

PAPERMAKING TRADITIONS OF ASIA

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*TRADITIONAL HAND PAPERMAKING, A TIME-HONORED ART,
HAS QUIETLY WITHSTOOD THE RAVAGES OF TIME.*

HANDMADE PAPER—THE DISTINCTION OF PERSONAL style. From fibrous to silken to creped, these papers are carefully moulded from long hours of patience and care. A vibrant art, hand papermaking is practiced in many societies today.

Asia has spawned time-honored traditions of papermaking. These traditions are the mysteries that enthrall the papermaker. From the lulling rhythms at the vat to sheer sensuousness of the finished sheet brought in from the sun, the richness of the handmaking tradition has endured through the centuries.

The handmaking techniques of East Asia were handed down within the families of the master papermakers. The process spread from China through the Himalayas to Western Asia and the Mediterranean cultures via trade routes, religious emissaries, political deception, and diplomatic goodwill. Intellectual dissonance contributed to the spread of paper, used as a tool to foment war and revolution.

The advent of the Industrial Age changed the status of paper in societies the world over. Once a priceless, guarded secret, paper was transformed into a common market commodity. Preserving the techniques of hand papermaking now no longer remain in the galleries of the curious and the curator. As the microchip continues to infiltrate the social patterns of industrially developed societies, more and more people desire to draw back in touch with the roots of their cultural traditions.

One prominent historian of papermaking, Dard C. Hunter, travelled through Asia and the Americas learning about the myriad of handmaking techniques. Many of his journeys to collect tools, stories, and photos took place early in the 20th Century. More recently, in the past few

decades, others have built upon Hunter's material. These papermakers and paper aficionados carry on the traditions through practice as well as through collection and preservation of production materials.

In producing an article of this scope, several hand papermakers contributed important details to the following sections: China—Elaine Koretsky of Carriage House Papers and China TAPPI (Technical Association of the Pulp and Paper Industry); Korea—Lynn Amlie of Dieu Donne Papers; India—Neeta Premchand and Dorothy Field; Southeast Asia—Koretsky and Field; the Himalayas—Field; Japan—Mina Takahashi of Dieu

Donne Papers and Timothy Barrett of the University of Iowa.

THE TASK AT HAND

In Asia, the handmaking of paper has traditionally been a cottage industry. Whole villages making up one papermaking unit sprout up around a clean water source, just as modern commercial mills do. The following is a general sketch of the division of labor among the members of a papermaking family.

The fathers and sons first steam the wood to loosen the bark. The elderly women and young girls strip the bark from the wood. Continued cooking of the raw material in lye removes further impurities such as lignin. Then, mothers and daughters beat the fiber with mallets or stones.

The pulp undergoes another stage of cleaning in water where impurities such as shives are removed. Any remaining impurities must be picked out by hand, a task left to the women. During bleaching, the pulp is set out in the sun, on snow, or in running water for days at a time.



Tibet - Placing moulds out in the sun to dry the finished sheets (RCWAMP)

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Although the title of master papermaker usually falls to the men, both men and women share the work at the vat. A woven material is stretched across a rectangular, wood frame to serve as a mould. The sheet is formed by spreading the slurry of pulp and water on the mould. The water drains through the screen leaving a mat of fibers. Some moulds have a raised edge called a deckle, to hold the slurry on the screen. The sheet is then set out in the sun to dry.

In some processes, extra steps before drying may take place. Sheets laid in stacks, called posts, are pressed using heavy objects such as wood planks or stones. In some traditions, after drying, the sheets are polished by rubbing or beating on the surface.

Historians of papermaking can trace the spread of ideas through the sheet-forming technique adapted in particular regions. Sheets are formed on a mould in two different ways. In the pouring method, the slurry is poured onto a mould and spread out. Generally, the pouring method cannot be repeated to make a thicker sheet; this can only be done by placing a formed sheet on top of another and so on to achieve the desired sheet thickness.

In the dipping method, the mould is dipped into the vat to pick up the slurry. Rocking of the mould spreads the fibers around. Depending on the desired sheet thickness and fiber alignment, the dipping method can be repeated many times over with the same mould.

CHINA

In China, long assumed to be the cradle of papermaking, papermakers traditionally used the pouring method. Moulds designed for the pouring method are single units of a wood frame fitted with a cloth screen. Once the sheet is finished, the entire mould is set out in the sun to dry. The number of available moulds limits daily production.

Though not as prevalent in Chinese tradition, recent evidence suggests that both the pouring and the dipping method of sheet forming coexisted; one was once

thought to have preceded the other. In Khotan, a village south-east of the archaeological digs of Xian, the papermakers are using the dipping method. The mesh from these moulds can be detached



China - Forming mulberry pulp on a bamboo screen held to a wood frame with deckle sticks (Koretsky)



China - Brushing sheets to dry on the house wall (Koretsky)

to allow for repeated use of the same mould. As each sheet is formed, the sheet is removed from the mesh and laid onto the post. Each sheet in the post is either touching or separated by

felts.

The juxtaposing presence of the pouring and dipping papermaking methods in China raises a number of interesting questions. Which method is older? Why did one method predominate over the other? Maybe papermaking began in other places and crisscrossed in China?

Lately, the authenticity of China as the birthplace of papermaking is subject to scrutiny. Some suggest papermaking began in the Himalayan lands, or in India where the spread of Buddhism helped to spread the use of paper. However, paper fragments found in an area near Xian, China, show screen marks indicating mould formation of sheets. The age of these fragments predate the records of the Imperial Court by 200–400 years, suggesting that paper was already being made as early as B.C. 300.

China still produces the largest supply of handmade paper products. Calligraphy, scroll mounting, cutouts, firecrackers—all require the paper to be handmade paper for the right quality. The Chinese hand-papermaking tradition, though, is in a state of flux. Machines such as foot-operated beaters and wind-operated presses are being introduced to harness natural power. The papermakers at Anhui, the province famed for the best-quality calligraphy paper, are now producing paper in traditions more similar to those of Korea and Japan.

KOREA

The practice of traditional hand papermaking from Korea is little known outside its country. Within Korea, the practice has declined at an alarming rate. The endurance of papermaking in Korea reflects the trials through which the country has had to survive. Most of the papermakers in Korea today use Japanese techniques, which were imposed on the country during the Japanese occupation.

Traditional Korean handmade paper is very strong and is said to last a thousand years. The strength of Korean papers reflects the wide variety of use, all central to everyday life. Handmade papers in older times covered walls, windows, doors, ceilings, and floors. In mod-

ern times many of these common uses have all but disappeared. Most of the paper is now used for religious practice, special documents, and decorative crafts.

The style of mould and dipping technique are both unique to Korea. The mould is held at the front corners with its length extending away from the papermaker. In the oldest style, a submerged log supported the far end of the mould. This created a pivot that allowed the papermaker to use side to side motions in the dipping method to form the sheet. In more recent times the far end of the mould is suspended by a wire.

Each style of papermaking possesses a unique rhythm and musical allure. The Korean style of sheet forming exhibits a dynamic sloshing with a waltz-like 1-2-3 rhythm. Count one, the mould is dipped into the slurry. Count two, the papermaker swirls the slurry, distributing the fibers on the mould. Count three, the excess water and fines are cast off. The process is repeated numerous times, but if a thicker paper is required two sheets must be dried together as one.

Couching is the process of transferring the sheet of paper from the screen or mat onto a post or stack of paper. In some cases a log is rolled over the back of the mat, this removes air bubbles and evens the post. This is a technique that is unique to Korea.

A few Koreans continue to practice their traditional techniques. Among them are Young Dam Sunim, a Buddhist nun, who has practiced the Korean tradition of papermaking for 15 years; and the Jang family, who have maintained these techniques for three generations. Without future apprentices dedicated to the craft the Korean tradition is in danger of extinction in its homeland.



Korea - Jang Seong Woo using a traditional Korean mould (Amlie)



Korea - Buddhist nun, Young Dam Sunim, couching to remove air bubbles and even the post (Amlie)

JAPAN

The Japanese hand papermaking tradition is the most widely practiced abroad, of all the Asian papermaking traditions today. Much of this popularity is the direct result of Japanese military invasions and economic investment projects spreading the technique. On the home front, the government has carefully nurtured cultural esteem for the older master craftsmen. The paper-making families and villages have been incorporated into the tourist trade.

As with Korean, in Japan paper was once firmly rooted in the daily living of the people. Kozo, mitsumata, and gampi were used as raw materials to make paper for ritual purposes, for furnishing houses, and even for clothing and accessories. These three fibers are still used today.

Papermakers are drawn to the magical quality of the rhythmic dipping method. The mould is supported overhead by a bamboo spring system. Each papermaker develops a unique rhythm of dipping and throwing the slurry across the screen. This process is repeated many times over vs. the Chinese version of the dipping method. In their methods, the rhythm is quieter and repeated only two to three times. Some have described the sound of Japanese dipping technique as waves lapping at the shore of a lake; Korean techniques sound like crashing waves of the ocean.



Japan - Laying a bamboo screen on the mould (RCWAMP)



Japan - Dipping the mould into slurry treated with viscous tororo aoi (RCWAMP)

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The Japanese add tororo aoi for greater control over sheet formation. This slippery, gelatinous substance is squeezed from the roots of the tororo aoi plant. The papermaker can exert greater control over the grain direction and caliper uniformity due to the increased viscosity of the slurry.

With the rise of the modern-day city there are very few true papermaking families left in Japan. Master craftsmen who make specific special grades are appointed "Keepers of the Intangible Cultural Property." This title represents a keeper of a craft by virtue of familial lineage.

Apparently, the key to the survival of Japanese tradition has been their ability to adapt tradition into the living culture. Today the Japanese produce the widest variety and the largest sheets of handmade paper.

INDIA

Papermaking history in India has been passed down from person to person in the oral tradition. This lack of native documentation makes the history tricky to piece together. In Dard Hunter's notes, the earliest mention dates papermaking back to the 15th Century in Kashmir when the Arab Moghuls brought it into northern India. The papermaking techniques used in eastern India also suggest influences from papermaking in the Himalayas.

The paper was made using waste, mainly old gunny bags, fishing nets, etc., made of sunn hemp. The fibers

were soaked, and broken down by fermentation. To wash out the chemicals, two men would suspend the pulp in a sling tied at their waists. They would stand knee deep in water and scoop it over the



India - Sheet forming using a deckle-box type mould (Koretsky)

pulp. Long and tedious hours of beating yielded a soft and silken-quality paper. The dried sheets were highly burnished by rubbing an oiled stone across the surface of the paper many times over. Finished sheets were primarily used for religious purposes, for manuscripts, and later for Arab Moghul miniature paintings.

From the end of the 19th Century to the onset of the 20th Century, the British ruled India. They tried to suppress the handmade paper industry by importing cheap machine-made paper from England. This move was particularly resented by the sawkars, or money lenders, who insisted on handmade paper for their accounting books. In the 1930s, Mahatma Gandhi encouraged the tradition

of hand papermaking in his struggle for Indian sovereignty.

Different raw materials are used today. The sunn hemp has been replaced by cotton waste. The resultant paper is more dense with a different aesthetic quality. These sheets are limited to use for government documents.

Moulding methods have changed. The dipping method once predominated.

The papermakers either crouched on a platform behind the vat or stood in a narrow pit behind the vat. They used a flexible, grass mat stretched on a slatted wooden frame. This has been replaced with European-style papermaking. The papermaker stands behind a free-standing vat.



India - Sizing the surface of each sheet with boiled flour paste (Neeta Premchand/"Off the Deckle Edge")



India - Polishing a finished sheet on a concave wooden pillow with an agate embedded in a lump of clay (Neeta Premchand/"Off the Deckle Edge")

Lever and pulleys are used to facilitate working with the mould. The wooden frame mould with a wire mesh has given way to the deckle boxes, used more frequently with the pouring method.

Most handmade paper is now used in wedding cards and stationery. Sadly, the gradual decrease in the number of traditional master crafters has not kept up with the increasing demand for handmade papers.

SOUTHEAST ASIA

All of the countries located in the geographic region of Southeast Asia support their own hand papermaking traditions except for Malaysia and the island network of Indonesia.

Geographic proximity of the different countries indicates the development of similar traditions, with the exception of Vietnam. When the French military annexed

Indochina from Chinese rule in the 1850s, the French carved up Indochina into Thailand, Cambodia, Laos, and Vietnam. The tradition of hand papermaking in Indochina had already evolved, the commonly accepted theory indicating origins from China.

The Thai papermakers in the north use the paper mulberry plant, an adaptation from their Burmese neighbors. The sheets are formed using a combination of the dipping and pouring method techniques. The vats are made out of concrete and the papermaker dips the mould into the pulp slurry to form the sheet. The sheet is dried directly on the mould that has been fitted with a coarse, plastic screen.

Papermaking in southern Thailand is almost extinct. The last of the papermaking families resides in Bangkok. The paper is made from *khoei* fibers, which are reputedly very strong. The sheet is formed using the pouring method. The Thai royal family reserves the use of handmade *khoei* paper for important documents and for trade among visitors.

Cambodian and Laotian papermakers carry on some traditional papermaking using the pouring method. A solitary group of Cambodian papermakers learned their craft from the Thai. Otherwise, the Cambodians have no papermaking tradition they celebrate as their own.



Myanmar - weighing out fermented pulp for gold beating (Field)



Myanmar - Beating bamboo pulp to the consistency of putty, after six years of retting (Koretsky)



Myanmar - Removing air bubbles from the pulp using a bamboo rod (Koretsky)

In Laos, the papermaking craft is said to have died 20 years ago, only to be revived for tourism in the past five years. The chief product is flower paper, but in the far reaches paper is still made for the thriving opium trade.

Curiously enough, the papermakers of Laos' eastern neighbor, Vietnam, largely employ the dipping method. Today, the paper-making villages near Hanoi, famed from the travels of Dard Hunter, share their equipment communally to produce hand-made paper.

Burma stands alone outside of the Indochinese region with some remarkable papermaking traditions. The Burmese papermakers do not sell their handmade paper. In eastern Burma, up until the 19th Century, the dipping method was used to make Sanskrit paper for burning in Buddhist religious ceremonies. Most Burmese papermakers now use the poured method. The majority of the papermaking villages can only be accessed by oxcart.

Often called the Gold-beaters of Mandalay, these Burmese papermakers employ a unique process to render bamboo and rice fibers into crystalline sheets. Many long hours of beating, burnishing, and beating again are spent so that every single bamboo fiber is crushed. The finished sheets are said to be almost transparent with a hard, dense surface. Gold, placed between the bamboo sheets, is then beaten into gold leaf. The gold leaf-



Thailand - Pouring *khoei* pulp into a floating teakwood mould (Koretsky)



Vietnam - Pressing the post with rocks (Koretsky)



Sikkim - Churning to disperse beaten fibers in water before forming (Field)

ing is used in painting Buddhist pagoda lacquer.

IN THE HIMALAYAS

Papermaking reached the mountainous regions of the Himalayas as early as A.D. 650 when the king of Tibet



Nepal - Peeling paper away from the mould (Koretsky)

asked a Tang Dynasty emperor of China for a gift of paper and ink. This was documented by a historian on paper and printing. In the Himalayan lands today, variations of the daphne plant family are used for the raw material. The poured method of papermaking is shared by the papermakers in the countries of Nepal and Bhutan, the Indian state of Sikkim, and the Tibetan region of China.

The tradition of hand papermaking in Tibet and Nepal share similarities with the northern Thai tradition, but the futures of the traditions in Tibet and Nepal are diametrically opposed. The longevity of the craft in Tibet hangs in a delicate balance.

When the Chinese Communist Party came to power in 1950, Tibetan papermaking screeched to a halt. Only a few individuals now make and sell their handmade paper. The Buddhist printing house must use a low grade of Chinese handmade paper. These sheets have already begun to embrittle.

Nepalese papermakers came near to extinction when they lost the Tibetan market at the closing of the Chinese borders in 1950. UNICEF has stepped in to revitalize the

traditional handmaking craft. Japan funds a separate project to train the Nepalese in the Japanese papermaking tradition.

Nepalese industry has been resuscitated, but the newest threat is the improper cutting and overcutting of the daphne forests. Research is being undertaken to determine the proper cutting cycles. In the meantime, papermakers are switching to mitsumata for paper fiber.

In Bangladesh, the papermaking tradition has almost disappeared. Now, the traditions are being revived through projects run by the Mennonite Central Committee.

TRANSMITTING TRADITIONS

People once used paper for every function imaginable. Industrial machinery now undercuts the high cost of handmade paper in places where human skill is no longer a commodity item. Unfortunately, in some societies, commercialization has pushed the handmaking tradition to the precipice of extinction.

Due to its quality and highly aesthetic appeal, handmade papers will always play a role in society. The largest number of users are the people who practice, create, and preserve the symbols of cultural evolution—religious worshippers, artists, and conservators. Yet, the use of handmade paper is not restricted. Whenever we celebrate our humanity at a new year or a day of independence, thousands of pounds of firecrackers and fireworks, all made of handmade paper, are lit. The tradition of making paper by hand is part of our cultural legacy.

TJ

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