letellier-Willemin, F. (2020). Tackling the Technical History of the Textiles of El-Deir, Kharga Oasis, the Western Desert of Egypt. *Egyptian Textiles and Their Production: 'Word' and 'Object'*, 4. University of Nebraska Consortium of Libraries - UNCL. <https://doi.org/10.32873/unl.dc.zea.1081>
- Luckman, S., Andrew, J. (2020). *Craftspeople and Designer Makers in the Contemporary Creative Economy*, Creative Working Lives. https://doi.org/10.1007/978-3-030-44979-7_8
- Malini D., & Jyothirmai S. (2021). Re-orienting tradition-fashioning the Warangal dhurries. *International Journal of Textile and Fashion Technology (IJTFT)*, 11(2). www.tjprc.org
- Nosch, M.-L., Lotika, V., & Feng, Z. (Eds.) (2015). *Global Textile Encounters*. Oxbow Books.
- Pavithra, M. R., Ashish, S., Katta, S., Shradha, P., Sujatha, G., Gadde, A., Chandan, K., & Jeevitha, P. (2024). Genetic Improvements in Silkworms: Enhancing Silk Yield and Quality. *Uttar Pradesh Journal of Zoology*, 45(16), 164-172.
- Peterson, R. A., & Anand, N. (2004). The Production of Culture Perspective. *Annual Review of Sociology*, 30, pp. 311–334. <http://www.jstor.org/stable/29737696>

- Pis Syabit-Philippine. (2013). ICH CAP. 2013. https://archive.unesco-ichcap.org/kor/ek/sub3/pdf_file/domain5/105_Pis_syabit.pdf
- Reswick, I.H. (1979). *Ethnic Textile Art of Tunisia and Its Relation to That of Morocco, Algeria, and Libya*. <https://digitalcommons.lindenwood.edu/theses>
- Reyes Suárez, M.(2021). *Pura fibra. Tejer pensamiento, pensar tejiendo [Pure fiber. Weaving thought, thinking through weaving]*. 1st ed. ICAH Instituto Colombiano de Antropología e Historia. www.icanh.gov.co
- Richards, W. (1971). The Fortification Illusions of Migraines. *Scientific American Magazine*, 224(5), 88.
- Riello, G. (2015). The World of Textiles in Three Spheres: European woollens, Indian cottons and Chinese silks, 1300–1700. In M.-L. Nosch, Z. Feng, & L. Varadarajan (Eds.), *Global Textile Encounters* (pp. 93–106). Oxbow Books.
- Sacks, O. (2012). *Halucinații [Halucinations]*, Humanitas.
- Stoica, G. (2009). *Patrimony Romanian Carpets from the Collection of "Dimitrie Gusti" National Village Museum*. Translated by Mihai Vinereanu. Alcor.
- Tamarapa, A. (1966- ed. 2011). *Maori Cloaks : Whatu Kakahu*. Wellington Te Papa Press.
- Thepaut-Cabasset, C. (2017, December 20). "T" is for Cumbi Tapestries: Peruvian Textiles in the Spanish Colonial Home. Julia McHugh, Douglass Foundation Fellow in American Art, New York. *Dressing the New World*. <https://doi.org/10.58079/nwqu>

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