



The Abandoned Shrine

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ABSTRACT

A shrine that people respect and have faith in is the dwelling place of the gods who protect the residents of the house. However, it may eventually become trash along the side of the road that no one dares to get rid of because it is thought to be a place of the gods to become ghosts instead, causing fear in people who might want to approach it. The problems from abandoned shrines have made the setting worse as well as created an unsafe environment for people, so it is time to fix the problem.

Keywords: Abandoned shrine, Shrine, Upcycling

1. Introduction

What is a shrine? It is a structure intended and built to house the gods. It is common in Thailand and also found in Laos and Cambodia, as well as other Asian nations. It looks like a house or a small temple on a single pillar. Usually made of cement and/or wood, it is set in a place that is believed to be auspicious, which is usually at the edge of a fence or a corner outside the house; one house may have more than one shrine.

When no longer needed, old shrines are often abandoned along temple grounds or on the side of the road. There may be more and more old shrines dumped over time, causing the area to become a large waste area. Due to faith and beliefs, people do not dare to deal with the waste because it is believed that the abandoned old shrines will become dwellings for ghosts and getting rid of or destroying them will cause harm to oneself. The result is safety problems, accidents and waste management problems, as well as a bad environment.

2. Objectives of the study

1. Change for the better
2. Develop waste to be able to add value
3. Management to enhance the environment

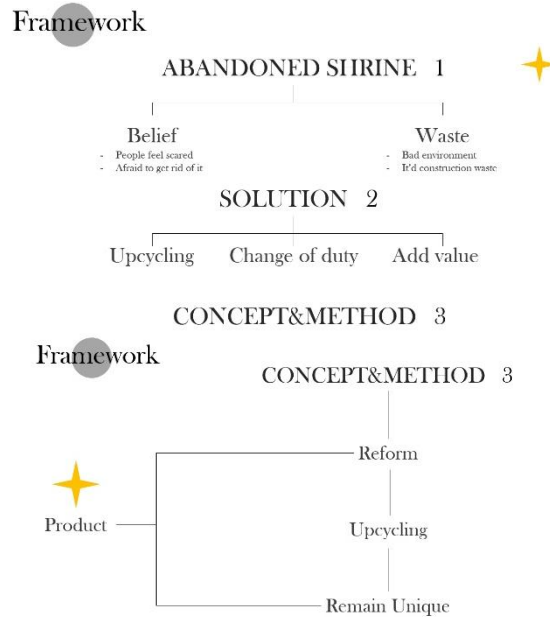


Figure 1 Framework

3. Materials and methods

3.1 Meaning of shrine

Phra Phum Shrine refers to a shrine built to house the deities found throughout Thailand. Such practices are also found in Laos and Cambodia. A shrine looks like a small house or temple on a single pillar. It is a marquee usually made of cement or wood that is set in a place believed to be auspicious, which is usually at the edge of a fence or a corner outside the house; one house may have more than one shrine

Phra Phum refers to the spirit or sacred thing that protects various places, whether it is buildings, houses, or offices. Thai people have believed in the spirits of monks for a long time. If there is a house planting, there must be a ceremony to set up a shrine to summon the gods to be at home for good luck and to bring happiness, as well as no pain or disease for the residents. The establishment of the Phra Phum shrine must summon the Brahmins to come and see the time of day. There must be directions for setting up a court, including the preparation of a ceremony with a sacrifice, which will be performed by the Brahmin who performs the ceremony and inform about the offering according to the auspicious occasion of the establishment of the court.

Worshipping the shrine involves the offering of garlands, flowers and food to the spirits that reside in the shrine. This is usually done before the rituals of that house or on important days.

3.2 Shrine with beliefs

There is a relationship between man and nature. In an era when humans are unable to explain natural phenomena with science, it is believed all natural phenomena such as rain, thunder, earthquake, sickness, etc., are caused by ghosts or spirits residing in nature. Sky, soil, water, forest, mountains, etc. all have nymphs, and supernatural forces are the cause. This is a long-standing belief in Animism.



In ancient times, people believed that there were spirits of the gods in the area of their homes, commonly referred to as "souls". Based on Phra Phum, if an appropriate address has been provided and respect worshipped regularly, it will make the homeowner and family happy, safe, lucky, and prosperous. Further, the homeowner has to provide a residence for the Phra Phum. Commonly known as a shrine, it looks like a small house or castle placed on a single pillar.

3.3 Structure and materials

The materials for building the shrine comprise cement with sand and rebar to make the structure sturdy. When building the shrine, it must be mixed with cement and cast in a mold with rebar to make it strong and durable. When everything is dry, all parts are assembled with water, together with using black mortar as a link.

3.3.1 Cement

Portland cement, also known as "cement", is a component used in the production of various forms of concrete. The function of cement is to bind and hold other ingredients together, such as stone, sand, and steel. Cement consists of 3 main parts as follows:

1. Lime

This part contains a composition of calcium carbonate (Calcium Carbonate CaCO_3) such as limestone (Limestone), chalk (Chalk) and kaolin (Marl), etc. The material used as part of the mortar must have a purity of at least 85% or more before it can be used as an ingredient in cement.

2. Ground beef

Silica-containing materials such as silicon dioxide (Silicon Dioxide, SiO_2), aluminum oxide (Aluminum Oxide, Al_2O_3) and ferric oxide (Ferric Oxide, Fe_2O_3), etc. can be found in shale and black soil.

3. Quality adjustment part

This is an additional part to increase the quality of cement to be complete by testing the mortar. If any ingredient is missing, then this quality adjustment can be added to get the mortar to meet the specified standards. Modifiers such as sand (if silicon dioxide is required), iron ore or laterite, (if ferric oxide is required) and alumina soil can be used (In case of needing aluminum oxide).

In addition to the three components mentioned above, additives are included in the cement to increase its quality to be more suitable for use, such as gypsum to help the cement dry more slowly, etc.

3.4 Types of cement for construction

If you mention cement, many people think that there is only one type. In fact, there are 5 types of cement as follows:

1. Cement for general construction (Ordinary Portland cement)

Type 1 cement, this cement is used for general reinforced concrete work that requires strength, durability and high load-bearing, such as roads, bridges, building columns, beams and foundation work. Although it



has high strength and durability, this type of cement is not resistant to corrosion of sulfur salts or alkaline substances such as seawater.

2. Modified Portland cement or type 2 cement

This cement has been improved to be more resistant to sulfur salts or alkaline substances. It can also retain heat well. Therefore, this type of cement is commonly used to build large structures that are near high alkaline sulfur sources such as the sea and mangrove forests, etc.

3. High-early Strength Portland cement

Also called type 3 cement, it is cement with a very high resolution. The property of this type of mortar is that it hardens quickly, so it is suitable for urgent work because it can be removed faster than using other types of mortar. However, the mortar must be properly cured in order to make the concrete that is poured stronger. It is commonly used for making prestressed concrete, piles, road slabs, precast slabs, etc.

4. Low-heat Portland cement

This type 4 cement is cement with a low exothermic rate. This makes the concrete harden slowly and retain strength without cracking, even under extreme cold or heat; it is suitable for work that requires a large amount of concrete in construction, such as building dams, etc.

5. Sulfate Resistance Portland cement or Type 5 cement is a kind of cement designed to be resistant to natural alkalinity or sulfur such as seawater, saline soil, etc. It can be used for all types of work near the sea, mangrove forests or common saltwater sources.

3.5 Types of cement for decoration

In addition to the 5 types of cement for construction mentioned above, there is also the development of cement for interior and exterior applications to add convenience and beauty to buildings.

1. Mixed cement

This is type 1 cement mixed with inert materials in order for the cement to have good adhesion to walls. It dries slowly, so it is suitable for plastering or decorative work that requires elaboration and time to work. However, this type of mortar does not support weight well, so it is not suitable for structural or foundation work.

2. White cement

This kind of cement is mainly produced for use in decorative works for beauty. It is white in appearance, has slow hardening, and has good adhesion, as well as durability and low weight support. It is not suitable for structural or foundation work.

You can see that there are many types of cement used today. Each type has different properties, and should therefore be used appropriately so that the work will be strong, durable and have a longer service life.

2.2 What is acrylic paint?

“Acrylic paint” is a paint containing a mixture of plastic polymers (Polymer), such as acrylic (Acrylic) or vinyl (Vinyl).



It is a type of paint that has been produced recently. When used, it is mixed with water. It works just like watercolor and oil paint. Many people call acrylic paint brilliant because it can be applied to a wide variety of tasks and used on many surfaces including canvas frames, metal, wood, plastic, glass, fabric or paper.

Acrylic paint also has quick-drying properties. It adheres well to surfaces and is durable. Acrylic paint has become a popular option that people choose to use. The color is opaque, which will look like painting with oil paints if vented thickly, though possibly better than that.

Odorless, non-toxic paint is not harmful to the health of users. If thinly vented, it can make something look like it has been painted with watercolors. When dry, however, it will not dissolve in water. Therefore, colors can be used in hundreds of different ways.

3.6 Characteristics of acrylic paint

It is opaque, dries quickly, and pours approximately when mixing paint. If pouring a lot and all cannot be used, it is a pity. When poured into a palette, do not use a paintbrush to dip the labels at all. Soak the brush in a little water before applying it to the canvas. If the floor is drained, the acrylic can be painted back and forth. Just once or twice should be enough. If you paint repeatedly, however, it may cause the color to become mottled.

Acrylic paint is opaque, unlike watercolor, which is a translucent color. Therefore, painting on canvas will cause overlap on an outlined pencil line, so it is sometimes confusing when venting. Newbies who are new to drawing may have problems with the outlines of a picture. Where? The technique of using acrylic paints is not much different from that of water-based painting techniques. It can add gradation to increase the weight of shadows.

3.7 Upcycle or Upcycling

Garbage is an environmental problem that is not found only in Thailand. Many countries around the world are also overflowing with garbage. until becoming a global problem causing various pollution problems followed by many and when it comes to dealing with garbage problems Many people probably think of the 3 Rs principle, which is Reduce, Reuse and Recycle, or use less (reduce use), reuse and reuse, especially Recycle, which has been discussed and is widely used. In the field of environmental conservation, however, there is another equally interesting word: Upcycle.

1. Knowing about Upcycle

Upcycle or Upcycling comes from the word Upgrade, meaning to make it better or to improve, combined with the word Recycling/Cycle, which means processing unused materials through various means to return them to the cycle of use again. Together, it means Reusing unused materials or items that would otherwise be disposed of as waste and turning them into new, better-quality, and reusable products designed to be beautiful in order to have more value. This is done without compromising the quality and composition of the material. It involves neither industrial processing nor chemical processing that has an adverse effect on the environment and uses minimal chemistry.



The meaning of Upcycle may appear similar to Recycle because it is a form of waste management that has the same concept, which includes a shift from the traditional economic system that uses resources to produce products or goods for reuse. When useless, it is thrown away as garbage. as a system for planning and designing a production process to restore the condition of various materials in the product life cycle instead of discarding them. By reusing those materials in a continuous cycle without waste, it could be said to be turning the waste back into endless loops. According to the concept of circular economy, when considering the details of Recycle and Upcycle, it can be seen that they are different.

2. Difference between Recycle and Upcycle

Recycle is the use of materials from products that cannot be reused or prolonged their service life because it is broken, damaged or expired come into the process of processing / producing into the same material again to reduce the production cost to be less Instead of being manufactured using entirely new materials But the quality of raw materials may have deteriorated from the process. For example, recycling used PET plastic bottles will be used to remove foreign matter and wash to eliminate germs then cut into small pieces and then melted with high heat until it comes out as a plastic pellet to be able to bring back to melt and make new packaging or processed into other products.

As for Upcycle, the design will be used to help increase the value of the product. Additionally, the new product will have better quality, though the main objective is to extend the life of the material. Further, the process must not cause any negative effects on the environment, which is the design idea based on the Eco-Design concept (Economic & Ecological Design) or the concept of eco-design to focus on reducing waste to prolong service life. Increase efficiency in recycling also minimizes the subsequent environmental impact from design, manufacture, and implementation, to end-use or end-of-life destruction.

Examples of upcycled products can be seen in fashion items, such as taking plastic from water bottles or saline hoses to weave into fibers for clothes, woven bags, and woven baskets, or using canvas to cover trucks, old tires, and cement sacks; rice sacks can be used to make bags and paper can be used to design and make ornaments, etc. There are also furniture and home decorations that use fabric from jeans. Covers can be made for sofas and chairs, or even a large oil tank can be used to make a table and chair set. These products are very popular with big brands, so this method is being used more and more.

It can be seen that upcycling has become a new trend with business opportunities. Both manufacturers/designers and consumers are paying more attention to environmental problems, and they can reflect the user's concept of saving the world through everyday appliances.



4. Results

4.1 Terrazzo

Terrazzo is a building surface using stone flakes of various sizes mixed with white cement-based paint or may add other materials such as shells, glass shards, resin and others.



Figure 2 Terrazzo

Source: Room decorating ideas with Terrazzo (2022)

When I tried to crush the shrine, I noticed that the colored scales were tiny pieces like colored stone. Therefore, I think these scraps' would make these colored scales stand out if used as a construction component, reminiscent of terrazzo.



Figure 3 Pieces of shrines

The shrine has many forms and colors that make the terrazzo work more fun because we can match colors from the colors of the shrine. For example, the materials of the shrine can be recycled in the form of concrete floors or colorful bricks.

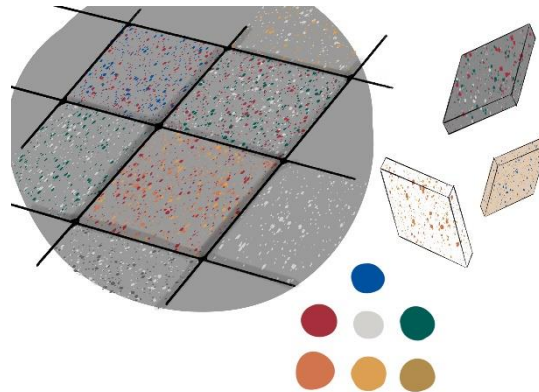


Figure 4 Sketches of terrazzo from a shrine

4.2 Experiment

I experimented with mixing different sizes of shrine parts with two types of cement and white cement to make small pieces.



Figure 5 Trial making terrazzo from a shrine

4.3 3D design for incense burner/candle



Figure 6 Incense burner/candle 3D

This model is designed to preserve the value of the old shrine, as well as respect and allocate it to the right place.

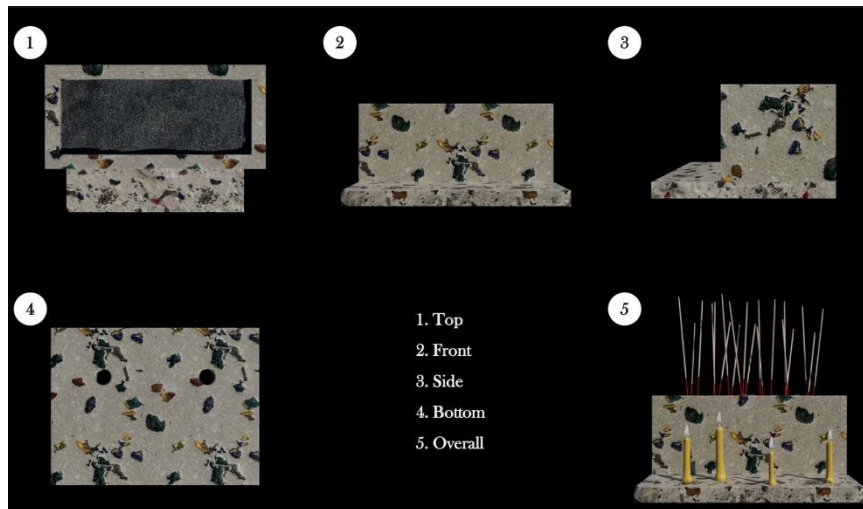


Figure 7 Incense burners and candles in different corners

- 1) Can be made to size according to the location.
- 2) The material used for the incense sticks includes small-scale stones covered with scrapings from the shrine to allow water to flow through for easy cleaning.
- 3) Drainage holes under the base of the incense burner allow for pouring water when it is time to clean the ashes.
- 4) This incense burner design is perfect for outdoor use because of its strength and availability.



Figure 8 Final product



5. Conclusion

Ever since I can remember, I have lived in a house with a shrine next to it. Everyone in the family respected and valued it as a senior who protected us from harm. As time passed, however, the old shrine eroded and fell to the environmental conditions until people didn't want any more. Eventually, it was turned into trash that no one wanted, so it was thrown along the road as if everyone had forgotten that it was something that everyone respected.

The solution to this problem requires many considerations, not just reuse, but contributing to a better environment without forgetting respect.

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