



Figure 3. Re-structure the site, where locates in between New urban area and Cot village

4. Research results

From the content of the sociological investigation, the demand for activities and space use between the new urban area and the urbanized village is summarized according to the following focuses:

Regarding the need to use public functions, most of the comments collected from the residential community in the new urban area and urbanized villages show the need for additional public functions (accounting for 71.4%). In particular, the works are required to be designed with a large setback to arrange the yard and open space (accounting for 43.2%). In addition, public functions need to ensure convenient walking access (accounting for 62.5%). Regarding the demand for commercial activities, the results of the sociological survey show that it is not necessary to expand the new land area for commercial function (accounting for 34.1%) but instead integrate in the commercial activities. traditional commercial areas (accounting for 52.4%), raising high floors (the percentage of votes for construction of more than 3 floors accounts for 82.5%). Regarding the need to use playgrounds and gardens, most of the comments reflected the need to supplement and expand the scale (accounting for 84.7%) through effective utilization of existing green plants (accounting for 76.2%). Regarding housing demand, an increase in housing fund is needed in the area (accounting for 54.8%), mainly mixed housing types (accounting for 76.2%). However, the issues of division of land parcels, raising floors, increasing construction density, and regulations on setbacks in construction, there are still differences between new urban residents and urbanized village residents. Most of the population on the urbanized side of the village has the need to increase the area, expand and renovate the works, accounting for 54.2%, while this rate on the new urban area is 29.2%. Regarding the need to access and use the traffic network, the majority of opinions want to improve and upgrade the existing road network (accounting for 61.9%), the rate of wanting to develop a new road network is quite low and because of the difference between a new urban area and an urbanized village. Especially with the issue of

creating traffic routes with limited motor vehicles, the desired rate is quite high (accounting for 65.9%, disagreeing is 7.3%).

Regarding the requirements for building architecture, the majority of opinions said that there should be a similarity in height between the expanded village area and the new urban area (accounting for 69%). The issue of high floors should gradually decrease from the urban side to the village side, which did not receive much consensus (with 4.8% consensus) but the approval rate for building elevation on the village side was quite high (accounting for 59.5%). The typical architectural features that need to be protected received a very high consensus of the residential community (63.7%). The need to use sidewalk space in the area adjacent to the village and the new urban area shows many frustrations in the community. Most of the comments wanted to widen the sidewalk (accounting for 70.5%), should give priority to using sidewalk space for local people (accounting for 61.96%), selling street goods on each area (accounting for 73.8%) and need to address the need for parking (accounting for 73.5%). However, the issue of narrowing the roadway is quite contradictory to the need to widen the sidewalk when the percentage of respondents saying that it is not necessary to narrow the roadway is 59.5%. Regarding the need to use open space, the opinions said that it is necessary to diversify activities in outdoor spaces (accounting for 78.6%), focusing on creating playgrounds (accounting for 71%) and should install open spaces at the places where the ice crosses the road (accounting for 65.8%). Regarding the demand for landscape space, most of the answer sheets emphasized the use of existing green landscape features (accounting for 73.2%) and the arrangement of waste collection points. temporary (accounting for 59.5%).

5. Discussions

In the context of urban expansion, the appearance of new spaces alongside existing ones is common practice. Under the influence of development and policy making, there is a lack of spatial coherence and inconsistency in infrastructure between new and old areas. Therefore, coherent research is necessary to strengthen urban land fund. From the analysis of the needs and psychology of the community, the solution to organize the cohesive space is focused on the following contents:

- Solutions for organizing functions in cohesive spaces. The functions to complete the space need to meet the following criteria: Harmonizing the interests of investors and people whose land has been acquired; Reasonable area requirements for land parcel consolidation and division; Expand the sales and service scale of the public function.

- Solutions for organizing low-speed traffic routes. Applying Hillier's theories of "spatial syntax" to create features of "integrated space" through low-speed traffic, which is a driving force for economic development - social community cohesion here. The integration of diversity is the basis for forming thematic spaces according to the ideas of the current trend of "smart growth" and "green growth".

- Proposal for synchronous application of block merge and block split solution. The solution of block or block separation is not a new point, but the rational and harmonious application of these two solutions in a

(xem tiếp trang 12)

Applying mother-of-pearl marquetry to modern interior materials technology

Lương Minh Thu



Abstract

Mother-of-pearl marquetry is one of the crafts with artistic, cultural and historical value. The traditional mother-of-pearl marquetry technique is very sophisticated. Mother-of-pearl marquetry is often used as an interior decoration materials in traditional architecture. However, the application of mother-of-pearl marquetry materials is quite limited in modern architecture and interiors in Vietnam. In many countries such as Japan, Italy, France, etc.. mother-of-pearl-marquetry has been researched with advanced production technology to find new solutions in luxury interiors. This article is based on practice to propose some effective and suitable solutions for applying mother-of-pearl marquetry materials to modern interiors in Vietnam.

Key words: mother-of-pearl marquetry, mother-of-pearl mosaic pearl inlay, material technology, interior, design, modern

1. Introduction of Vietnamese traditional mother-of-pearl marquetry

Mother-of-pearl marquetry (also known as mother-of-pearl inlay, mother-of-pearl mosaic, mother-of-pearl inlay, snail inlay) is a long-standing Vietnamese craft. This is a job that takes advantage of the beautiful mother-of-pearl patterns of clam shells, snail shells, and egg shells to inlay into other material surfaces to create decorative patterns. Vietnam's terrain is located along the coast, so there are abundant native raw materials, creating favorable conditions for maintaining the mother-of-pearl mosaic profession. Previously, most mother-of-pearl products were used in the royal court or by nobles and prestigious people [1].



Figure 1.1. Shells are used as pearl inlay materials

Chuon Ngo craft village which is located in the south of Hanoi city is considered the cradle of mother-of-pearl inlay craft in northern Vietnam. Chuon Ngo village (formerly Ngo Ha) passed down the tradition that the founder of the craft was monk Truong Cong Thanh, who was later honored as the village's tutelary god. Later, under King Le Hien Tong (1740-1786), a craftsman named Nguyen Kim came from Thanh Hoá, taught villager his secrets and became the second founder of the craft village. Around the mid-19th century, a number of mother-of-pearl inlay workers in the commune moved away from home to settle in Cuu Lau - an ancient village in Hanoi overlooking Hoan Kiem Lake (now Hang Khay Street, Hanoi). Hang Khay Street was known as the street of pearl-inlay workers until the French colonial period, Hang Khay Street was demolished and replaced by Paul Bert Street, where mosaic workers couldn't come to work. After 1986, in the North of our country, there were changes in economic structure, national innovation, and encouragement of non-state-owned enterprises, helping traditional craft villages to develop again with exported handicrafts. Chuon Ngo mother-of-pearl mosaic workers moved to regions throughout the country such as to develop their craft (such as Hue, Nha Trang, Da Nang, Hoi An, etc). The mother-of-pearl mosaic profession is coordinated with other professions to create products such as to serve the needs of the market (such as Dong Ky wood craft, Bat Trang pottery craft, Boi Khe lacquer craft, etc) [2].

Mother-of-pearl inlay is used on many types of products and furniture. Particularly for inlaying mother-of-pearl onto products with different types of cores,

it can be divided into two groups of applications: inlaying into household items (furniture such as cabinets, tables, beds) and inlaying into worship and offering objects such as Ancestor altars, horizontal parallel sentences, and scrolls. Household items commonly used inlaid with mother-of-pearl such as cabinets, cabinets, tables, chairs... are smaller and can be used to decorate everyday items or decorative items such as vases, vases, chopsticks, and bowls. In addition, it is also used to decorate many interior components such as columns, doors and other types of wooden furniture in the house [3]. Since Vietnam entered the innovation phase, smaller wooden items used for decoration and souvenirs have been produced to serve in tourist business areas.



Figure 1.2. A display of goods at the international fair at the Hanoi martial arts house in 1925 (Note in the photo: "Pearl mosaic, fair in Hanoi in 1923")

2. Factors affecting the application of traditional mother-of-pearl mosaics in modern Vietnamese interiors.

Traditional crafts are facing difficulties in the age of industrialization and modernization in Vietnam. Many scientific studies and projects seek new solutions for traditional craft villages in Vietnam, including mother-of-pearl inlay. The author believes that the reasons why handmade mother-of-pearl inlay today is difficult to widely apply include: Production methods and techniques; Material properties; Physical and mechanical properties of the material; Aesthetics and culture; Economics [4, 5].



Figure 2.1. Factors affecting the ability to apply traditional mother-of-pearl mosaic in modern interiors.

2.1. Production method: The work is done manually through many steps in traditional mother-of-pearl inlay workshops:

Thinning the mother-of-pearl and snail shells then smoothing and polishing; cutting wood, cutting pieces into shapes; inlaid (carefully), polished, lacquered. It can be seen that the traditional, multi-step manual production method that consumes human resources is no longer suitable for modern interior construction. In the era of industrialization, manual production is difficult to meet both standards of output and sophistication.

2.2. Production process, construction progress:

In fact, currently only Dong Ky woodworking village has many Chuon Ngo mother-of-pearl inlay workers living and working in wood factories. This is almost absent in modern furniture factories that use industrial or natural wood. Therefore, if one wants to apply handmade mother-of-pearl inlay to modern furniture production, one will have to transfer the components that need to be inlaid (cabinet doors, table tops, etc.) to craft villages, wait, and transport them and return after being inlaid as required. For objective reasons, this process is quite time-wasting and is likely to cause problems with product quality as well as work completion schedule.

If we only maintain craft villages using old production methods, it will be impossible to expand the scale of application. It is necessary to supplement production methods and apply mother-of-pearl inlay techniques to suit the market mechanism. On that basis, we need to think of solutions for applying mother-of-pearl mosaic in modern interior material production technologies. Combined with machinery and crafts, mother-of-pearl inlays are mass-processed at specialized workshops into modules, turning mother-of-pearl inlays into panels of interior surface finishing materials similar to surface materials: Melamine, Laminate, Acrylic, Alu, Verneer etc. These panels are distributed by wood factories, furniture factories, and construction contractors. This method minimizes steps and brings greater efficiency.

2.3. Economy: As stated in section 2.1, the production process of furniture or architectural structures using traditional mother-of-pearl inlay materials is quite complicated. This process, in addition to causing waiting time, can also cause costs incurred (transportation costs, labor costs, material costs).

In fact, when the part of furniture components (cabinet doors, table tops, etc.) that have been inlaid has been transferred to the wood workshop for finishing the furniture, there is a possibility of errors arising during the transportation process. Or the risk is even higher when the inlaid parts do not achieve the aesthetic effect and quality that the model designer requires. Then a repeated process to correct errors entails many additional costs.

One can also think of the solution of bringing construction workers directly to the construction site, but the rate of using mother-of-pearl mosaic in a project or product is usually not high. This approach also incurs unnecessary costs.

2.4. Properties of the material: Actual surveys show that the traditional handmade mother-of-pearl inlay technique goes through many stages, but the inlaid surface has poor impact resistance, is easily scratched, and can peel off over time. should only be used on decorative surfaces that are less susceptible to friction and impact. Under Vietnam's climate, temperature and humidity conditions, the uneven expansion

rate between the mother-of-pearl surface material and the core plate leads to cracks or open expansion joints between the parts.

2.5. Aesthetic form, visual language and decorative theme: At the workshops of the current handmade mother-of-pearl mosaic craft village, the process of checking and evaluating the quality of completion is carried unprofessionally. This leads to inconsistent finishing quality, which makes it difficult to meet modern market standards.

Besides, the shapes and decorative themes of mother-of-pearl mosaic materials are rarely designed or innovated to suit modern aesthetic tastes. Traditional topics such as: Ancient stories, historical figures, Chinese characters, etc. Only limited application in one product group. Some new decorative themes are not beautiful because they have not been professionally designed. Thus, there needs to be a separate design stage for mother-of-pearl mosaic themes to be used more appropriately in modern interior decoration.

The above reasons that limit the application of traditional mother-of-pearl mosaics in modern interiors are the basis for proposing solutions. These solutions, in addition to the goal of promoting the widespread application of mother-of-pearl inlay materials in interiors, must still ensure modern quality criteria including: usability, aesthetics and price.

3. Solutions and examples of applying mother-of-pearl materials in modern interiors

3.1. Innovating production methods: Instead of manual production on-site and directly on the surfaces of interior components, mother-of-pearl inlay materials can be processed in the form of pre-assembled modules.

In the world, materials company F.B Innotech has successfully researched the technology to produce modular mother-of-pearl surfaces pressed on carbon fiber panels. Carbon fibers are fibers about 5-10 micrometers in diameter and composed mainly of carbon atoms. Characteristics of carbon fiber: high hardness, high tensile strength, light weight, high chemical resistance, high temperature resistance and especially low thermal expansion; however, carbon fiber is relatively expensive compared to other fibers which are similar to fiberglass or plastic fibers. Carbon

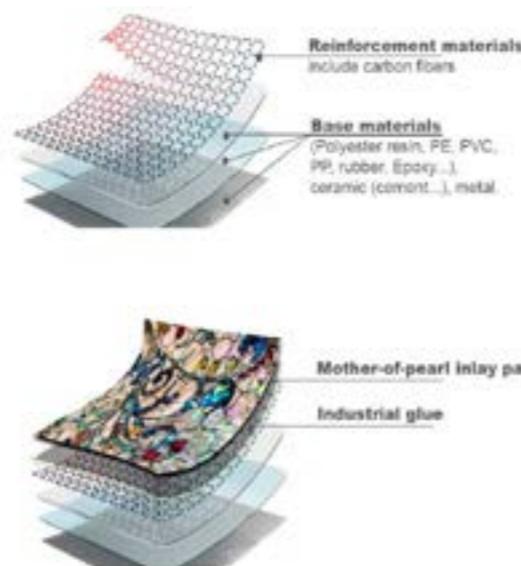


Figure 3.1. Structure of mother-of-pearl material panels

fiber material technology has been widely applied in many industries and is a breakthrough in materials technology because of its advantages.

On a base of carbon and mother-of-pearl materials, heat pressed and glued using high technology to create modular material panels with patterns, with dimensions of 150mm x 10mm rectangle or R=5mm circle. This size can be customized upon order. So, in this way, the nacre material has been reinforced and on the carbon base, it has almost overcome most of the disadvantages in its own properties. Modular mother of pearl material panels conform to technical requirements of interior materials including:

- Regarding size: Can produce products with diverse sizes (length x width); Relatively thin thickness
- Can be bent or pressed to create a shape.
- Withstands temperatures in tropical monsoon climate conditions in Vietnam. In particular, low thermal expansion. This characteristic increases the surface of the material, makes it difficult to peel and shrink, and is less likely to expand, creates gaps at the intersection between the mother-of-pearl inlay material and other finishing materials.
- Flexible, easy to transport and store
- Specialized production line combining handicraft (laminating mother-of-pearl into decorative patterns) and industry (heat pressing, gluing, gloss coating, surface protection...). This specialization brings economic efficiency, reducing human resources and production costs.
- Modular patterns when grafted onto interior surfaces can also easily create luxurious, high-class decorative patterns, suitable for modern aesthetics.

Mother-of-pearl mosaic material panels can increase the value of finished products compared to traditional mother-of-pearl mosaics. This from an economic perspective is to raise product prices in accordance with the value of labor and production time, along with the sales story: honoring tradition and preserving and promoting traditional handicraft villages. Products suitable for the modern market (in terms of quality, aesthetics, applicability) contribute to promoting production and creating stable jobs for local workers.

3.2. Process innovation: As stated in section 2.2 about the actual construction of interior projects, we realize it is



Figure 3.2. Carbon fiber material plate with mother of pearl surface, brand F.B Innotech (Italy)

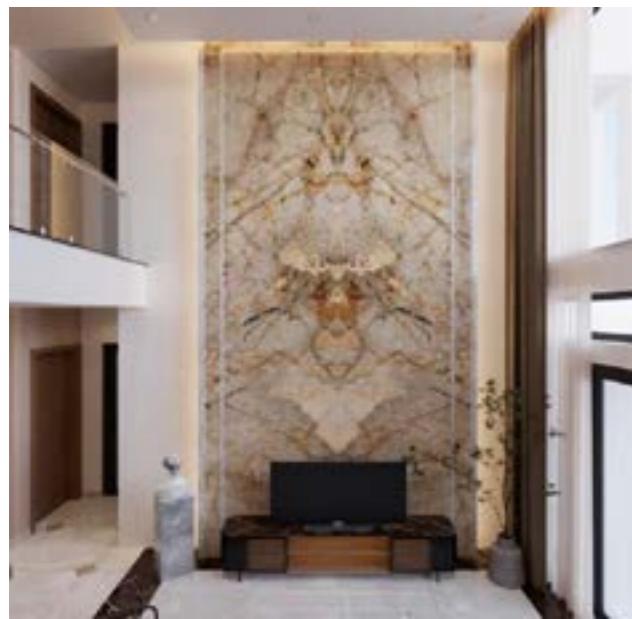


Figure 3.3. Mother-of-pearl mosaic material line panels on the wall decoration. Mother-of-pearl mosaic material panels on the floor decoration

necessary to propose solutions to shorten the process of applying mother-of-pearl mosaic materials in interiors.

To innovate the process, the first way is instead of inlaying mother of pearl on site (construction), or inlaying part of the product structure at a mother of pearl inlay factory, the mother of pearl inlay panels are mass produced at the factory and transported (through agents) to wood factories or interior construction projects. Materials are more accessible to the market. Production stages are shortened, ensuring time and cost savings. The second way is to orient mass production of interior furniture designs and produce finished products at the factory and mass sell them to the market or limit quantities in higher segments like the way of other brands. Wood workshop is hold in Dong Ky village.

This solution also makes the application of mother-of-pearl mosaics in modern interiors more flexible. Can be used to decorate interior surfaces or use to decorate furniture.

Using decorative mosaic panels on surfaces in interior spaces: Ceilings, walls, floors. Currently, there are many types of modern materials commonly used as solutions for finishing ceiling, wall and floor surfaces in interior spaces such as industrial wood, wallpaper, artificial stone, etc. This type of material Completely meets aesthetic criteria as well as easy construction. With current interior material production technology, the common interior surface material sheet size is usually 2400mm x 1200mm. There may also be suppliers that produce panels in larger sizes for specific spaces, but the usual solution is to combine panels in a common format for unique decorative and accent effects. large for interior ceilings, walls and floors, designers apply the following solutions: Cutting and joining to take advantage of changes in the picture details on the surface of materials of the same or different types to create visual effects; Slotted and CNC cut to create detailed accents [6].

With the above methods, additional decorative braces are needed that can both hide the joints on the material surface and create a vivid visual composition. As a highlight for ceilings, walls, floors... module panels made of mother-of-pearl inlaid material promote very good visual effects. It



leather. Construction of mother-of-pearl inlay is no longer too difficult with manual operations having to be completed at a separate workshop. Furniture factories can import finished mother-of-pearl inlay materials to conveniently and effectively apply them to interior products [8].

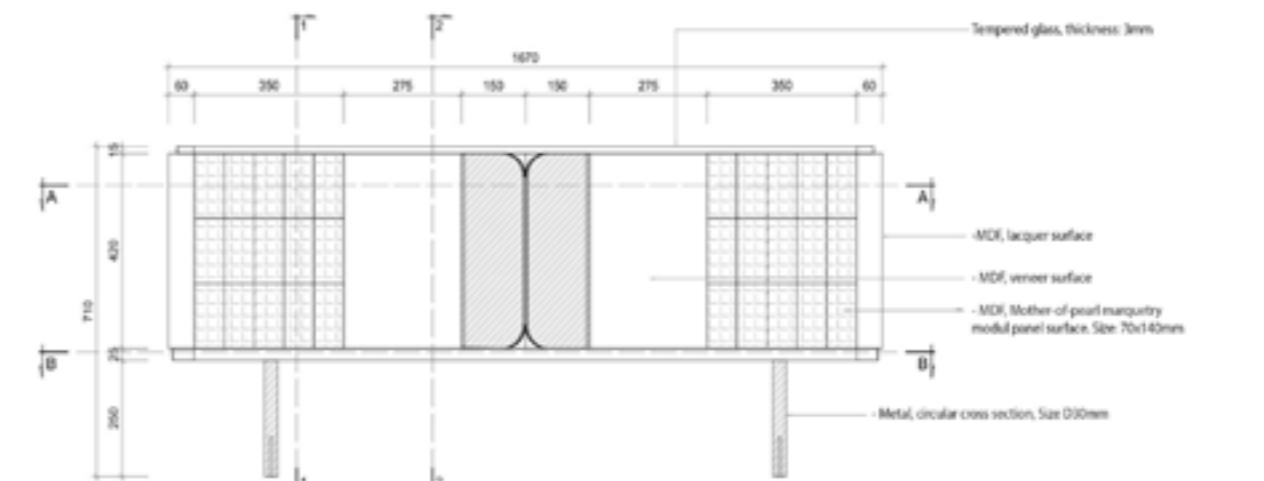


Figure 3.4. Mother-of-pearl mosaic material panels on the modern con sole (Design by Huynh Nguyen Phuong Thao - 20NT5 Interior design class, Faculty of Interior design - Hanoi Architectural University).

3.3. Solutions to change product form, style and decorative theme: When mentioning mother-of-pearl inlay, we think about delicately carved traditional wooden furniture. In fact, traditional mother-of-pearl inlay still has its own market such as: in wooden houses made in the traditional Northern style; Cultural and religious buildings such as communal houses, pagodas, etc. Typically in Dong Ky wood village, factories still produce a series of popular models that are popular among a certain group of customers. However, it would be a pity if mother-of-pearl inlay cannot reach high-end customers who tend to have a modern, concise and sophisticated aesthetic. Therefore, it is necessary to propose solutions for applying mother-of-pearl inlay on furniture. The furniture has modern designs and designs and has been put into mass production, serving the mid-range customer group.





Figure 3.5. A modern console decorated with traditional mother-of-pearl mosaics



Figure 3.6. A modern table decorated with traditional mother-of-pearl mosaics

Some opinions are concerned that the "industrialization" of mother-of-pearl mosaic materials will reduce its value. However, it can be analyzed to show that mother-of-pearl mosaic products are always artistic and unique because the beauty of the mother-of-pearl mosaic technique takes advantage of the unique uniqueness of colors and nacre patterns. on snail shells, mussel shells... It can be seen that, on the same product or on many products of the same type, there are no products that are 100% identical. That is a special characteristic of handmade products and is even more evident with mother-of-pearl mosaic art. Thus, the unique value of mother-of-pearl inlay depends on the nature of the pattern (uniqueness of non-duplication) of the mother-of-pearl pattern rather than on the manufacturing technique.

From the above characteristics of mother-of-pearl, in addition to mass production, it is possible to exploit the unique element focusing on luxury customers, design

new decorative motifs, create unique shapes according to customer requirements. Natural patterns are never duplicated, the inherent uniqueness of mother-of-pearl patterns along with the design create a unique beauty from each piece of material.

Conclusions: In recent years, emphasis has been placed on exploiting tradition in modern interior design, so mother-of-pearl inlaid materials have high and effective applicability. In particular, the application of mother-of-pearl inlay to interiors by innovating material technology and production processes makes mother-of-pearl inlay more user-friendly, easier to construct, and minimizes production steps. Furthermore, this approach will certainly contribute to creating jobs for workers in craft villages, promoting economic efficiency for the country as well as promoting the traditional cultural values of craft villages that are facing many difficulties./.

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History and ways to carry out the process of monotype

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Abstract

Monotype (monoprint) is a unique print made by pressing paper against a painted or inked surface. The pigment on the plate is usually insufficient to make another print. A monotype is a single impression from a printing surface that cannot be reused. The monotype is an intriguing hybrid among printmaking techniques. It is neither a print nor a painting but a unique combination of both. The method is aptly named because it is one image (mono), painted or drawn with oil paint, water-based paint, or printer's ink directly on a plate and then transferred to paper. The impression can be transferred by hand rubbing (with a rubbing tool or the hand), particularly if the work is painted on glass. Hand rubbing produces sensitive results on Vietnamese paper. A monoprint, on the other hand, designates a special, often one-of-a-kind. This article is an overview of the development history and some monotype methods at printing factories from the past to present.

Key words: monotype/ monoprint, printing, plastic, technique, ink...

1. Ask a problem

The monotype can be classified as a work produced from transient and unprocessed surfaces such as glass, plastic, gel. Purpose the work produced is singular.

This technique follows the printmaking template of reproducing images from one surface to another using ink and more closely pressure the marks made and the associated with painting. Printmaking is traditionally a medium that allows the production of multiple copies or the edition of the image from the initial plate, block, stone, or screen. In contrast, the monotype allows full of the original image.

In order to counteract the natural bias of the dominant hand and create a surprise when the print is completed, classical painters introduced a way to print monotypes. They are studying the unfinished painting in a mirror. Because the unique style will create an inverted shape of the original image.

Monotype is the same as Fine Art, direct and flexible in the prints that you can get. The prints can be created with various things that can be found inside your house like toothbrush, wiper or anything else which you want the texture from it. There's a lot of ways to create the details on the printing surface and it can be done quickly or slowly, in detail. The drying speed will depend on the printing ink. Special impressions can be captured in a monotype.

2. History of monotype

Monotype printing first appeared in the 15th century. Some people said that, Giovanni Benedetto Castiglione (1616 - 1670), a master artist, experienced with this technique. His remaining artworks mostly refer to religion. He first put color on the piece of metal, then printed it onto a paper. Because monotype printing involves transferring ink from a plastic in to a piece of sheet, so any surface which has ink on it will transfer itself and create the unique technique. Rembrandt (1606 - 1669) also tried to make his own portrait with monotype technique.

Degas has used the monotype printing technique from 1875 to 1885, in "The



Self-portrait, monoprint, Benedetto Castiglione



Self-portrait, monoprint, Rembrandt

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