Paper: The Technological and Spiritual Wonder of the Ancient World

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The material (paper) is beautiful and precious,
Though cost is cheap yet quality is high...
Stretching out when it opens and rolling up
when put away,
Able to contract or expand, hide or expose...
To convey your affection to a distance of ten
thousand miles away,
With your refined thought written at one corner.
Fu Hsien (234-294 AD)[1]

Today all of the civilized world takes paper for granted as an everyday fact and necessity of life. At the time of its development in China, however, paper was nothing short of a miracle. Indeed from the very outset of its use, the Chinese valued paper as much for its intrinsic aesthetic and spiritual properties as for its utility in communication and the storage of information.

True paper is generally defined as a tissue of any fibrous material whose individual fibers, first separated by mechanical action, are then suspended in water and collected on a porous mould. For true paper the fibers must be hydrated (beaten in water so that the fibers retain a certain amount of water) and physically pressed sufficiently for hydrogen bonds to form between the cellulose fibers. The result is a durable and lasting sheet that retains its original character despite additional soakings and/or manipulations.[2] Many different fibers have been used, many variations have developed for each stage of the process, and as many types of paper have emerged as there are processes. The visual effects of the papers produced by the two major techniques, the Japanese technique of *nagashizuki* and the Western technique of *tamezuki*, are as different as the processes which create them.[3] It is these visual differences and their cultural uses that one must explore to better understand the use of paper as an aesthetic medium which is so prevalent in the United States today. With respect to the attitudes any given culture has towards paper, the timing of its introduction is as important as either the technical or visual differences.

Ancient Precursors to Paper

Human beings have devised graphic symbols and found surfaces upon which to inscribe them from the earliest time, but early writing surfaces—bones, stone and clay tablets, and wax-covered wood tablets—were all very time-consuming to prepare and bulky to transport and store. Communication and record-keeping were, of necessity, difficult and costly. Hence many civilizations sought to develop a lighter, less expensive medium of written communication. The history of paper, its forerunners, and the processes for making them throughout the world is well-documented. It provides telling evidence of the complex interrelations between the uses of quasi-papers and ultimately of true paper in various cultures and the intellectual development of those civilizations.

Understanding the cultural uses of paper requires understanding the uses of many of the precursors of true paper. Papyrus, laminated strips of the papyrus plant, originated in Egypt over 4,000 years ago and was exported throughout the Mediterranean area. The process for the preparation of papyrus remained in Egyptian control, however, making it costly for other cultures to obtain. As alternatives to expensive, imported papyrus, the Persians developed vellum—scraped and treated calf skin—and parchment—the inner layer of split sheepskin, also scraped and treated. In the Mediterranean these precursors to true paper were used primarily for communication and record-keeping. They were viewed as flexible surfaces which could preserve information—be it pictographs, words, or visual images—in various types of scrolls, codices and other book forms. The emphasis was on the utility of these surfaces, and the materials themselves were not felt to have any particular spiritual significance.

For other civilizations the alternatives to paper had both functional and spiritual uses. Various forms of *tapa*, a substance made by pounding bark from the Chinese paper mulberry (Broussonetia Papyrifera) and related trees from the mulberry family were used throughout the Pacific, including Hawaii; Central, South, and northwest North America; Polynesia; New Guinea; Java; Melanesia; the Malay Peninsula; China; the west coast of Africa; and Japan.[4] In ancient Hawaii, tapa was used for clothing, bedding, bandages, burial wrappings, lampwicks, threads, blindfolds, and kites. It was also used for culturally significant gifts—a child's dowry, a gift for the owners of a new home or parents of a first-born son—and for tributes (taxes) for chiefs. In addition tapa was used as an offering to the gods when someone was ill or had died, and white tapa was used as ceremonial drapes for temple images and ceremonial staffs. Plaited mats of tapa strips were used in seances for communicating with the dead and in *kuni*, ceremonies to reveal and punish a person who prayed another to death.

For ancient Hawaiians tapa also had other magical effects—it was worn as a charm to induce the flow of milk in a nursing mother, used as a banner for gods, and fashioned into a special oven for preparing an ill or dying person's food. Tapamakers honored four gods: *Maikoha*, the family god for tapamakers; *Laubuki*, Maikoha's daughter, who imparted skill and wisdom to her believers; *La'bana*, Maikoha's other daughter, who introduced the use of bamboo sticks; and *Ebu*, the god of dye experts.[5]

Across the Pacific the ancient Mayans of Central America developed *huun*, their own version of pounded inner bark material similar to tapa. This more supple and far less cumbersome surface replaced stone monoliths for their hieroglyphic writings and sophisticated mathematical and calendar systems. Pieces of huun, removed from the tree in a single sheet, were often as long as 15 feet. The Mayans made folded books—some of them up to 34 feet long—which were scribed by the astronomer priests and stored in sacred stone buildings. When the Toltec people surpassed the Mayans in the seventh century A.D., they assimilated the huun process and continued to improve it.

The inheritors of all of the technical developments made by the Mayans and Toltecs were the Aztecs, who established themselves in the area of present-day Mexico City. The Aztecs' domination over the other tribes depended upon their exacting considerable tribute from the tribes they had conquered. Their extensive record-keeping indicates that much of the required tribute was in the form of *amatl*, the Aztec version of huun, which was central to their religious practices. The Aztecs continued to refine the process of making amatl from various indigenous ficus (fig) trees, which are in the same botanical family as the mulberry trees used for papermaking in the Orient. The Aztec books, *tonalamatls*, illustrated with a complicated system of pictographs, assumed increasingly elaborate forms. Paper—the medium for all of the cumulative sophisticated culture developed by the civilizations of Central America—became a major key to Aztec culture.

As a space-saver, a time-saver, a labor-saver, and so, ultimately a life-saver, paper had a unique part to play.... Yet the Aztecs had an even more profound paper world [than industrializing Europe], for with them paper was, in addition, ceremonial.... The chief

function of paper was to placate the gods and to record, preserve and implement the power of the rulers. It was only after these high needs were filled that the residue of paper would reach the populace, and this residue, used by each individual in hundreds of rituals varying from month to month and almost from day to day, would bind him to throne and temple in a great unity of paper tradition and symbolism.[6]

The form of Aztec ceremonial paper ranged from paper flowers worn on the robes of high priests and by dancers celebrating particular gods' days, to draperies of significant colors placed over persons — often children — to be sacrificed to the gods, to paper banners up to 60 feet long and raised on tall poles in citizens' courtyards to honor gods, to paper substitutes for real objects, such as paper pouches painted to look like tiger skin worn by minor priests in imitation of the real tiger pouches worn by the high priests. Paper clothes, paper hair, paper strips on poles, paper masks, paper awnings, paper sacrifices burnt on individual home hearths to thank gods who warded off illness — all were important and gave the common person a part in the ritualistic society.

The Aztecs had specific roles for various forms of paper in the preparation of the dead. The corpse, dressed in particular papers, was provided with paper flags attached to sticks and paper passports that would allow his spirit to survive the dangers of the mythical creatures and demons it would encounter on its way to *Mictlan*, the Aztec land of the dead. Upon reaching this land of the dead, the spirit presented its various papers and was allowed to stop its wandering and rest in peace.[7]

To this day the production and use of traditional amatl continues among the Otomi Indians of San Pablito and several other remote villages which have produced amatl since ancient times. Because centuries of Catholicism and modern mores have diluted the ancient Aztec religion, these ceremonies are now described by the Otomi themselves as "customs" and performed by the local witch doctor. Nonetheless, many of the present practices among the Otomi are directly descended from rituals performed for centuries for the many Aztec gods. To this day these observances center around the gods who bring rain, good crops, good health, and fertility. Often the modern version calls for a more obvious tribute to the contemporary practitioner in the form of tamales or a chicken cooked in a cake and wrapped in paper, which are eaten by the witch doctor as part of the ceremony. Having replaced the human sacrifices of old, paper is even more central to these rituals now than it was to their forerunners.

The Otomi's *muñecos*, cut paper figures representing various spirits and believed to possess the nature of these spirits, are important in these contemporary versions of the ancient rituals. Muñecos can be benevolent — the Sentinel Door Guards who protect households, seed figures that insure good crops, and the Spirit of the Lion which is buried with a corpse to see the departed spirit's needs and protect it from unfriendly beasts in the Land of the Dead — or malevolent. Generally black papers are used to represent evil spirits or to bring evil to the persons they represent and lighter or white papers are used to represent good spirits or persons. A witch doctor explains the efficacy of these figures in the following way:

"As the figures representing the various spirits, personages or animals have the power of speaking and acting amongst themselves, just as if they were living beings, when an evil spirit, either a demon or any other, attempts to enter a house where a ceremony is taking place, when it reaches the door "The Otomi Man" says to it: 'It is forbidden to enter, you cannot go in; go away.' If it does not depart, they [the several door sentinels] seize it amongst them all and eject it forcibly, shutting it up in the cave from which it will find it hard to escape..."[8]

A contemporary Otomi ceremony performed to "pay" for the things one receives in daily life — land, food, wood, etc. — involves the making of a sacred framework of bound sticks that holds a paper platform on which the symbolic Otomi muñecos are placed. The witch doctor, to the music of violins and guitars, decapitates a chicken — dripping its blood on the paper. A procession of musicians and participants led by the witch doctor then bear the framework and corpse of the chicken to the plot to be sanctified, where the offering is buried and covered with pieces of straw tied to represent the stars.[9] Perhaps the downfall of the Aztecs was related to their inability to substitute such surrogates for their literal and violent sacrifices and rituals. Still one marvels at the powerful symbolic role that amatl paper played in this ritualistic culture. Without having ever arrived at a technique for the making of "true paper," the Aztecs had sensed the functional as well as the aesthetic/spiritual nature of amatl and had developed it to a very sophisticated level. Further research will hopefully reveal the relationships among the many geographically scattered Pacific cultures that used pounded mulberry bark material in such similar ways.

The Dual Role of Paper in the East

In China the precursor to true paper was woven silk, which was often dipped in gum and polished to create a smooth surface[10] and could be rolled into scrolls. The development of the hair writing brush facilitated writing with ink on the flexible silk. As a system for record-keeping, communication, and the making of images this was a major improvement over the earlier use of the bamboo and wood writing surfaces. Woven silk was labor-intensive and much in demand for clothing, however, and the Chinese had begun to experiment with less expensive substitutes by as early as the second century B.C. Archaeological research and analysis of ancient samples continue to illuminate the history of the beginnings of true paper. Because half of the Chinese character for paper is the same as that for silk, historians have theorized that a quasi-paper using silk fibers predated true paper's development in China. According to the most recent research by Ji-xing Pan of Peking's Institute of History and Natural Science, however, silk was never used as a papermaking material. Pan's microscopic analysis of ancient papers found in Bagiao, Labnor, Jin-quan, and Zhong-yan (respectively dated 140-87 B.C., 49 B.C., 52 and 6 B.C., and 73-49 B.C.) prove that they are all made of hemp and ramie fibers and contain no silk fibers. The length and purity of the fibers indicate that they had been artificially shortened (beaten), fibrillated, and purified to remove non-cellulose materials. The most recent paper, from Zhong-yan (dated 73-49 B.C.), shows the pattern of a laid mould.[11]

These findings invalidate the traditional date for the "invention" of paper, 105 A.D., and indicate that the Chinese bureaucrat Ts'ai Lun, who is usually credited with the invention of true paper, was more likely the first person to sponsor its acceptance by the Emperor Ho and to promote and oversee the establishment of the official production of paper for the court. Once officially accepted and produced, true paper was adopted quickly throughout China. The recipe for papermaking remained a closely guarded secret throughout the long period when China controlled the Central Asian basin of the Tarim River and thus the heavily traveled silk routes.

The era during which paper was developed in China, the Han dynasty, was a time of philosophical change and

re-orientation. Confucianism and Taoism had absorbed the family-oriented pantheistic and ritualistic folk religions and had become the predominant religions of China. The Chinese had traditionally emphasized their own history and continuity from the past to the present. Indeed, their word for *gods*, literally translated from the Chinese word *ti*, meant *first ancestors*.[12] Writing has held a crucial position in Chinese culture since the earliest characters were incised on bones; it has been important both for authenticating the historic record and for communicating with the gods. Although animal sacrifices and offerings were also made to the ancient ancestor gods, written communication was of primary importance. Confucianism had imposed an ethical and structured focus on the earlier philosophy without eradicating it. The Taoists, in their own way, had absorbed the mysticism of the earlier shamanism. Although the Confucian and Taoist points of view often came into political conflict, both not only allowed but encouraged the continuation of ritual and a reverence for ancestors and spirits. Paper's flexible nature, seemingly magical formation, and low cost were timely for this culture which valued both the recording of history and communication with its revered ancestral deities.

The introduction of Indian Buddhism in the third century A.D. did not extinguish the Chinese symbolic and ceremonial uses of paper. Over the years these traditions were incorporated into the Mahayana sect of Buddhism which predominated in China. Buddhism had heightened the already intensive Chinese concern with the afterlife and ancestor worship. Therefore at a time when sacrifices and the burial of coins and actual objects with the dead (for their use in the afterlife) were giving way to symbolic substitution, paper provided the perfect sacred substance.

The elaborate system of ritualistic and ceremonial use of paper has evolved over the past two thousand years in China to serve many everyday and philosophical needs. Paper took on the household and everyday role that icons and religious art fulfilled in the temples. The continued domination of the family and family-based religious ritual over mass worship accounted for the strength of paper as a symbolic and sacred substance. In the resulting "paper world" a pantheon of *ma chong*, or images printed on inexpensive paper, represented all manner of gods from minor to important. Among those represented in the home were Buddhist gods such as the Goddess of Mercy and Taoist gods such as the Door Guards, the Kitchen God (the most common in the China of 1927 visited by Clarence Burton Day), the Water God, the Fire God, the Five Gods of the Silkworm, the Two Genii of Peace and Harmony, the God of Wealth, the God of Literature, the God of Anything You Wish, and the Green Dragon Protector. These paper gods were typically pasted on exterior or interior walls in positions which facilitated their protection of their respective interests in the household. Different regions and different households featured different gods, according to their traditional needs. Generally the paper gods were taken down and ceremoniously burned at the appropriate time each year. For example, the Kitchen God was burned in a hearth ceremony prior to the New Year and, as smoke, ascended to the Pearly Emperor of all the gods, to whom he reported on the family's conduct for the past year. To insure a good report, he was first presented (and sometimes literally smeared) with honey, sweet cakes, and sweetened rice to seal his lips about whatever quarreling and minor infractions had been committed by the family that year. After the appropriate period of time without a Kitchen God—while he reported to the Pearly Emperor—the family celebrated the New Year with a bounteous feast and welcomed him home. A new paper Kitchen God was then ceremoniously mounted on the wall.[13]

This pantheon of gods met several needs of the family which continued from ancient times through the present: the protection of life and property, adjustment to and protection from environmental forces, peace and harmony in home life, and success in the achievement of a livelihood. In addition, the various gods and ancestor spirits interceded in the salvation from a horrible hell and the attainment of virtue in heaven. The latter were comfortably accommodated to specific precepts of Confucianism, Taoism, Buddhism, or an amalgamation of all three.

Its efficacy as a charm or symbolic means of satisfying good and evil led to numerous other ceremonial uses of paper in China. Long paper banners and signs were placed over doorways and gates for the many ceremonial holidays and rituals. The colors of these banners, like those of greeting cards, gift wrappings, and documents of importance, were symbolic of different moods for particular occasions: red for joyous, happy, and important events; blue or black for death and sorrow; and white for purity. The emotional associations of these symbolic colors remained consistent in other cultures as well.

Perhaps the most elaborate use of symbolic paper was in the traditional Chinese funeral, where paper played a key role in orchestrating the many conflicting spirits as well as the many emotions of the participants. Hundreds of years of tradition dictated the precise use of paper in the preparation of the corpse, the rituals before and after burial or cremation to insure a safe journey for the dead's spirit, the announcement of the death, the adornment of the home of the deceased, the sympathetic response of friends and relatives—including the amount and quality of the spirit money they sent to honor the dead, and the decorum of the human and spiritual participants in the entire funerary process. Each aspect was dictated by ancient custom, and papers and paper objects were the guides for the various necessary rituals.[14]

The importance of tracing family and cultural ancestry and origins has made the Chinese careful and thorough historians. New philosophical and literary writings are often reinterpretations of ancient treatises. As the literal embodiment of its content, the written word determines the authenticity of a fact or idea. The visual arts place a similarly heavy emphasis on the reinterpretation of classical themes and this same reverence for the past predominates in the history of calligraphy and the evolution of written characters. The Chinese have always respected every scrap of paper, particularly those containing writing. Paper with visual images or writing on it was never crumpled up and thrown away when it had served its purpose as it is in Western society: it was ceremoniously burned. Elaborate rituals developed around the collection of scraps of paper, their ceremonial burning—often in sacred furnaces erected for that purpose in temple courtyards—and the respectful disposition of the ashes in a nearby body of water.[15] To be disrespectful to even a scrap of paper was to profane the thought or concept itself, thereby risking the wrath of its attending spirit. Although the worship of household gods and extensive funeral ceremonies are no longer common in China today, paper continues to have a strong role in the culture. The paper banners and decorations used today in holiday observances are closely related to those of ancient times.

This extreme reverence for paper as a special substance carried over to its use in religious and secular art. Particularly among Buddhists, paper was deemed an appropriately natural, sacred, and humble material for the copying of sutra and other religious documents. Paper became popular among some Chinese for secular

uses as well. Although immediately after the introduction of paper an individual might have been prone to apologize for sending a scroll on paper instead of silk, paper came to be used extensively for calligraphic scrolls, paintings and fine books, elaborate screens and fans, and many other objects created for aesthetic appeal. Paper met other functional needs as well: it was used to make padding for clothing (particularly encouraged because the use of animal fur was forbidden by Buddhism), toys, decorations, and firecrackers. Using paper for these objects was considered in no way irregular or blasphemous: the sacred role of paper only served to enhance its role as an aesthetic and utilitarian material.

The Spread of Paper East with Buddhism

The exact date that the knowledge of papermaking spread to Korea is not known, but it was certainly during the Han dynasty's conquest of the north-western province of Korea (then known as Choson) to gain control of the Uighur nomads to the north, in the second and third centuries A.D. The Chinese colonies became prosperous outposts of China and papermaking was introduced during this period, with Buddhism taking hold a short time later, in the fourth century. The indigenous Korean religion was animistic and ritualistic, serving gods who were very much tied to natural cycles and the concerns of an agrarian population. After the Koreans adopted Buddhism, Buddhist monks traveling back and forth from Korea to China and India established cross-cultural communication in all subjects, including Chinese papermaking technology.

The Koreans made some modifications of the papermaking process and Korean Buddhists developed their own sacred uses of paper, including the copying and later the printing of Chinese and Indian Buddhist texts. They also developed their own unique functional uses for paper, among them the use of oiled paper as a covering over mud floors which were heated from below by flues from an oven. Paper was also used for windows, as it was in some parts of northern China; for lacquered baskets woven of paper string; for lacquered paper chests; and for many other objects with functional, aesthetic, and spiritual uses.

The year 610 is commonly agreed upon as the date when a Korean monk introduced Chinese papermaking to Japan. There are some indications that Japan was already using hemp and kozo — possibly for a pounded bark material like tapa/amatl.[15] Significantly the introduction of paper-making was concurrent with the Japanese acceptance of Buddhism. The Japanese were an aesthetically sensitive people whose own religion, *Shintoism*, was animistic in nature and placed a premium on ceremonial purity and ritual communications with the many *kami*, or spirits. The introduction of paper to Japan occurred at a time when much of the culture of China was being eagerly absorbed by the Japanese. With its emphasis on the arts, historic record-keeping, and the written language, and its growing tradition of using paper as sacred material, Buddhism immediately created a great need for paper in Japan. Important improvements in the process for papermaking were developed almost immediately, using indigenous Japanese fibers, kozo and gampi. The strength, flexibility, and translucency of this Japanese paper compared quite favorably with the hemp-based paper produced by the Koreans and Chinese.

The Japanese Shinto faith, with its emphasis on purity, harmony with the natural world, and a positive focus for the present rather than a fear of evil and death, absorbed the more positive aspects of Chinese Buddhism, as well as Confucianism and Taoism. The result was a comfortable faith wherein goodness (purity and ritual) and beauty were one integral concept which infused every aspect of daily life. *Washi*, or Japanese handmade paper, is a natural substance whose production requires natural fibers and pure water from mountain areas; it quickly became a respected and popular product and was incorporated into many Shinto rituals of purification and ceremonies of major life events.

It was logical to add paper ornaments to the already traditional evergreens and *shimenawa*, or ropes with natural fibers, used to mark Shinto shrines in which the kami resided and particular places of celebrations. The *shide*, or folded paper ornaments hung from straw ropes to lure the kami to sacred spots and ceremonies and to demarcate the areas for Noh plays within shrines; the use of *gobei*, or sticks with folded and/or cut paper ornaments tied to them and used buy the Shinto priest in purification rites; and the cut paper *sanbo kogin*, or Shinto god of the hearth, are all ritual uses of paper in which its natural purity and ability to be replaced and renewed for each event are complementary to and consistent with the Japanese Shinto traditions. Thus this new material, paper, was integrated philosophically into Japanese Shinto ceremonial uses.

Within a century and a half after its introduction to Japan, Buddhism, with its paper-using tradition, had interacted with Shintoism, and from this period of rapid change emerged a strong beginning for Japan's unique version of Buddhism, in which much Shinto ritual and the new ceremonial substance, paper, were key ingredients. One of the earliest formal uses of paper as an act of piety and absolution was the commissioning by Empress Shōtoku in 770 A.D. of one million *dharani*, paper scrolls printed with sacred texts and rolled inside miniature three-story wooden pagodas, for distribution to the ten major Buddhist temples in the Nara area. These charms were made of several types of paper, including some kozo. These dharani, which are among the earliest examples of woodblock printing, document the level of sophistication and sanctity that washi had already achieved in Japan. The copying of *sutra*, or Buddhist sacred texts, became an important aspect of Buddhist piety. The act of copying was viewed as a form of meditation and the resulting sutra were considered sacred. An example of a Buddhist ceremonial use of washi is the *sange*, or lotus flower-shaped cut papers which contemporary Japanese Buddhists still use in lieu of the actual flowers Indian Buddhists used in the original form of this purification rite.

The *Omizutori* ceremony at the Todai-ji Temple in Nara demonstrates the 1200-year-old Buddhist use of *kamiko*, or paper cloth, for ceremonial purposes. Kamiko is thick kozo paper which has been treated with *konnyaku* or *kanten*, the former a polysaccharide from arum root and the latter a vegetable gelatin, and then wrinkled. Repeated treatments render the paper pliable, strong, and waterproof. From its development early in the history of washi, kamiko has been used for coats, robes, jackets, vests and other outerwear as well as for underwear. In the Omizutori ceremony, dating back to early Buddhist days in Japan,

> Buddhist monks spend two weeks or more in heavy meditation, self-reflection, and ascetic training. During this period, each makes for himself a kimono out of undyed, handmade paper. The monk is required to rub, soften and waterproof the material for his own robe. Between February and March, at the coldest point of winter, the monks go into seclusion wearing only these robes, enduring austerities in the cold and snow. Smoke from burning incense sticks gradually blackens the *kamiko* garments; holes are worn into them where the monks' knees have rubbed through the paper in prayer and meditation. Then, when all the austerities have been completed, the priests return for the ceremony. At midnight the *kamiko*-robed monks proceed down the ternple corridors, carrying lighted torches and

chanting prayers. In an open area of the compound the monks brandish these immense burning torches, making great circles of flaming light in the night air. Since the fire is believed by these Buddhists to be power against evil, worshipers pursue the flying sparks, certain that such magical flames burn nothing on which they land. Then the sacred water, believed to have flowed all the way from Wakasa in the north to Nara, is drawn from the well. At the end of the ceremonies the monks burn their white paper robes in a purging bonfire. Although the ceremony is Buddhist, it bears touches of Shinto in the sacred use of white paper—especially washi that has touched the body—in this rite of purification.[17]

The timing of paper's introduction to Japan, the Buddhist prohibition of the use of animal products, the limited number of alternative materials, and the special connotations inspired by paper's ritualistic role made paper the perfect material for many secular and functional uses as well. For example, paper was used for everyday clothing as well as for the kind of ceremonial garments described above. Thin sheets of gampi were cut into strips and woven into *shifu*, a woven paper fabric which was used for vests and coats because of its insulating qualities. Different weights of shifu—some with flax or silk wefts—were developed for more decorative garments, such as kimonos and obi sashes, and for many other clothing and functional uses.

The strength and translucency of washi inspired its adoption for additional functional and ceremonial uses of paper in Japan. Sliding *shoji* doors and windows allow diffused daylight to pass into traditional Japanese homes while providing privacy and a surprising amount of temperature insulation. The application of a new shoji-gami each year is an example of a practical task that also provides spiritual satisfaction akin to the ceremonial purification rites in Japanese Buddhist and Shinto worship. *Fusuma*, sliding panel doors, are also covered with special decorative washi such as the lovely *uchigumo*, or "cloud paper." Paper lanterns capitalize on the translucent qualities of washi for artificial light. Although these lanterns were popular practical items, they were also adapted to Shinto and Buddhist uses, including the Buddhist Bon Festival when hundreds of lanterns honor the kami of returning ancestors.

The role of paper in Japan—more than in any other contemporary culture—is a symbiosis of secular and spiritual traditions, and contemporary secular and ceremonial uses have grown out of this intermingled past. Cut paper dolls originally used for the Shinto practice of exorcising illness and evil spirits—which sometimes included burning of the dolls are drinking the ashes with water—have evolved into a custom observed in Tottori prefecture during the Girls' Doll Festival in March, where groups of paper dolls are banded together with bamboo and floated down the river to free children from any problems for the coming year. Boys' Day in May is celebrated throughout Japan by the *koi-nobori*, or carp streamers hung out to symbolize the courage and manliness of the carp who fight their way upstream to spawn. Originally these jaunty streamers were made of paper; they are now as often made of cotton or synthetic fabrics.

All craft groups in Japan have patron *kami* or gods, and specific shrines are often devoted to them in areas with strong traditions in particular crafts. In the ancient province of Echizen, one of the oldest papermaking areas of Japan, there is a legend that describes the introduction of papermaking to the region by a kami who disguised himself as a maiden. The town of Imadate has a shrine with carved panels depicting this legend. Atop the peak behind Imadate is the Okamoto shrine, which includes a smaller sub-shrine, Otaki, the home of this paper goddess. On New Year's Day the paper-makers from the area climb to Otaki—regardless of the weather—to make gifts to the papermaking goddess for their protection during the coming year. The practice of hanging a small shrine in an out-of-the-way area of a papermaking workshop is still quite common throughout Japan.

The role of handmade paper is important in the fine arts, performing arts, and martial arts of Japan. Many of paper's roles in the fine arts come directly from the Chinese version of these artforms. For example, the beginnings of Japanese calligraphy, screens, fans, scroll paintings, and fine books can be traced to the strong influence of Chinese art and have developed in Japan from this source. The origins of woodblock printing as a fine art are evident in the earlier Chinese Buddhist and Taoist uses of seals and stamps for protective charms. Japan's further refinement of papermaking was a key factor facilitating the major Japanese contribution to the development of the woodblock print.

The role of paper in the demarcation of areas and purification of participants in the arts of *sumō* wrestling and *yabusame*, or traditional archery, and the performance of Noh is directly related to the origins of these arts as side entertainments at Shinto festivals. Before the introduction of paper to Japan, pounded bark and then pure linen fabric were used for the consecration of these areas and events. Paper quite naturally assumed this role.

The integration of paper into the fine arts, architecture, ceremonies, and daily life; the remarkable conceptual unity of secular and spiritual uses of paper in Japan; and the purity with which the papermaking has been carried on in certain areas and families for generations, have forged a unique role for paper in the Japanese culture—one unmatched anywhere in the world. Recognition of the extraordinary role of washi and a concern for its survival—as well as that of similar crafts in Japan—have inspired the system of designating Intangible Cultural Properties, whereby the government honors the most skilled practitioners of traditional crafts and provides stipends to support the continuation of and further education in craftsmanship. It is hoped that this program will help preserve the tradition of crafts such as papermaking—and thus one descendent of the first true paper made in China.

The Westward Migration of Paper

During the seven centuries after its formal acceptance under the sponsorship of Ts'ai Lun, the process of papermaking was confined to China, its territories, Korea and Japan, where a series of technological improvements produced a paper far more sophisticated than the original Chinese hemp and rag paper. The widespread use of paper in China coincided with the increased traffic along the trade routes to the West and additional expansion to the northeast and south. Eventually papers of varying combinations of hemp (both raw and processed, as from old fish nets and ropes), rags, and the bast fibers of the mulberry tree were produced in different spheres of influence within the vast area of Asia which interacted and ultimately—in the thirteenth century—became the Mongol Empire. Examples found from the seventh and eighth centuries indicate that Southeast Asia and the areas along the northern Himalayas through Tibet and parts of Nepal were making paper with simple fabric moulds such as those originally developed in southwest China.[18] To the north, northeast, and northwest, a later mould with a removable bamboo or grass cover developed, allowing the removal of the paper from the mould when it was still wet, and thereby increased production. Improved methods of preparing the fibers and finishing the sheets also resulted in better surfaces for writing and printing. It was this later mould and papermaking technique that spread to Chinese Turkestan and to Korea

in the third century, and to India via Kashmir and the trading routes over the Khyber Pass in the eleventh century. Paper gradually replaced bamboo, palm leaves, and wood for record-keeping and religious manuscripts, and the papermaking processes were adapted to the materials available in the new areas. When the Arabs finally acquired knowledge of the process—by capturing prisoners who were papermakers, in Samarkand, in 751—the process was well-developed.

So far as an invention can ever be said to be completed, it was a completed invention that was handed over to the Arabs at Samarkand. The papermaking taught by the Arabs to the Spaniards and Italians in the 13th century was almost exactly as they had learned it in the eighth. The paper used by the first printers of Europe differed very slightly from that used by the first Chinese block printers five centuries or more before.[19]

By 751 A.D., the twin roles of paper had become firmly established throughout China but they sometimes interfered with one another. For example, the adoption of paper as an economical medium for publishing *authentic* classical documents of Chinese history and literature such as Teng Tao's edition of the Confucian Classics was slower than it might have been—perhaps in part because of paper's other, stronger role as a religious ritualistic substance.

Considering that Central Asia was in the first seven centuries populated by an incredible mix of races, tongues, cultures, and faiths, the disparate peoples made amazingly similar uses of paper. Findings at Tun-huang, Kharakhoto, Turfan, and in Egypt early in this century shed new light on historic accounts of the role of paper and printing in Central Asia, demonstrating that whole aspects of the use of paper had not been recorded—probably because they were associated with Buddhist and Taoist ritualistic religious practices and therefore were not deemed significant by the Confucian-oriented historians. For example, votive prints, charms, amulets, playing cards, ritualistic paper materials, and sacrificial papers played an important part in the everyday lives of the peoples of this era and contributed significantly to the rapid spread of papermaking and printing in the form of stamps, seals, and—ultimately—woodblock printing throughout Asia. Buddhism and its various sects adapted these rituals, and the Buddhist emphasis on manuscripts and the copying of sutra and other religious passages as acts of atonement for the dead and for the living, was an important motivation in the use of paper and multiple images such as woodblock prints. On one hand, the vast amount of paper used for Buddhist literature confined paper's role in the writing and printing of more general literature; on the other hand, the same extensive body of Buddhist literature spurred the acceptance of printing on paper for more secular uses.

The remnants of these paper uses as revealed by the archaeological work of expeditions in China and Turkestan early in this century are particularly important when the objects found can be compared with information from such exhaustive studies of the past and present uses of paper in one particular area as Trier's extensive *Ancient Paper of Nepal*.[20] In the light of these combined finds, an unusually clear picture of the role of paper in Asia emerges. Paper offered the common Asian an economically viable way to participate in his religion and to assure his place in whatever afterlife he believed in. Hinduism, Zoroastrianism, Manichaeism, and even Islam—when mingled with Buddhism and Taoism in the oases of the central Asian trade routes—were influenced as well as influential. These religions, as practiced in China, adopted some of the everyday rituals of other faiths even as they engaged in the publishing of their own sacred literature. Conservative Hinduism was slower to adopt paper as a ritual object and as an historic record-keeping surface. Traditionally an oral religion, Hinduism clung more closely to the use of the traditional palm leaf for its few written manuscripts and prayer images, but some Hindu books were eventually published, printed on paper. Even the Turkish Moslems in Chinese Turkestan, prohibited by Islam from printing the Koran, published almanacs—both for Mohammedans and for others—as well as other secular books.[21]

The role that paper played in the Moslem world is less clear. Islam—with its strong emphasis on the written word of Allah, or the traditionally hand-written Koran, and its prohibition of the production of realistic images—responded to paper differently than did the predominantly Buddist Chinese culture. Paper was hailed as an aesthetically pleasing surface for traditional calligraphy and an economical medium of communication which was much more desirable than either papyrus or vellum. The use of paper spread quickly throughout the Arab world, and by 869 Samarkand was famous for its paper: an Arab writing a letter of thanks during this era closed with the words "pardon the papyrus," and a Persian traveler to Cairo mentioned that fruit and vegetables in the marketplace were wrapped in paper![22]

Frustratingly little information exists about the details of this role of paper in the four hundred years before the process of papermaking was again the victor's spoils—this time the Christians' in Moorish Spain. The Swedish paper historian Henk Voorn, enticingly mentions that different colors communicated different meanings, paralleling those in Chinese culture: blue paper was used for mourning and also for the wrapping of medicines; red paper signified joy and happiness and was only permitted for use by the highest officials writing to the court in Cairo, and "in Persia, red paper clothing was worn by those who asked to be received by the sovereign."[23] Excavations such as those at El-Fayyum in Egypt indicate that the more mystical uses of paper—for votive and protective images, divination and purification rites, and for absolution—existed among the Arabs but perhaps were less widespread than among other groups.[24] Of this enormous find of documents—over one hundred thousand sheets and fragments of paper, papyrus, and parchment—only about fifty documents were printed, as opposed to hand-written. Although these fifty examples date from as early as the tenth century until the middle of the fourteenth century, their similarities are remarkable: they are all in Arabic, they are limited to text and geometric ornamentation—thereby conforming to the Moslem prohibition against pictures—and they all appear to have been printed in the Chinese manner, by rubbing the back of the paper with a soft baren. Most importantly, they all deal with the Moslem religion. In addition to texts from the Koran, these documents include special protective charms, one of which combines Koranic quotations with a purported correspondence from Mohammed and a section to be filled out by the owner requesting to be saved from a particular evil.[26]

One can only hope that the results of future research will contribute to a more accurate picture of the role of paper in the period of Moslem domination. Because this period occurred during the time of the vast Mongol Empire and the European Crusades to the Middle East, we can assume that Arab practices influenced the transfer of the use and production of paper from the East to the West, to the awakening civilization in Europe. One is tempted to believe that in the Moslem world, as in China, the actual uses for paper were more numerous than the histories of the time describe, for the early uses of paper in Europe tend to confirm this hypothesis that secular and functional as well as religious uses of paper somehow survived the Arab period.

The Historic Role of Paper in the West

The process of papermaking was introduced to Europe via Spain in 1150 and via Italy in 1276. The Crusades had stimulated travel and trade, and imported paper had been available for several hundred years from the Arabs in the papermaking centers of Damascus and Bambyx. Until it changed from an expensive import to a local product, however, paper could not fulfill its greatest potential as a means of visual communication that was cheaper than vellum and parchment. Paper's first uses in Europe were primarily religious, as they had been in Asia; it became the medium for those in power, the literate clergy, to grant commoners limited access to the benefits of piety—a feeling of control over their lives. By the end of the fourteenth century, paper had largely displaced parchment as the writing material of all but the wealthy.

In the course of its migration to Europe paper production had changed somewhat. Technical differences such as the use of stiff writing pens rather than the soft calligraphy brushes used by the Asians inspired the development of a harder, smoother, and more opaque paper surface. The laborious rubbing of rice paste into the surface of the paper with a stone was replaced in Europe by the use of gelatin sizing. The development of the stamper for hydrating the rag fibers was another labor-saving improvement that made paper production more economical.

Lack of documentation leaves much to speculation about earlier prints in Europe, but it appears that the oldest surviving woodcut prints had been produced in France and Southern Germany by the end of the fourteenth century. One of the earliest examples is a hand-colored woodcut of St. Christopher printed in Southern Germany in 1423. This image is accompanied by a reassuring script which roughly translates,

> In whatsoever day thou seeist the likeness of St. Christopher, in that same day thou wilt from death no evil blow incur.

The similarity between this print and the Buddhist charms of Asia is remarkable. Christian images of the Crucifixion, the life of Christ, and the saints—particularly those, like St. Christopher, whose spheres of influence were of concern to the average illiterate person in his daily life—became immediate commercial and spiritual successes. These images were sold by the church for the establishment of home altars, for pasting into document boxes, for wearing sewn to one's clothing, for affixing to wafers to be eaten by ill persons or fed to ill domestic animals, and even for pinning to shrouds for help in purgatory. The indulgences in Europe, the charms of Asia, and the "passports" of the Aztecs all served the same purpose.

> The early block printing of Tun-huan, of Egypt, and of Nuremberg are in their essence the same. The language is different and the religion is different, but they all represent the effort of the common man to get into his hands a bit of the sacred word or a sacred picture, which he believed to have supernatural power, but which he could not himself write or paint and could not afford to buy unless duplicated for him by some less laborious process.[27]

Playing cards, the other form that surviving fourteenth century woodcut prints take, are also mystical in origin. Having evolved from Chinese dice games of divination and chance, paper cards were again developed as a less expensive surrogate for carved ivory dice. The extensive contact between the Mongol Empire and the Crusades in the Middle East and Mongol contact with Eastern Europe served as the points of transfer for card games as well as other games such as chess and polo. The cards caught on immediately throughout Europe in the form of tarot cards for fortune-telling and a number of other card games. Despite the small numbers of examples of these early printed cards, we are aware of their popularity because of a 1441 request by the woodcutters and makers of playing cards in Venice that the importation of playing cards be forbidden, as it was ruining their business. The request was granted by the City Council.[28]

Block books were printed in Europe in the fourteenth century. Like their Asian counterparts 600 years earlier, the illustration and text for a page of one of these books were carved from a single block to which the original image and text had been pasted, face down, as a pattern. European block books followed the Greek tradition—already adopted for European manuscripts—of sewing together groups of folded sheets of vellum paired so that the pages could be matched inner to inner and outer to outer. This arrangement was necessary because the water-base ink in which the books were printed would smear if images were printed on both sides of a single sheet.

It has now been established that movable type was first developed in China and that cast metal type was developed and used extensively in Korea a half century before its use by Gutenberg. It was the fortuitous combination of movable type for a language with an alphabet, oil-base printing ink, and the availability of an inexpensive printing surface—*paper*—that permitted the expansion of learning that characterized the Renaissance, the Age of Reason, and the beginnings of the modern Western world. This period of rapid development would not have been possible were it not for the economics of paper. As in Asia, the first printed books were religious: the *Bible*; *Ars Moriendi*, a manual for a pious death; and *Bible Paupernum*, a visual anthology relating Old Testament prophesies to New Testament events.

With the increased knowledge and broader education that resulted from the Renaissance, the power of the church decreased: it was no longer the central source of knowledge and education. Having come into use at a much later stage of European history than Chinese or Japanese, handmade paper had never assumed a large role in the creation of functional objects; a culture which had glass didn't need paper windows. As the Renaissance advanced, paper's importance in the fine arts continued—particularly in the art of printmaking, which had separated itself from the exclusive production of religious images. The rapid development of new printmaking processes to meet specific commercial needs also created new artistic applications for the printmaking processes. Indulgences sold to nineteenth century pilgrims were fashionable lithographs. The rapid development of new printmaking and new printing processes inspired equally rapid changes in the processes of papermaking and created an incredible demand for paper.

Together these changes resulted in a changed paper product. The role of paper as the powerful bearer of mystical images declined sharply. Indeed over the past five hundred years, paper has exerted power almost exclusively as a representative of officialdom in the forms of agreements, deeds, diplomas, banknotes, and certificates. The watermark became paper's own authentication. Knowledge and the capacity to enforce sanctions have replaced the supernatural as the source of power. Although paper is still the carrier of this authority, it no longer possesses the sense of magic that it had during the eras of its spiritual significance.

Paper As a Contemporary Art Medium

The burgeoning quantitative growth of paper and the rapid development of technology have been mutually catalytical. The mechanization of the papermaking process, the development of wood pulp paper, and the use of paper as a communications medium for writing, teletypes, photocopies, and computer

print-outs have made paper essential in a whole new way in contemporary society. Paper has "progressed" to newsprint and copier paper; it has increased in economic importance but diminished in aesthetic and spiritual presence. However inferior they may be aesthetically, modern papers are a key factor in the economic and intellectual functioning of society. Paper continues to be the means by which power is dispersed to many by a few. The average Mayan may not have understood the complex scientific principles that were described by pictographs in the *tonamatls* or related to the symbolism of the sacrificial ceremonies, but he had his own paper ceremonies and knew that he too would have his "passport" to Mictlan. The average Buddhist didn't understand the sutras and esoteric writings of his faith, but he had his charms and household deities which allowed him to participate in his own search for piety. Similarly the devout Christian in the fourteenth century had his indulgence as his ticket to participation in his own salvation. In the complex maze of today's paper documents the average person does not completely understand the official papers, often in the form of computer print-outs, that he receives from his tax authority, his local government, and his workplace. Interpreters — now lawyers instead of the clergy of the past — are frequently needed to translate these documents. These papers have power; today's citizen knows to "get it in writing." But society has lost the blind confidence that anyone is fully in charge. Modern man is on the verge of losing even the comfortable tangibility of the xerox papers and newsprint. Soon communication may be completely electronic. Paper, particularly handmade paper, is our last link to this tangible record of the past.

In the last 200 years handmade paper has passed from a necessity to a luxury in the West. Printmaking processes, once superseded as communication processes, became media for the luxury of fine prints. In a similar way handmade paper has become a fine art luxury material used by artists for drawings, prints, collages, and book illustrations and by fine press printers for the publication of limited edition volumes. In the post-war rush to the new and "modern," the crafts that produce handmade objects were nearly lost.

The zeal of twentieth century American art to be "relevant" and technologically up-to-date has pushed the incorporation of new philosophies, new materials, and new processes. The longest-standing tradition in contemporary art is the tradition of rapid change. In the period following World War II the influence of artists who had come to the United States during the war and the perceived need for art which seemed more relevant to the complex times prompted the acceptance of abstract expressionism. The notions that art need not be more than a record of its own creation and of the dominance of the subconscious permitted gesture and abstraction to replace pictorial subject matter. In the sixties, technological and economic factors left their mark on the work of many influential artists. Art sought to align itself with the forefront of developing technologies such as photography, computer art, video, and the sophisticated industrial processes that could be used for the making of art. At the same time, pop art left no doubt about is subject matter, but provoked just as many questions as to its meaning as had abstract expressionism. The emphasis on technology and commercial techniques elevated printmaking, particularly silkscreen and lithography, and produced a profusion of perfectly identical editions: this phenomenon, along with the minimal and conceptual art of the sixties and early seventies took this idea of modernization and technology to its limits. From the start, however, there was an opposition. The exuberant combine paintings of Robert Rauschenberg, the coolly intellectual work of Jasper Johns and the sensuous work of Jim Dine offered alternatives. Stylistic pluralism, extreme size, complex new processes, and sophisticated marketing brought the contemporary art world into the twentieth century financial circles with a bang. Paper — as the substrate for prints — once again brought an ever-escalating art market within the range of the average person. "Big name artists," whose works on canvas were too large and too expensive for the average collector, were affordable as prints.

The seventies responded to this commercialization of contemporary art with a return of art to a more private domain. Artists pulled back from technology and from the emphasis on over-rationalization that was fostered by the writings of conceptualists and an increasing number of art critics — the new priests and interpreters of the art world. Rosenberg described his view of the position of contemporary art:

> There is no turning back to the organic astuteness of the traditional craftsman, nor will surrendering to his medium liberate the artist from the obsessions of thought.[29]

The preoccupation with a search for the appropriate visual language for contemporary American art continues. The seventies introduced new concerns: ecological problems of limited energy, pollution, and over-population; the irrationality and human waste of the Vietnam War; and the increasing complexities of modern times continued to make the artists aware that a new language was needed. Bilgé Friedlaender summarizes this awareness:

> When the airplane takes off I concentrate on being alive. I check my senses and look at the world over which I become suspended in this man-made miracle. First the ordered patches of fields and waterways hit my eyes, then I am over the clouds, the clouds so white and weightless. We fly over the Delaware River, as it empties itself into the Atlantic Ocean, a spectacular sight, a grand weaving of curving lines. No wonder our art can no longer only relate to still life and human form. Our horizons are so wide, our consciousness of the world so expanded, that we must create a new visual language.[30]

In a country where being new, different and "relevant" has generally carried more weight than has tradition, American artists have looked to other cultures for inspiration but have not felt tied to any one tradition. They have had a unique opportunity to choose among many cultures and traditions. Before the sixties artists could select from among only the traditionally defined media, but in recent years working in several media and changing from one medium to another have become common. Indeed, media categories have become so indistinct that limiting entries for competitions and exhibitions by media is nearly impossible: prints include photography techniques, monotypes are prints but not multiples, paintings are now three-dimensional and sometimes fill up entire rooms, sculptures are more akin to buildings. Virtually everything may now be more safely called "mixed-media". The sole remaining limitations of an artist are his own expectations and definitions of media. Robert Rauschenberg has expressed his desire to eliminate even this last barrier.

> I'd like to think that the artist could be just another kind of material in the picture, working in collaboration with all the other materials... I know this isn't possible, really.... But if I can throw enough obstacles in the way of my own personal taste....[31]

The American tradition in crafts has also been affected by this search for a new visual expression. Craftspeople have the same license to cross boundaries. In America the concept of craft has been

not a process per se, but rather a process in the service of an idea. First in the area of ceramics, now with other crafts as well, this has reduced the tradition of technique, geared towards functionality, to just another option for a purely aesthetic statement. At a time when so many of our functional objects are mass-produced, the return of the unique object made with natural materials and perhaps more interest in aesthetics than in utility is another example of the boundary-crossing and expansion which characterizes recent American art.

More and more artists in their work are trying to capture the vanishing human space and materials. More than ever artists are sensitized to the inner language of their materials.[32]

It is in this context that handmade paper has surfaced as a "new art medium" in the United States. The art of hand papermaking survived changing American tastes in art by virtue of a few notable individual efforts: Dard Hunter's exhaustive research and extensive publications, Douglass Howell's dedication to the study of fibers and his unique manipulation of handmade paper for aesthetic effects, and the publication and support of limited edition press books which have existed —somewhat anachronistically—since the thirties.[33] In the late sixties a desire to introduce hand papermaking into university printmaking and fine press programs launched the revival of the process of hand papermaking. The early work of shops such as the Institute for Experimental Printmaking was the beginning of the use of paper as an art medium in modern America. Originating from several areas of the country, through different "family trees," this medium has attracted tremendous interest throughout the United States.

The use of paper as a medium appeals to artists today for several reasons. It allows a swing away from impersonalized art towards the involvement of the hand of the artist in the creation of his/her own work. It is a new, very flexible, and plastic medium that allows considerable cross-media experimentation, yet it has associations with nature, history, fine art, and the varied traditional uses of paper for functional and spiritual objects. Paper has an aura of authority and a democratic simplicity about it. As the humility of paper appealed to esoteric Buddhism, so too do the simple, pure technique, the natural materials, and the meditative nature of the process of papermaking appeal to the intellect of today's artist. Paper offers a large palette of visual and physical characteristics to both artists who make their own paper and those who use paper made by others. Once paper is freed from its role as a substrate, its tremendous potential becomes evident. Perhaps the most attractive aspect of paper is this absence of precedent for its use as an American art medium, and relative freedom from expectations and personal or cultural prejudices it offers artists.

In the face of this freedom, artists have in the last ten years successfully expanded paper's possibilities well beyond its previous range. The danger with this freedom from tradition is that experimentation and technical misinformation sometimes lead to material which—often unbeknownst to the artists—is not physically and chemically sound. Fortunately, due to responsible work by mills like Twinrocker, the Kensington Paper Mill, Imago, Dieu Donné, and Tyler Graphics and to individuals such as Timothy Barrett and Winifred Lutz and many others, general knowledge and education about process is improving. From this knowledge processes for paper as an art medium—as distinct from paper as a printing and printmaking surface—are evolving.

After a decade of exploration by artists, patterns in the use of paper as a medium have begun to emerge. We can now see that paper allows an artist to move through layers that would otherwise be occupied and obfuscated by the baggage of process, media definition, art historical expectations and the artist's own expectations. Working with an interdisciplinary medium the artist is able to get in touch directly with a very deep self—to communicate ideas that are free from these expectations usually loaded on more defined media. The material itself relates to this type of expression. For many artists the initial interest in the formal flexibility of paper as a medium ultimately affects their approach to the other media in which they work.

Individual Approaches to Paper

The artists represented in *New American Paperworks* have clearly discovered paper to be part of a solution to this need for a new visual language. Their reasons for working with paper are as diverse as the directions from which they have come to their use of paper. For each of these artists, paper offers a means to get to that voice which speaks for the intuitive self.

Sam Francis and Ken Noland are colorists. Although Noland works with colored pulps and Francis works with pigments and white pulp, both artists have found that the flexibility of working with paper significantly expands upon the range of effects possible in their similar work with paint. Francis describes making monotypes in handmade paper at the Institute of Experimental Printmaking:

What has happened is that I have found a way to get into that machine....When I am working with these prints, I *am* the paper, I *am* the paint, I *am* the machine...I am not trying to "make something"....The only image I get when I talk about those...is that I see brilliant yellow, suddenly...and Jacob's ladder...and the ritual opening and closing of a door.[35]

For Noland papermaking is akin to a drawing for a painting, with the associated freedoms and informality. He considers it a craft which is being elevated to a fine art, and it is the very craft of it—the ritualistic repetition and its relationship to other crafts such as weaving—which appeals to him and complements his work as a painter.[36]

For Helen Frederick, Nancy Genn, and Don Farnsworth, paper also meets a need to work between two media in which the artist has extensive experience. Frederick is working from a substantial background in printmaking and experience with textiles towards a more painterly means of expression. She speaks of paper's "forgiveness, its extension of boundaries, and its ability to take many forms." Genn was working between painting and sculpture at the time she began working with paper; she had been making paintings on very large sheets of paper and mounting them on stretched canvas. In her works for this exhibition she has come full circle—to large panels painted *in* paper *with* paper and then mounted on canvas backings. During a fellowship in Japan, her interest in texture led to a series of prints in which the image combines the watermark of a translucent sheet of paper with the lithographic printing on either side of the sheet. For Farnsworth working with paper pulp laminations and paintings in pulp is a way to bring together his experience as a sheetformer, a collaborator with other artists, and his extensive background as a printmaker and professional printer. The work he is doing in abaca pulp combines his extensive experience to produce a series of unique and exceptional works of art—on the same high level as his fine collaboration.

Because of its ability to take any form and still be lightweight—even translucent—paper is an ideal medium for working in the area between sculpture and painting or printmaking. For Suzanne Anker, Charles Hilger, and Winifred Lutz this three-dimensionality is paramount. The possibilities for casting paper are technically the most significant

innovations in the use of paper as a medium which the new fine art paper technology has achieved in the United States. Anker's early works, cast forms made in latex moulds fashioned from ordinary cardboard, played upon the tension between what is real and what appears to be real. Anker worked with the moulds, developing a technique which allowed her to repeatedly expand the limitations of size. Although she ultimately decided that size for its own sake was no longer necessary, her extremely large castings permitted a dialogue with her period of working with stone sculpture. Her more recent works employ a primarily two-dimensional, painterly approach to achieving three-dimensionality. Paper has made Anker's successive transitions possible and has always served her playfulness with illusion. Hilger began working with cast papers and quickly moved on to vacuum-formed works which permitted the use of traditional characteristics such as the mould-made surface of a sheet and the luxuriant deckle edge which characterizes his white papers. But paper has also facilitated his new ventures into a more restrained dimensionality—almost like a large-scaled intaglio embossment of the paper surface—such as one sees in *Black Bamboo*. For Lutz working with paper presented several challenges. Her extensive knowledge of casting techniques led her to devise a unique lamination-casting process using a variety of specially designed moulds.[37] She has also done extensive research on indigenous bast fibers which can be combined with shorter-fibered pulps so that the final sculpture takes advantage of the optimum characteristics of each fiber. The translucency of the bast fiber papers and the effect of changing natural light has been important in the development of her recent *Dayfinder* series.

For Robert Rauschenberg and Charles Christopher Hill, the initial attraction of paper was as a found material for use in multimedia "paintings." Rauschenberg's collages, early monotypes, and combine paintings of the early fifties foreshadowed his first venture in hand papermaking twenty years later at the Richard de Bas Mill. Rauschenberg's entire body of work, occurring as it does between the standard definitions of media, has pioneered the interdisciplinary approach which reigns today. His intuitive understanding of material and symbolism have produced works in France and India which are each particularly apt for those cultures. Hill's use of paper is also iconoclastic. For Hill the very impermanence of the commercial papers he uses are a large part of their appeal to him. The series represented in this exhibition presents a fascinating interplay among several techniques. The first lithograph on black Arches paper sets the tone for the series. Hill then collaborated with Twinrocker to produce handmade papers with embedded laminations which replicate the curvilinear grid system in the lithograph. Later, at Cirrus Editions, Hill printed a lithograph on top of the handmade paper from Twinrocker: the resulting image is both *in* the paper and *on* the paper. The series finishes with a stitched and composted "painting" done with the proofs from the lithographs. Handmade paper has added a new dimension and elegance to his already complex work.

Joseph Zirker and Bob Nugent are both artists who make their own paper and use it for images of an extremely personal nature. Zirker's early work in paper was a direct result of his extensive use of viscosity printing principles for the printing of monotypes. His first handmade paper pieces were assemblages, or layers of pulp with memorabilia laminated within and monotypes printed on top. After several years of working with handmade paper, Zirker's new paper reliefs are dramatically different and seem to come from an intensely personal part of himself. Nugent's paperwork began with paper serving its traditional role as the bearer of information, love letters, correspondences, ships' logs, and nautical record-keeping. His latest works involve the construction of large shelter-like sculptures in the woods, where they are left to weather and interact with the elements for several seasons and then embellished with branches, fibers, and other elements found at the site, gradually becoming works like *Morgan Meadow Markers*. The material itself and its own qualities are taking a stronger role in Nugent's work.

Steven Sorman, Cynthia Starkweather-Nelson, and Caroline Greenwald all utilize handmade papers from the Orient in their work, but the end results are quite different. All three are attracted to the high quality and delicate strength of the papers. Sorman uses a wide range of papers—some brightly colored, some muted and natural. He uses these papers like a palette and is one of few artists who can create images using incredibly strong-colored papers in a way that permits the papers and the image to be delicately balanced so that there is a dynamic interchange between the two. Starkweather-Nelson uses the thin papers primarily for their layering facilities and effects. Upon the many layers of paper she continues to build layers of pigment so that in her *Journal* series, for example, one really has the sense of layers of writing but also of layers of involvement and expectation from the inner self. Greenwald's evocative and lyrical works are among the most puristic uses of paper. She emphasizes the fold lines in natural colored Japanese papers with fibers and occasional rag or abaca pulp to create her wispy and ethereal images. Despite their appearance, these cloud and wind and water maps are as strong as the elements they evoke. The heroic launching of *Feather Book* on a windy, 6°F. day conjures up imagined memories of the sixty-foot huun banners used in those ancient Aztec ceremonies. The incredible strength belies the sheer luminosity of these totally unique works.

Neda Al-Hilali and Sirpa Yarmolinsky both come to the use of paper from backgrounds as innovative fiber artists. Al-Hilali found that the connotations and associations which the use of fibers brought to the pieces limited her ability to completely transform and dominate the material. In her work with paper she is an alchemist. From rolls of paper she produces wonderful plaited forms which become large mysterious creatures when dragged across the beach by a series of sprightly figures reminiscent of a Fellini film. Similarly plaited works become intricately patterned surfaces with large dragon-like "scales" under which one can see the dyed papers, unpainted, recollecting their former existence. Large laminated furls of painted papers create lyrical environments the elements of which interact and play with one another as in *Cassiopeia Suite*. The rigidity of the Finnish tar papers Yarmolinsky uses give her work a strength and presence not seen in her fiber pieces. The pieces are black, but not connoting darkness or evil; instead they have a blackness that is more suggestive of nighttime and a mystical, spiritual energy. Yarmolinsky has transformed a utilitarian material into an exciting sculptural piece. Indeed the trend in her recent work is towards an increasingly sculptural quality, but one senses that the painterly use of color will remain important. It is the combination of structure and painterly illusion which creates the powerful mood of the work.

Bilgé Friedlaender, Ke Francis, and Michelle Stuart are involved in their own visual languages in which using a variety of papers is a key element. Friedlaender uses a wide range of papers from the East and West, particularly for the making of artist's books of exceptionally fine quality that combine papers from dramatically different origins in ways that demonstrate a tremendous sensitivity to the character of the papers themselves. Friedlaender often keeps papers for years, waiting until a work evolves for which the paper is

suited. Her intuitive sense of paper and other natural materials is complemented by her notably rational conceptualization of her work. *Notes on River/House/Book* is an example of the many levels of meaning and intellectual complexity on which her formal work is based. It also demonstrates the range of potential visual arrangements that the *River/House/Book* can assume. Ke Francis is deeply involved in the literal and figurative ceremonies and accommodations which the people of the southeastern United States have built up around such awesome natural phenomena as hurricanes and tornados. Using these local tales and remedies as points of departure, Francis has developed his own mythology and delineated a ceremonial area where the spirits reside in the woods near his isolated Mississippi home. Stuart's work is at once highly intellectualized and extremely ritualistic. In her evocations of peoples and spirits of past civilizations she has succeeded in what Rosenberg had thought was impossible: the blending of the ancient with the new, the primitive with the very sophisticated, accurate geological information with mythological legends.

New American Paperworks set out to survey Eastern and Western papermaking and paper using traditions and to examine the reflections of these traditions in the work of twenty contemporary American artists who have chosen paper as a medium. What we have discovered is that whether they make it themselves or respond to paper made by others, these artists' work is shaped in large part by the nature and essence of the paper itself. Such small aesthetic decisions as the selection of a paper or fiber or process to work with seem to engender involvements with paper that are not unlike the mystical attraction that it has exerted since its beginnings in the pre-paper world of Polynesia, through the advent of true paper in ancient China, and the blending of spiritual and functional uses of paper in Japan. Because these artists' involvement with paper so eerily evokes the revered traditions of Oriental handmade papers, it is with great pleasure that we prepare *New American Paperworks* for exhibition in the Far East after its showings in the United States.

Notes

1. Tsuen-Hsuin Tsien, *Written on Bamboo and Silk: The Beginnings of Chinese Books and Inscriptions* (Chicago: University of Chicago Press, 1962), p. 138.

2. For further discussions of the chemistry of paper please refer to the following books:
James Clark, *Pulp Technology and Treatment of Paper* (San Francisco: Miller Freeman Publications, Inc., 1978).
Roy P. Whitney, "Chemistry of Paper," in *Paper—Art and Technology*, ed. Paulette Long (San Francisco: World Print Council, 1979), pp. 36–44.

3. For further information on the two major papermaking techniques, *tamezuki* and *nagashizuki*, please see "Standard Hand Papermaking Techniques," by Timothy Barrett, in this catalogue.

4. Carla Freitas, "Tapa in Ancient Hawaii," in *Tapa, Washi, and Western Handmade Paper: Papers prepared for a symposium held at the Honolulu Academy of Arts, June 4–11, 1980* (Honolulu: Honolulu Academy of Arts, 1980), p. 14. Additional material is from an interview with Ji-xing Pan, Associate Professor of Research, Institute of History of Natural Science, Peking, February 28, 1982, Washington, D.C.

5. Freitas, "Tapa in Ancient Hawaii," p. 15.

6. Victor Wolfgang Von Hagen, *The Aztec and Maya Papermakers* (New York: Hacker Art Books, 1977), pp. 77–78.

7. Hans Lenz, *Mexican Indian Paper, Its History and Survival* (Mexico City, Mexico: Rafael Loera Y Chavez, Editorial Libros de Mexico, 1961), pp. 19–48, 113–149.

8. Ibid., p. 130.

9. Ibid., p. 123.

10. Thomas Francis Carter, *The Invention of Printing in China and Its Spread Westward*, second edition (New York: The Ronald Press Company, 1955), p. 9.

11. Tsien, *Written on Bamboo and Silk*, pp. 132–138. The discussion of the word *chih*, held by some to indicate the existence of a quasi-paper containing silk refers to a lexicon, *Ku-chin tzu-ku*, compiled by Chang Chich in 232 A.D. Chang discusses the change in the radical from a silk radical in the character which now means paper to a cloth radical after the invention of paper. Tsien concludes, "Although the sounds of the two words remain the same, their radicals are different. Hence it cannot be said that ancient paper is the same as modern paper." References to Mr. Pan's research are from an interview in Washington, D.C., on February 28, 1982, and a lecture, "On the Origin of Papermaking in the Light of Newest Archaeological Discoveries," given at the Smithsonian Institution, March 2, 1982. This material has been published in his book *Zhongguo zaozhi jishu shi gao* [History of Papermaking Techniques in China] (Beijing: Wen Wu [Cultural Relics] Press, 1979), chapters I and II. (This book will be published in English in 1983.)

12. Edwin O. Reischauer, and John K. Fairbank, *East Asia: The Great Tradition* (Boston: Houghton Mifflin Company, 1958), pp. 36–41.

13. Clarence Burton Day, "Paper Gods for Sale," *China Journal* [Shanghai] 7, No. 6 (Dec, 1927), pp. 277–284.

14. Dard Hunter, *Chinese Ceremonial Paper: A monograph relating to the fabrication of paper and tin foil and the use of paper in Chinese rites and religious ceremonies* (Chillicothe, Ohio: The Mountain House Press, 1937).

15. Ibid, p. 75.

16. Bunsho Jugaku, *Paper-making by Hand in Japan* (Tokyo: Meiji-shobo, Publishers, Limited, 1959), pp. 10–11.

17. Sukey Hughes, *Washi, the World of Japanese Paper* (Tokyo, New York, and San Francisco: Kodansha International, 1978), pp. 54–55. Professor Seishi Machida, paper historian, Kyoto, has pointed out that generally the priests do not actually burn the kamiko robes at the end of Omizutori. The robes which have not been ruined are saved to be used as spares for the next year's ceremony. Although each monk does make a new one each year, sometimes the new ones are torn and the spares are used.

18. Jesper Trier, *Ancient Paper of Nepal* (Copenhagen: Jutland Archaeological Society Publications, 1972), p. 17. Trier cites another source as the originator of this theory: Sasuke Kakao, "Transmittance of Cultivated Plants Through the Sino-Himalayan Route," in *Kibara*, 1957, pp. 397–442.

19. Carter, *The Invention of Printing in China*, p. 8.

20. Trier, *Ancient Paper of Nepal.*

21. Carter, *The Invention of Printing in China*, pp. 94–95.

22. Ibid, p. 136.

23. Henk Voorn, "Papermaking in the Moslem World," *Papermaker*, 28, No. 1 (Feb. 6, 1959) p. 38.

24. Carter, *The Invention of Printing in China*, pp. 176–77.

25. Ibid, p. 181. See note 2. The earliest dates of this finding are disputed and Carter cites other sources.

26. Ibid, p. 178.

27. Ibid, p. 179.

28. Arther M. Hind, *An Introduction to a History of Woodcut* (1935; reprinted. New York: Dover Publications, Inc., 1963). pp. 82–83.

29. Harold Rosenberg, "Art and Words,"

in *Idea Art*, ed. Gregory Battcock, pp. 150–164. (New York: E.P. Dutton, 1973), p. 163.

30. Bilgé Friedlaender, unpublished journals, October 7, 1978.

31. Calvin Tompkins, *The Bride and the Bachelors* (London: Weidenfeld and Nicolson, 1962).

32. Friedlaender, unpublished journals, October 7, 1978.

33. For further documentation for the use of handmade paper in fine art printing, please see the following:
Andrew Robison, *Paper in Prints* (Washington, D.C.: National Gallery of Art, 1977).
Janet Flint, *New Ways with Paper* (Washington, D.C.: Smithsonian Institution Press, 1977).
Jane M. Farmer, *Paper As Medium* (Washington, D.C.: Smithsonian Institution Traveling Exhibition Service, 1978).
Jane M. Farmer, "Why Paper, Why Now?" *Visual Dialog* 3, No. 4. (Summer, 1978), pp. 2–3.

34. Dates and history are, of course, subject to much tiresome controversy as to who was the first with any given idea. For this reason, we shall consider the beginning of paper as medium the time that it began to get considerable public attention, that is the last ten years.

35. Jan Butterfield, *Sam Francis*, exhibition catalogue (Los Angeles: Los Angeles County Museum of Art, 1980), pp. 17 and 14.

36. Interview with the artist, South Salem, New York, September 3, 1981.

37. For an excellent description of Lutz's casting technique, please see her article, "Casting to Acknowledge the Nature of Paper" in *International Conference of Hand Papermakers*, documentation of conference held in Boston, Massachusetts, October 2–5, 1980 (Brookline, Massachusetts: Carriage House Press, 1981).