The effect of using soft and hard plates on printmaking

Dr. Mariam Samir Mohamed Morsy Hekal
Lecturer In Faculty of Fine Art Alexandria University Graphic Department, Printmaking Section
Mariam.hekal@alexu.edu.eg

Abstract

The artistic print has multiple effects, but due to rising prices, the need to search for alternatives to embossed and especially recessed printing plates has increased. Among the alternatives, the research resorted to using gypsum and clay molds as substitutes for embossed and recessed printing due to their lower cost, abundance, and ease of shaping.

The printing textures can be placed during the preparation of the mold according to the area defined by the artist, whether it is circular, oval, or free-form, and any area according to the artist's perspective. After that, printing plates made from worn-out items such as leaves or old fabrics with a printed texture are placed, transforming them from worn-out objects into a work of art; this emphasizes the idea of recycling.

Printing methods can also be manual or use a printing press, and the printing plate can break during printing, resulting in a different artistic shape.

The search for alternatives is considered important for artists in the field of fine arts, especially university students, due to rising prices and the spread of modern programs such as artificial intelligence, which is strongly influencing the world. The researcher began to look for alternatives that enrich the beauty of fine arts and also promote environmental conservation through recycling and its development to keep pace with the modern technological era.

The research conducted practical experiments with clay molds using earthenware clay, as well as with solid molds like gypsum. The research also aimed to minimize the harmful effects of hazardous materials to protect both the environment and the artist.

Keywords

Clay printing - Gypsum printing - Soft molds - Decoupage printing - Hard printing - AI programs

Research Problems

1) What is the reason for the scarcity of historical photos in this field?
2) Are the molds breakable?
3) Can soft molds like clay and dough erase printed textures?
4) Can you get more than one mold from just one dough?

Research Objectives

1) To search for printing alternatives to reduce the financial costs for artists and students of art schools.
2) To enrich the artistic print through various methods.

Importance of the research

1) Different aesthetic values of artistic printing.
2) Benefit to artists, researchers, and students in the field of artistic printing.
3) Reducing costs and seeking alternatives.

Research Methodology

Historical – Experimental

Introduction

Printing on clay is considered one of the oldest printing arts, and it was first practiced by the Babylonian civilization in Iraq. They used it to express signatures on documents and go vernment papers at that time. The printing on clay involved writing on it, and clay was used as a temporary mold to create a reverse impression for preparing a permanent mold. Later, cla y seals appeared, which were found among the mounds in the Tigris and Euphrates river s around 3500 BC, and through this, the cylinder seal emerged around 2300 BC. (Zaid Wahba Al-Sayyadi -The Most Important Inventions and Discoveries in Human History - Dar Al-Saq i - 2017 - p. 4).

It is clear from this, that an artist can replace expensive printing molds with clay molds . However, there are clay molds that can dry, such as Aswan clay, which allows the printing m old to retain the artist's drawing, engraving, or textures. This way the artist contributes to envir onmental preservation at a lower cost and also
Helps students in schools and art colleges to look for alternatives.

Some scientific references have clarified the benefits of clay, as it is
composed of mica minerals and some organic materials, as well as being mixed
with quartz and feldspar. It has been used in treatment and may be safe to consume in certain cases, and it has an effect in treating some diseases. Additionally, it has been included in some pharmaceutical formulations due to its benefits. Therefore,
there is no harm to humans or the environment if it is used in artistic works. (Raed Mohamme d Hamid Hassan - Healing with Clay and its Use until the End of the Fourth Century AH/ T enth Century AD - University of Mosul - College of Arts – Department of History - 28-4-2019 - p. 226-227).

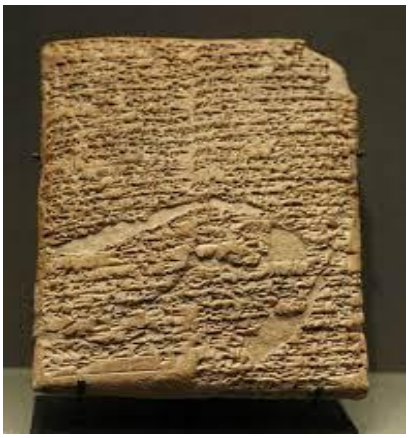

Figure no.1 illustrates the clay writing of the Babylonians.
Encyclopedia of the Temple of Art (Babylonian)

Printing from paper to hard drive

In most printing methods, the ink is transferred from the surface of the printing plate to the surface of the paper. However, some artists have resorted to doing the opposite by using a st one or solid plaster mold to add an aesthetic dimension and a different perspective to printing surfaces, which can either be the artwork itself or a sculptu ral piece.

Some artists use different methods to prepare the stone surface to become the artwork b y sanding and smoothing the surface, printing the artwork with laser ink on the paper, and then gluing it onto the stone surface using a glue called Mod Podg. This glue is specialized for transferring ink from the paper to the stone surfac e by applying it over the mold surface with a brush to spread it. After that, the paper is place d in the middle facing the stone, and it has a design printed with laser ink. We expose it to he at and leave it for twenty-four hours to complete the drying process. After that, we rub the pa per with water, and once the paper is completely removed, the stone mold appears with th e design on it.(Handicrafts - printing on stone - Palestine -https://www.youtube.com/wat ch?v=3ZIF86aq8GQ).

Figure no.2 shows the stone in its final form

Figure no.3 shows the stone in its final form

Figure no.4 show the stones in its final form
(Handicrafts - printing on stone - Palestine -
https://www.youtube.com/watch?v=3ZIF86aq8GQ).

Decoupage printing

The meaning of the word "decoupage" originates from the French word"decouper," which m eans to cut from something else. This term has roots in Eastern Serbia and was used by noma dic tribes to decorate graves. Its use spread to China in the 12th century, where it was applied in decoration, especially for lanterns and
windows. In the 7th century, the art of decoupage expanded significantly in Europe, particularl y in France and Italy.

In this method, thin tissues or papers are used by printing on them with regular inkjet or lase r ink, and then supporting them with paper. After that, the paper is separated and the lay ers of the tissues are separated. The tissues are then fixed onto stone, plaster, or any printing su rface and secured with glue diluted with water, applying it from the center to the edges. Aft er drying, a layer of clear varnish is applied for protection (Imogen Cooper-Kirsty Roberts on - Getting Started in the Prettiest Papercraft - June 20, 2024).

Image no.5 illustrates the decoupage print by the artist Chanelle Correia

Image no.6 illustrates the decoupage print by the artist Chanelle Correia

Image no.7 illustrates the decoupage print by the artist Chanelle Correia

Image no.8 illustrates the decoupage print by the artist Chanelle Correia

Image no.9 illustrates the decoupage print by the artist Chanelle Correia
(Chanelle Correia- Decoupage Art-
printwithpassiondecor.com/products/decoupage-82)

3D Ceramic Printing

Some artists have turned to creating three-dimensional shapes from Aswan clay by shaping the clay and then placing it in electric kilns at a temperature of up to 1000°C. It is evident that Aswan clay can be shaped into any form, and while it is still soft, textures can be printed on it to serve as the artwork itself.

Figure 10 shows the shape of Aswan clay (Rasha fawzy –Ibrahim Eldesoky- An Applied for the design and implementation of ceramic 3D printer- the International Journal of Educational Sciences at South Valley University-p240)

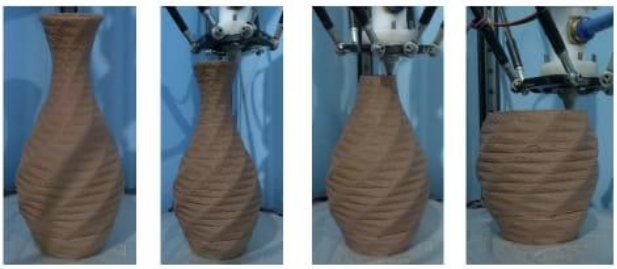

Figure 11 illustrates the process of shaping Aswan clay, firing it, and transforming it into three-dimensi onal ceramics. clay (Rasha fawzy –Ibrahim Eldesoky- An Applied for the design and implementation of ceramic 3D printer- the International Journal of Educational Sciences at South Valley University-p244)

Research Experiment

Soft Molds (Using Aswan Clay)

The artist can create a mold from clay, plaster, or any moldable material that can dry to reta in the printing textures. In this experiment, the researcher used Aswan clay, which can be s haped using water to soften it. After that, she added the printing textures that she wanted the mold to retain, but before it dried to prevent the printing textures from sticking to the mold.

Work tools

1) Aswan clay
2) Water
3) Printing plates
4) Printing roll
5) Press in the case of recessed mold printing

Experiment steps

1) Preparing Aswan clay for printing by adding water to it and reshaping it.
2) The artist determines the size and shape of the printing mold they want, whether it is circular, rectangular, or any size they desire.
3) While it is being prepared and is still soft, the artist can apply any desired print texture, drawing, or modeling on the surface of the mold.
4) After the gel has dried to 50 to 60%, which is an approximate percentage, the artist can remove the textures so they do not stick to the mold unless the artist wants them to.
5) After it has completely dried, the artist can ink it and print it in relief. The artist can also print it in intaglio using the printing press, but this exposes the mold to breakage. However, in some cases, this breakage adds a unique artistic quality by chance.

The artist can shape it multiple times by not adding water to it, as shown in shapes (17) (18) (19), and after finishing, it is stored in a plastic container to prevent air from reaching it and causing it to dry out.

Inking methods

The soft template can be inked using traditional methods such as relief or intaglio printing, while ensuring that the printed textures or engravings made by the artist are not obscured.

Additionally, a filter can be applied before placing the printed textures, and after leaving the texture impression, inking can be done for a second time.

The used tools

1) Inking cylinder
2) Oil-based inks
3) Printing paper
4) Printing press in the case of intaglio printing
5) Pressure performance
6) Printing plates
7) A tool for drilling or pressing

Methods of execution

1) The artist inks the printing surfaces using traditional printing methods, whether it is intaglio or relief printing, by using an inking roller and inking the plate, which determines the clarity of the textures or engravings made by the artist.
2) Multiple colors can be inked by placing a light-colored filter before applying the printing textures. After the artist removes the textures, they ink using a dark color.
3) The artist places the printing paper over the plate and presses from the back until the ink transfers to the paper. The artist notices during the pressing that the textures may blur if the plate is still soft, but this does not ruin the printing process; however, it makes it difficult to produce multiple prints. If the artist wants to make more than one print of the same design, they should let the plate dry before the printing process.

Figure no.12 shows the air-dry clay, which also resembles soft, moldable clay.

Image no.13 shows the soft mold after adding the printing textures, and at this stage, the artist presses on it to leave a print mark.

Figure no.14 clay shape is shown after adding the printing textures and leaving it to imprint the texture.

Figure no. 15shows the soft printing plate after inking.

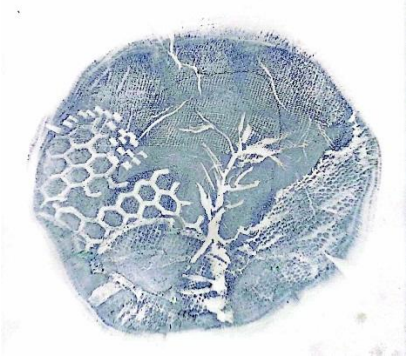

Figure no.16 printed version, which clearly shows the textures.

Figure no.17 shows that the mold can be reshaped multiple times and that different designs can be made from the same piece of clay because it is soft and malleable.

Figure no.18 shows the same clay mold after being reshaped into a different design.

Figure no.20 shows the printed version of the soft template.

Figure no. 21 illustrates the mold's ability to be shaped from circular to square or any free form, and with the same mold, it also shows different ways to flatten its texture, and it can be engraved.

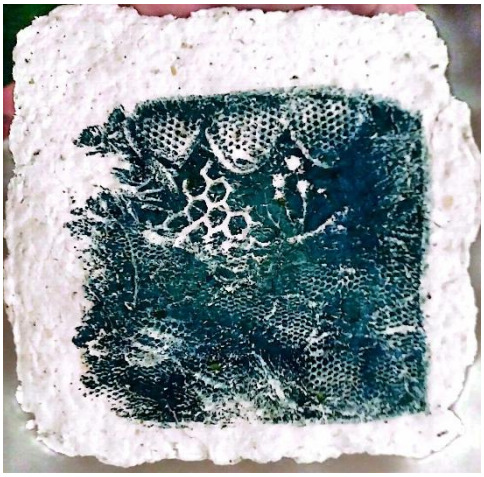

Figure no.22 shows a printed copy of the soft template on Handmade paper.

The second experiment

Soft Molds, but using (clay or dough)

It is possible to print using clay or moldable pastes, which can be in the form of molds or printing stamps. However, one of their drawbacks is that they are soft, so when pressure is applied, the printing textures may fade. To overcome this issue, a material like clear varnish can be applied to transform them from soft pastes to hard ones.

Experiment tools

1) Molding clay or pliable dough
2) Transparent varnish
3) Printing roll
4) Printing plates
5) Printing press in the case of intaglio printing
6) Printing papers or fabrics

Experiment steps

1) The surface of the clay is shaped and smoothed.
2) The printing textures are applied, or the artist draws over the mold by pressing.
3) Spray the mold with clear varnish gently so that the printing textures do not fade.
4) Inking the plate and printing it.

Features of Soft Molds

1) It is easy to shape, as the artist can easily mold it according to their artistic perspective.
2) The methods of preparing it are simple.
3) The artist can use and recycle it multiple times.
4) It is environmentally friendly, as it does not harm the artist or the students due to being made from natural materials.
5) The mold can be oval, circular, or in a free shape according to the artist's sculptural perspective.
6) The artist can paint or apply textures and achieve new sculptural values.
7) It saves money and time, as the artist can create another mold from the same dough by adding water to it and reshaping the mold again.
8) Due to its soft nature, any texture can be easily printed on it.

Disadvantages of Soft Molds

1) The mold can get damaged and become difficult to be used again if it is exposed to dryness and improper storage methods.
2) The ease of removing the mold can be affected if the mold is placed under a printing press, and the dimensions of the mold may vary due to pressure because of the softness of the molds.

What has been added are the soft templates for the aesthetic and artistic values of the artistic edition printmaking

The soft templates have added various artistic values to printmaking due to their flexib le nature, allowing the artist to draw on the templates by pressing on them. This flexibility e nables the artist to apply any texture and create different and varied combinations of textu res that can be drawn in just a few minutes, saving time and effort for the artist. Additional ly, these templates are environmentally friendly, posing no harm to the artist or students of printmaking. They are also inexpensive compared to intaglio printing, which requires exp ensive zinc plates
and hazardous chemicals. Furthermore, they emphasize the idea of recycling.

The third research experiment

Hard Molds (Using gypsum)

Gypsum is considered a cheap material, and the artist can easily shape it. However, the artist must pour it into a temporary mold, which should be coated with a non-stick isolating substance like oil or soap before pouring the gypsum into the mold.

Experiment tools

1) Gypsum powder or cement
2) Water
3) Temporary mold
4) Printing plates
5) Printing roll
6) Press in the case of recessed mold printing

Steps of the work

1) Preparing the gypsum powder and adding water to it. When it becomes a paste, the artist pours it into a temporary mold containing a non-stick substance like oil or soap.
2) The artist levels the surface of the gypsum to prepare it for printing, determining its thickness, preferably around 2 centimeters.
3) After the mold dries by 30%, the artist places the printing textures.
4) After the mold dries to 80%, the artist can remove the texture, and they can also coat it with a non-sticky substance like oil before applying the texture.
5) The mold is filled using traditional methods.
6) The mold can be printed in the printing press, and in this case, the artist intends to break the mold to create an artistic state by chance.

Features of Hard Molds (Gypsum)

1) Decrease in its price.
2) Ease of shaping it while pouring it into temporary molds according to the size and shape determined by the artist.
2) Allow the opportunity to recycle old textures during the preparation of the mold before it dries completely.

Disadvantages of Hard Molds (Gypsum)

1) The mold can break during printing due to excessive pressure.
2) Difficulty in recycling the same mold.

What has been added are the hard templates for the aesthetic and artistic values of the artistic edition printmaking

Hard templates add different formative values to the artistic print. When pressed after drying, they can break and create a stretch that suggests authenticity or antiquity if the artist desires th is character in their artwork. They are also very inexpensive compared to zinc or copper plates used for intaglio printing. Additionally, the artist can print using either relief or

intaglio techniques, or both, depending on their perspective. All of this can be done in a single template or multiple templates, as decided by the artist

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Search results

1) Saving the artist effort in printing, as they can create a printing plate themselves and carve it with minimal effort.
2) Saving money, as the artist can create a printing plate of any size and shape they want at a lower cost.
3) Achieving a unique artistic state by chance, specifically by breaking the mold during its intaglio printing.
4) Reinforcing the idea of recycling, which was achieved by the researcher using various worn-out textures that were repurposed into artistic works.
5) Preserving the artist and the environment from pollution caused by the dangers of etching acids.

Recommendations

1) Creating molds from eco-friendly doughs.
2) Merging different prints and printing templates.
3) Using AI programs and integrating them with soft templates.
4) Paying attention to eco-friendly prints.
5) Paying attention to the idea of recycling different materials to create a unique style in the field of artistic printing.

Research references

1) Chanelle Correia- Decoupage Art- printwithpassiondecor.com/products/decoupage-82
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3) Handicrafts - printing on stone - Palestine -https://www.youtube.com/watch?v=3ZIF86aq8GQ.
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