

## Upper Northeastern Prehistoric Motif as Implications for Product Design<sup>1</sup>

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### Abstract

Objective of this research is to study and collect prehistoric patterns in The Upper Northeastern in order to apply for product design. From the study of prehistoric motif in Upper Northeastern during 5,600-1,800 years BC, pre-existing motif are human, animals, flowers, geometry, and lined motif. Techniques applied included painting, scratching and affixing, which depending on the type of work. The researchers have compared motif obtained from the study and conclude that baked clay utensils are the oldest. Painting on cliff and other motif are contemporary with the late era of baked clay utensils or during 2,300-1,800 years BC. Those motif during prehistoric era are varied.

From that conclusion, an idea to select associated unique 2-dimensional symbolic motif from painting on utensils to be modeled for 3-dimensional product design. In addition, this research allows a chance to expose motif as intended from prehistoric era to perceive aesthetics of the ancestors through symbols and motif. Currently, we acknowledge more about lifestyle of people in that era as well as using symbols to imply abundant of area such as snake coil-like motif, wave-like motif, and spiral-like motif. These motif are 2-dimensional.

Unique characteristic associated to snake coil-like motif is the first issue for an experiment for product design. Examples are fruit tray made from different materials such as Calathea, bamboo, ceramic, iron as well as different sizes of lamps, and area for private meditation which conceptualized to deploy 2-dimensional symbolic motif conceptualized to apply for 3-dimensional design. This can be used to design and develop concept for variety of product creation depending on the interest of designer, artist, or student both in the present and in the future. This is in an important factor in order to create product design works to combine culture and people lifestyle that have cultural variation.

**Keywords:** Motif, snake-like motif, prehistoric era, product design, spiral-like motif

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## Introduction

Prehistoric era motif is deemed as essential evidence of model or the first origin of motif, which is normally found in Thailand. From previous studies, it can be concluded in overview that most of motif were used for worship<sup>3</sup>. Also, they were used for daily life, which reflects conditions of the prehistoric era. Those patterns are found in many scatter locations. Therefore, the researchers selected only Upper Northeastern where many motif are found in comparison with other area nationwide.

Upper Northeastern are provinces in North-Eastern of Thailand including Loei, Nongbualampoo, Nongkhai, Udonthani, Sakonnakorn, and Mookdaharn.<sup>4</sup> This area used to be residential area for several thousand years since the Old Stone Age. Studies have found cultural evidence of using stone crack tools in Chiangkan District, Loei Province. Since evidence of the Old Stone Age does not show motif of prehistoric era, then the researchers selected to study the Middle Stone Age during 10,000 years ago until reaching the Metal era around 1,800 years BC. As Archaeological evidence has clearly shown evolution of painting on cliff wall, painting on utensils as well as motif originated from baked clay roller to roll on natural fiber fabric. It has clearly shown evidence of the prehistoric era culture at upper Basil of Loei River and upper Basin of Songkram River according to discovered evidence of archeologists in Upper Northeastern such as daily utensils, weapons, ornaments, etc.<sup>5</sup>.

Motif of that era has found in social dimension of living for example painting on cave wall, cliff, utensils, as well as ornaments are filled with motif. That research thus focuses only on all patterns displayed in that area in order to be applied with product designs and only associated unique characteristics are selected.

As aforementioned, overview of the prehistoric era motif and product design study is that there are many evidences but with reasonable different in details. Thus, this causes verification of associated unique motif to be applied as idea for aesthetic product design. Also, this is useful to be applied according to the 21<sup>st</sup> century design, which can be named as the creative era including variation of motif and techniques as

<sup>3</sup> Sujit Wongtet, B.E. 2549: 276

<sup>4</sup> Fine Arts Department B.E. 2534: 15

<sup>5</sup> (The same story, B.E. 2534: 16)

well as to maintain historical images through design in order to allow Thai people to be better acknowledge on culture basis and history.

### Research Objectives

1. To study contemporary unique motif of the prehistoric era which to be applied for product design.
2. To study and compare different materials to be used to create associated unique motif as the most appropriate product.
3. To apply 2-dimensional symbolic motif to design 3-dimensional product.

### Research Methods

#### Study population and study sample

Scope of motif focuses only on prehistoric era in Loei, Nongbualampoo, Nongkai, Udonthani, Sakolnakorn, and Mookdaharn Provinces.

#### Study Tools

Example of study tools for issues to be studied; prehistoric era motif in Upper Northeastern and product design, are field survey including interview and document study to support comparison analysis to figure out associated unique characteristics and unique motif to be used in product design with following steps;

1. Primary document study and collection of information related with prehistoric era motif in Upper Northeastern,
2. Survey and collect data by taking photos of the the studied motif,
3. Interview related persons with prehistoric era motif,
4. Study documents and existing evidence for data completion,
5. Take data collected in No.1 to present according to study sample in survey area classified as group of Loei, Nongbualampoo, Nongkai, Udonthani, Sakolnakorn, and Moodkaharn Provinces. This results in different in motif as well as location and ornaments,
6. Data analysis according to group based on associated characteristics of each group by comparing motif and other components to figure out more clearer on associated characteristics and different in existing motif in order to be applied in product design,

7. Study related design theory and use motif obtained from the study as a main concept for that product design, and

8. Conclude the study and present product created from the design of prehistoric era motif.

### Analysis

1. Document research step is to collect and prioritize prehistoric era motif in Upper Northeastern with reference from discovered evidence as well as other studied results by scholars,

2. Field data study step is to verify data, taking photo, survey, interview, and drawing prehistoric era motif to be used for better motif consideration,

3. Data analysis step is to use obtained data from study of prehistoric era motif in Upper Northeastern to figure out associated characteristics by separate study into motif of each group and verify motif. Then analyze together in order to use motif for the most appropriate product design.

4. Design theory study step in order to use prehistoric era motif to design in order to obtain perfect and value products from the design.

### Research Results

Concept philosophy of design originated in the prehistoric era is totally different from current design regarding lifestyle. From that concept, it shows lifestyle and the development of creative process of human in the prehistoric era ranging from motif to production process. Products of that era are stone tools created as axes, spear, and knife to set on fire, hunting, slice meat, etc. Important characteristics of motif thus show appropriate shape for using as well as living comfort. From the study, we then acknowledge products in the prehistoric era, which is able to be mould using different methods such as crack, knead, weave, cast, carve, and forge (Figure 1, 2).

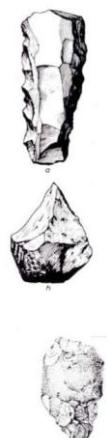


Figure 1 : stone tools created as axes.

Figure From : **stone tools**, accessed January 27, 2011, available from  
<http://www.laksanathai.com>

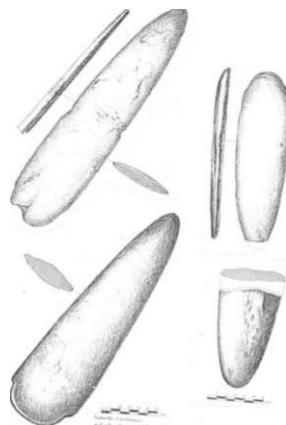


Figure 2 : stone tools.

Figure From : **stone tools**, accessed January 27, 2011, available from  
<http://www.laksanathai.com>

Important issue of mould methods in the prehistoric era is the different from the present since ancestors used hands to create works and use natural utensils. Materials to be selected for mould have different physical conditions. Materials with outstanding evidence used for tools production are stone, soil, bronze, iron, bamboo, hemp from marijuana, jute, silk, and cotton which are different in range of materials using for current product design including wood, iron, soil, plastic, glass, and others, etc. These are evolved materials to perfectly support modernized human needs. In addition, current production processes include handicraft, industrialized handicraft, and industry system.

In consideration of social and culture development in the prehistoric era, the most outstanding evidence is using soil to produce baked clay utensils for cooking or even packing untimely dead body of children. Baked clay motif include plain and with motif. Therefore, studying prehistoric era motif is an essential point of this research. After thorough study of all prehistoric era patterns, we then acknowledge the most development of motif occurred during the late New Stone Age, 5,600-1,800 years BC. Motif found locations including cliff and plain terrain. Most of motif on cliff are related to human, animals, and nature. While in plain terrain, evidence has clearly shown in baked clay utensils, tools, and ornaments. Motif is snake coil-like which is the same as what has been found on cliff (Figure 3, 4).



Figure 3 : Motif snake.



Figure 4 : Motif snake.

Snake coil-like pattern has evolved since the beginning of 5,600 years of Ban Chiang culture. There are curve out motif around the baked clay utensils. During the late 2,500-1,800 years, it has evolved as colorful painting as 2 snakes coil together creating snake-like motif. The study has found essential issue that human in this era did not consider height and width of baked clay utensils. Motif creation is according to unique characteristics of each baked clay utensil. However, one thing that prehistoric era human has developed on motif design is to separate layer of motif of each range including width, height, as well as highlight the motif to be sharp and cause continuous motif on utensil surface. (Figure 5 and 6)



Figure 5 : motif Newgrange.

Figure From : **motif Newgrange**, accessed January 27, 2011, available from  
<http://deafpagancrossroads.com>



Figure 6 : motif Newgrange.

Figure From : **motif Newgrange**, accessed January 27, 2011, available from  
<http://deafpagancrossroads.com>

In addition to Upper Northeastern where snake-coil like motif has found. There are many historic sites of Western culture where associated coil motif has found in cave wall and reef such as Newgrange, Fajada Butte, Hohokam rock art (Figure 7-9).<sup>6</sup>

<sup>6</sup> [www://deafpagancrossroads.com](http://deafpagancrossroads.com), 2554

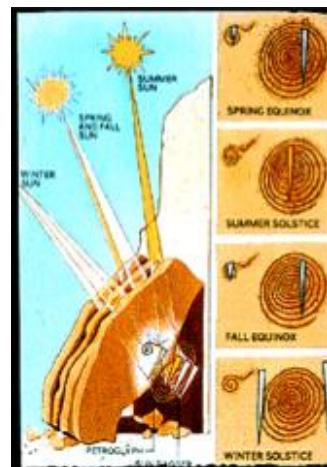


Figure 7 : Fajada Butte Sun Dagger Diagram, Chaco Canyon.

Figure From : **Fajada Butte Sun Dagger Diagram, Chaco Canyon**, accessed January 27, 2011, available <http://sorrel.humboldt.edu>

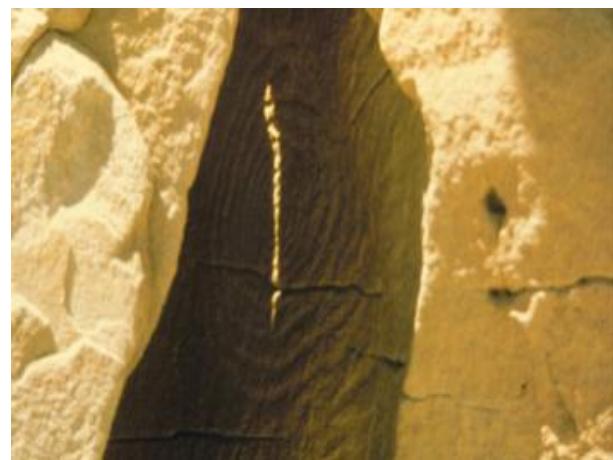


Figure 8 : Fajada Butte Sun Dagger

Figure From : **Fajada Butte Sun Dagger**, from accessed January 27, 2011, available From <http://sorrel.humboldt.edu>



Figure 9 : Verde Valley in Arizona.

Figure From : **Verde Valley in Arizona**, accessed January 27,2011, available from  
<http://mywisconsinspace.com/gallery/main>

Principle of motif arrangement in prehistoric era is therefore one of contexts to be used as a concept for product design. Snake coil-like in 2-dimensional motif on surface of baked clay utensils is used to create scope of useful 3-dimensional works such as design of lamps and meditation location to be perfectly arranged. This issue shows associated motif which is the origin of motif study using 2-dimensional motif to create 3-dimensional works. It creates a holistic pattern for product design.

### Discussion

Upon indicating design concept, it is essential to select materials which are appropriate and comply with current human lifestyle. Thus, we focus on realize of Thai ancestor origin who used natural materials to create utensils and tools as well as showing contemporary regarding materials as follows;

#### **Calathea : Limitation is soft**

Calathea is natural product found in Upper Northeastern. Age of Calathea tree is around 3 years before being used to weave. Calathea can be used in snake coil-like motif. However, limitation is that Calathea is not firm structure since physical characteristic of Calathea tree is brittle and lack of flexibility unlike bamboo. In addition, its abundant is inadequate for production. Thus, it is inappropriate to be used to create products (Figure 10).



Figure 10 : Calathea soft.

### Bamboo: Perfect material to weave

Bamboo for weaving can create perfect snake coil-like motif. Motif length is approximate 3 meters and then embroil together with the base. As a result, this kind of works reflects East Asia feeling and local people especially in Upper Northeastern. Bamboo can be found easily and has good flexibility. Ancestors called weave motif as 2-pattern and 3-motif. If it is woven to alternate 2-motif and 3-motif vertically, it will create water flow motif as evidence showed in baked clay stamp (Figure 11).



Figure 11: Bamboo for weave can create perfect snake coil-like motif.

### Clay : Limitation of creativity is bake process

Different types of clay are used to create baked clay utensils with colorful painting in the prehistoric era to paint as 3-dimensional snake-like motif instead of the previous 2-dimensional painting on utensils. Mould process of filtered black and white

clay at Srisongkram District, Nakornpanom Province is to be pressed to yield line of clay. Then, it is woven as Kid motif and undergone biscuit and bake firing at 1,200 Celsius. The beauty factor is that there will be 2 colors of Kid motif similar to weave material. Thus, the works show contemporary feeling. However, limitation of this material is placing large piece of work on Silicon plate, the base in furnace, requires high skills. In appropriate action will cause deviation or uneven clay contraction. Thus, control of complicate factors is difficult. Also, safety of work pieces during moving requires careful actions. Smaller piece of work can be created perfectly in all steps. All clay materials used to create this work is in Upper Northeastern (Figure 12-14).



Figure 12 : Then, it is woven as Kid motif and undergone biscuit and bake firing at 1,200 Celsius.



Figure 13 : Forming Clay.



Figure 14 : firing at 1,200 Celsius.

#### **Metal: Flexibility is utilization factor**

Metal is the best for recycle thus it is selected to create a model. Also, due to the different of surface contact, then metal screen or net is used to construct with 6 millimeters dense steel rod. It can be mould per design but requires production skill and expertise resulting in high production costs. Complication level of motif shows the present of new age people full with all aspects of development but still remain to live contemporary. This is combination of 2-dimensional symbolic motif concept into design process together with contemporary material (Figure 15, 16).



Figure 15 : Metal with Design.



Figure 16 : used to construct with 6 millimeters dense steel rod.

Product design with example of this fruit tray is the design with reflection of modern and contemporary work. Snake coil-like motif is selected to mould the work since this motif has been continually developed since the beginning of civilization until the late of that era. This shows symbol of abundant in that area. This is classified as specific associated motif. This design did not copy the previous motif rules; rather it is a combination of spiral motif generating new extraordinary product and new proportion. It gives new details in new rhythm. Various materials are used including Calathea, bamboo, metal, and ceramic giving different aspects to the appearance. Also, there are problems of production process due to different materials are used as each has limitations and physical property. Thus, it can be concluded that bamboo is the most appropriate as it is flexible and can be mould as a snake-like motif. According to the experimental materials, bamboo shows relationship between ancestors and human in the present regarding continual concept as well as symbol of motif which has associated unique characteristics as East Asia as well as international. Arrangement for the inside and outside space applied extraordinary solutions. There is unlimited of connection in space. It requires connecting and making clear motif, style, material, and production process due to environment and culture effect concept of creators. This is because during prehistoric era, there is no religious believe thus most of ancestors believe in ghost or

snake. Thus, it is called ghost or snake religious. As a result, it affects concept of motif design as snake-like motif together with spiral motif to create a fruit tray. However, users may not use it as a fruit tray but can be used to store anything according to the users' perspective. Thus, this fully gives freedom of thinking. The created shape is thus appropriately response to users' feeling. This product design focuses on production process by human rather than machines which show one of environmental protection methods. In conclusion, using old stuff is good for recognition of perfection of ancestor motif. Detail of this article is the first issue of design in order to further figure out conclusion of design process.

#### Wave-like spiral motif as a floor lamp

##### The 3<sup>rd</sup> dimension towards floor lamp

Movement of lamp patterns can be adjusted differently by requesting users to create movement. The lamp will be perfect if users participate in lamp display. This is an interaction between users and product creating beautiful, acknowledge and specific relationship with users. In the point of view of each dimension, it makes different feeling according to movement and size of lamp which are classified into 3 size; small, medium, and large.

**Small lamp:** Pattern design is 2 layers of spiral pattern in 2-dimensional using the same motif in 16 pairs, 32 pieces to assemble in 3-dimensional in circular shape. Variation of movement can be done. The motif can reflect light as corolla. Motif style is less complicated than medium and large lamp (Figure 17).

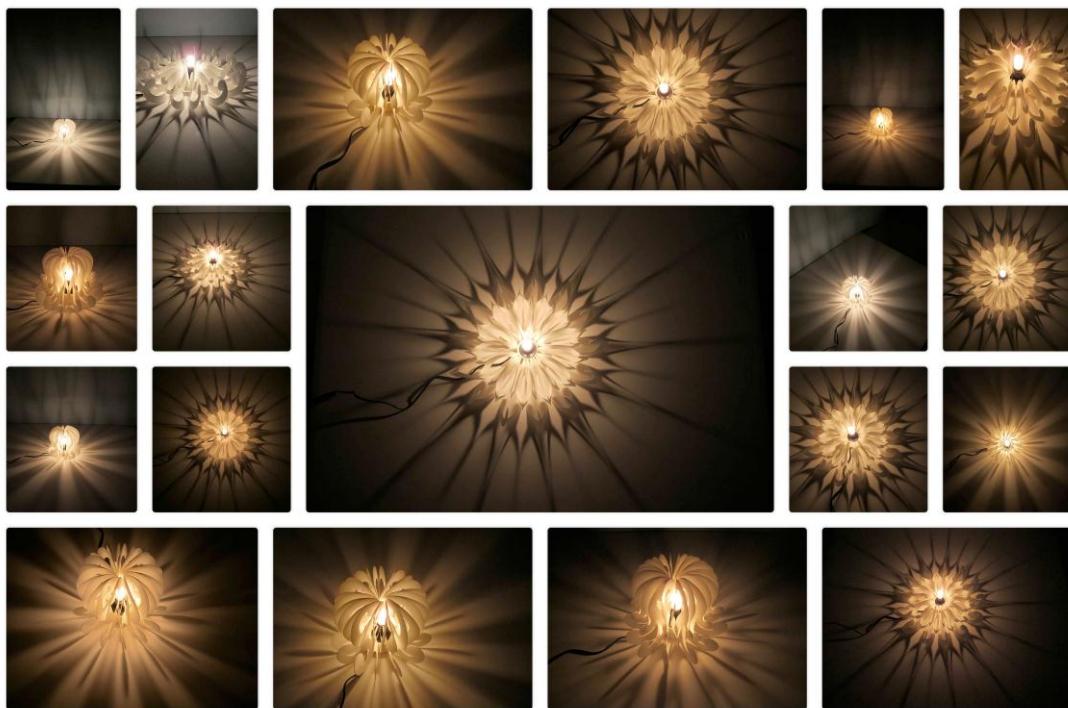


Figure 17 : example Small lamp.

**Medium lamp:** Pattern design is 3 layers of spiral motif in 2-dimensional using the same motif in 14 pairs, 28 pieces to assemble in 3-dimensional in circular shape. Variation of movement can be done. The motif can reflect light as corolla. When look from top view, motif style is less complicated than large lamp (Figure 18).

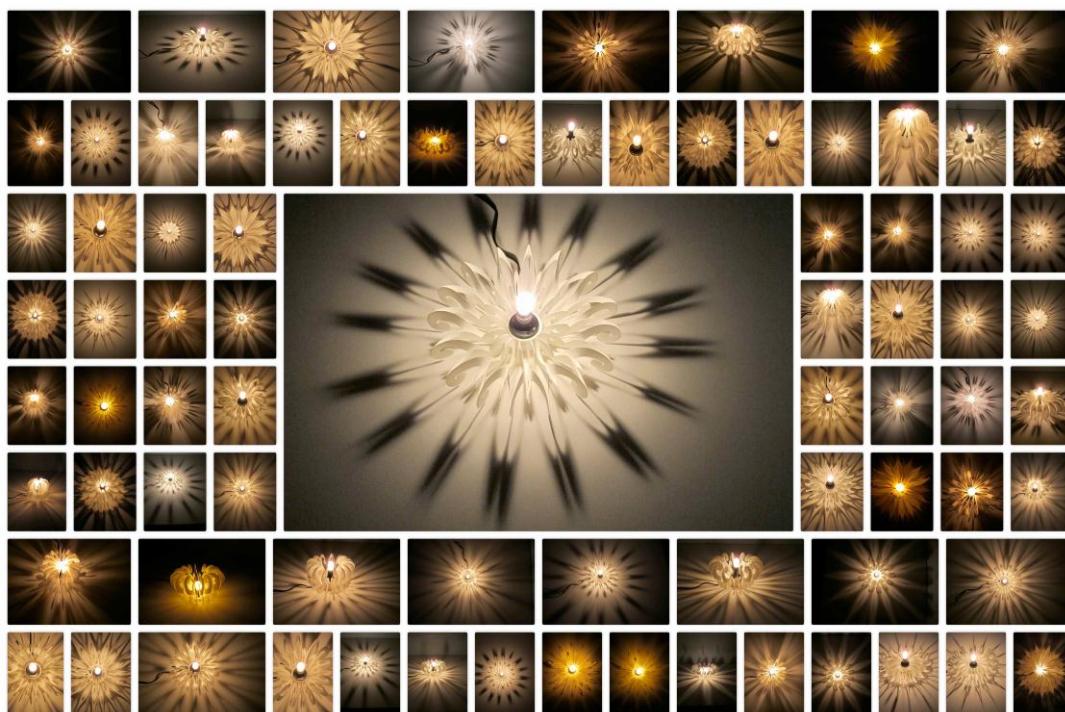


Figure 18 : example Medium lamp.

**Large lamp:** Motif design is 4 layers of spiral motif in 2-dimension using the same motif in 15 pairs, 30 pieces to assemble in 3-dimension in circular shape. Variation of movement can be accomplishments. The motif can reflect light as corolla. When look from top view, motif style the most complicated and the space dimension (Figure 19).

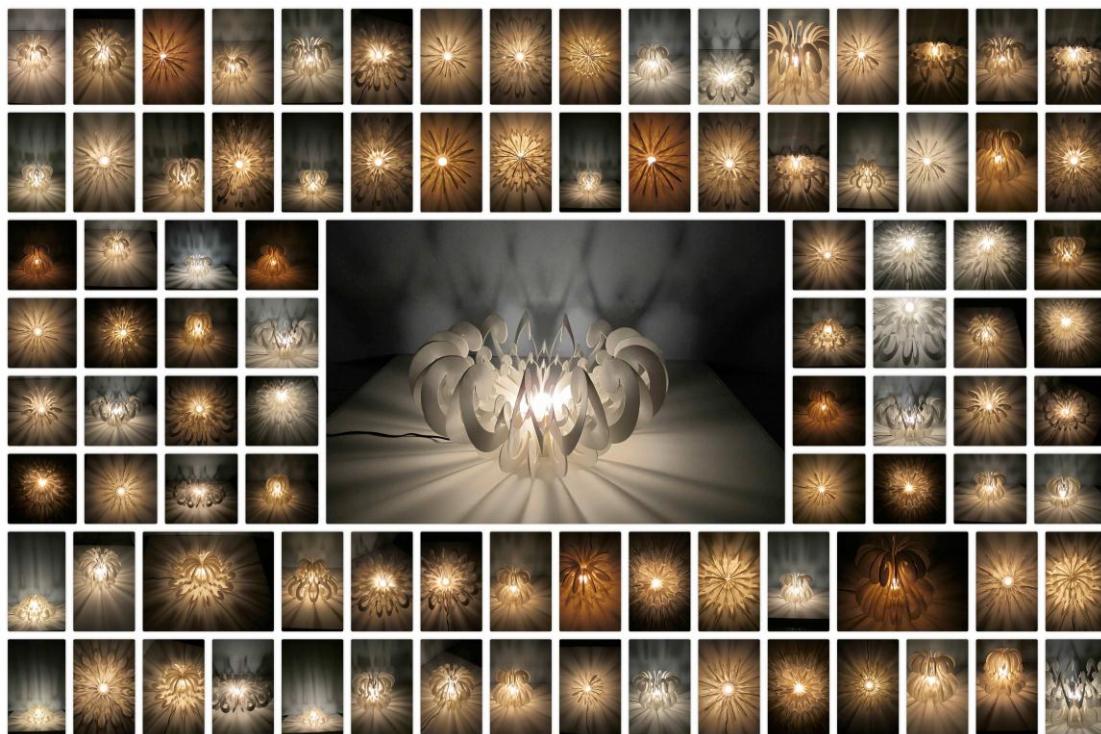


Figure 19 : example Large lamp.

#### Light towards floor lamp movement

Light runs from light bulb through lamp by design wave-like spiral motif from 2-dimensional to 3-dimensional design. This variation of movement causing shade and light reflection through surface generating image in new dimension. This has different motif effecting perception from eyes which show impression deep down from the heart. Not only able to adjust many motif, light of this image through motif is also adjusted in order to create different feeling. Thus, it creates shade and reflection to anything placed in front of it. It contains both rhythm and style showing impression from inside. It shows pure movement with unknown scope relationship. It is directionless and perfectly responses to users' feeling. This is caused by personal consideration of this work. (Figure 20-23).



Figure 20 : Example Light towards floor lamp movement.



Figure 21 : Example Light towards floor lamp movement.



Figure 22 : Example Light towards floor lamp movement.



Figure 23 : Example Light towards floor lamp movement.

#### **When snake, ideal animal, with protection from evil**

“NIRVANA SPACE” is designed under concept of requiring private area for meditation. Due to many factors in current social causing human to pay less attention to Buddhist, thus, the designer would like to connect relationship between this design to create conscious for human to stop for a while and consider the empty bench. It will transfer to anyone who views this work to recognize the Buddha’s doctrine on manner. There are 2 words used to interact between thinking. “NIRVANA” may implies pure, empty, light, happy, and “have nothing”. Upper motif represents symbol of 7 mountains which is the place of stay of the Buddha. Users will be the most getting closer to NIRVANA. For sitting area, the designer applied snake coil-like motif in 5,600 years BC to combine with the design.

Snake coil-like motif implies safeguard or protection devil. It is comparison to Naga which currently also protects the Buddhist such as stair handrail of the Buddhist temple and Naga style Buddha image. These reflect Eastern spirit and as a symbol of consciousness according to “the middle way” dharma principle. Regarding spirit, it means conscious. Conscious is one type of balance between believe and wisdom. Conscious is in the middle between emotion and reason. If we compare thinking as running water, concentration is still water and conscious is “steady flow water”. Conscious is the middle way of spirit. Design context is deemed as practice to get more attention. Users must in the middle of the space to create balance which is in comparison with being conscious. Also, it is considered as sitting between good and bad or hell and heaven.

Design of this Buddhist Art is a reflection media that allows human to return and look around. This is done by adhere to the well-known primary dharma of the Buddha, the Eightfold Nobel Path, which is another alternative in addition to worship Buddha image in order to enter a stage closer to the Buddha. It also makes people to live with the present, with peace through this work of NIRVANA SPACE (Figure 24, 28).

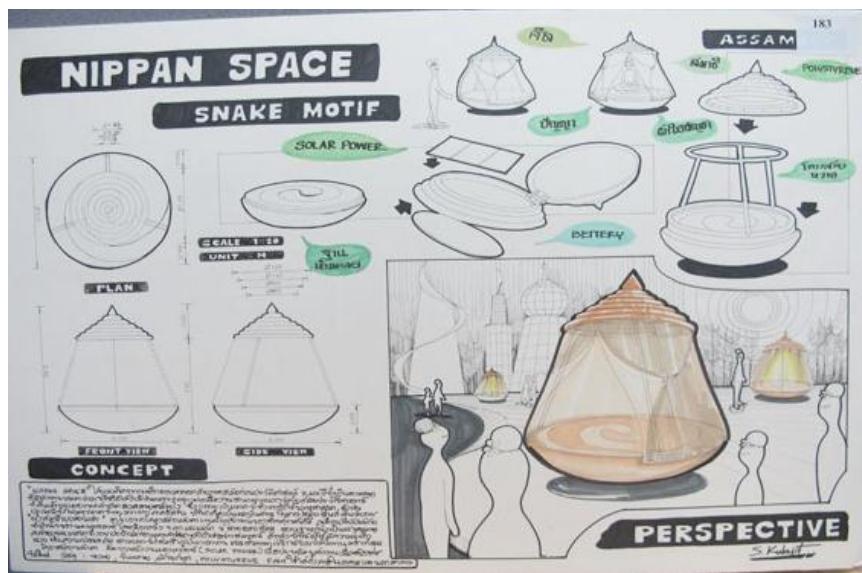


Figure 24 : Sketches Design “NIRVANA SPACE” and production process by using the natural materials the lattans constructor.



Figure 25 : Structure Products “NIRVANA SPACE”.



Figure 26 : Seat for Products “NIRVANA SPACE”.



Figure 27 : Products “NIRVANA SPACE”.



Figure 28 : Exhibition Products “NIRVANA SPACE” for Siam Center Bangkok.

### Conclusion: Spirit of Product Design

This researchers have studied and examined various techniques and methods in order to find an answer for the question: Can 2-dimensional symbolic motif be applied to create 3-dimensional product? From this question, it leads to a variety of concepts, which result in a new dimension of product design as a single context that, "Belief and faith is the genuine spirit of the existence of human race". The solution that provides the researchers an understanding of the product design essence and creation may denied. From that imagination and instinct, which occurred while designing any products. Sometimes, this experience would be practical or impractical; however, it has developed into experience, the researchers comprehend as product design processes, which are different from the ones that researchers have performed before. The three sets of new product patterns represent belief and faith reflecting 5600 years this current time as the origin of civilization in this area, which has existed until. (Figure 29)

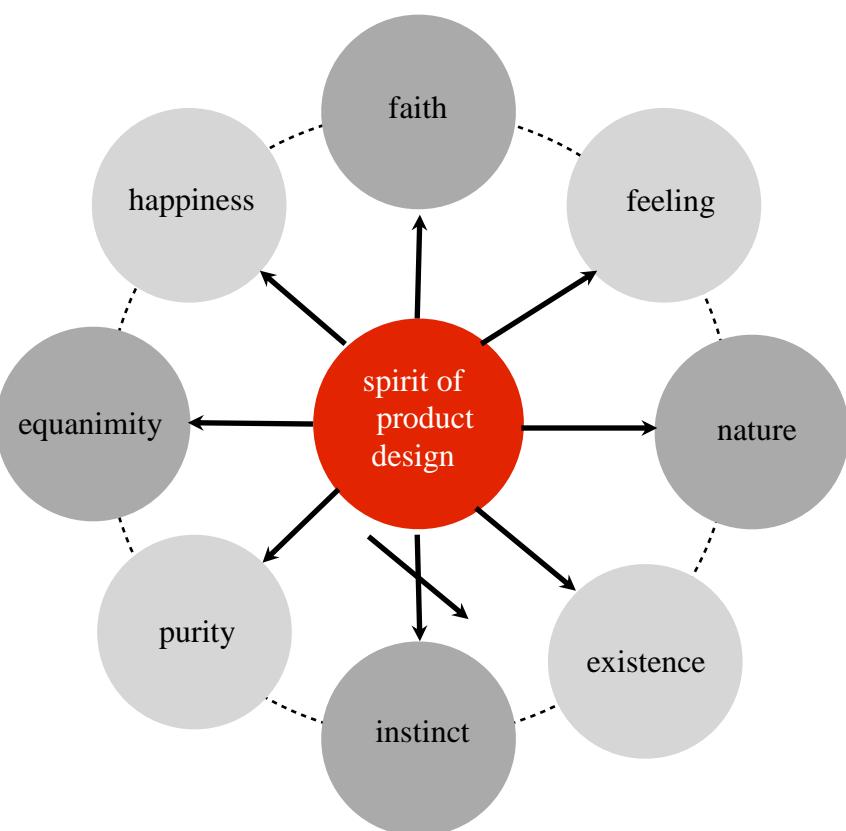


Figure 29 : Spirit of Product Design (Figure By Kulajit Sengna)

Although the three sets of product design works may not have certain patterns which designers and people who study product design used as a prototype, they represent the perspective of the second dimension, related to symbolic motif and result to 3-dimensional product and also connect with time as the 4-dimensional context. These things will still exist in the present time and affect the future. Ultimately, the value in product design will meet the emotion and feeling in the fifth dimension, which relates to the spirit that can occurs during product usage. The design characters seem to be apparently disparate. However, the matter which the researchers has presented is the difference in symbolic meaning, which enables people to create product design works in the single context; there is always the spirit in belief and faith itself. The researchers hope that the finding of this study can assist designers, students, and people who are interested in developing and creating valuable design works so as to maintain humanity in a rapidly changing society, caused by the development of technology and environmental change.

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