Arts and Design Studies
ISSN 2224-6061 (Paper) ISSN 2225-059X (Online)
Vol.18, 2014

Aesthetic Appreciation of Kelantan Heritage Ceramics: An Indicator for Sustainability

Ab. Aziz Shuaib[1]; Olalere Folasayo Enoch[2] (Corresponding author); Khairul Azhar bin Mat Daud[3]; Muhamad Ezran Bin Zainal Abdullah[4]; Jafrulhizam Bin Jaafar[5]

Faculty of creative Technology and Heritage, University Malaysia Kelantan (UMK)

Locked Bag 01, 16300 Bachok, Kota Bharu Kelantan, Malaysia

E-mail: [1]aziz@umk.edu.my; [2]folasayoidd@yahoo.com; [3]azhar.md@umk.edu.my; [4]ezran@umk.edu.my; [4]jarfrulhizam@umk.edu.my

The research is financed by Fundamental Research Grant Scheme, Higher Education Malaysia

Abstract

Apart from creating clay objects with unlimited variety of shapes, the surface can also be decorated with patterns in many ways to enhance the overall appearance. As a result of this, surface decorations have been one of the major heritage values in ceramic studies. Thus, applying Gestalt theory and Golden section rule, this paper seeks to identify the unique heritage values in Kelantan ceramics that can be sustained as genius loci. Pictorial data (decorative patterns) were collected by visiting six museums in Kelantan and the data were analyzed with the aid of PhiMatrix software. The result shows eleven (11) decorative patterns that conform to the golden section rule and the Gestalt principles of grouping elements. Hence, sustaining this heritage values will not only serve as identity, but also demonstrate the recognition of the beauty of the past.

Keywords: Aesthetic, Heritage ceramics, Surface decoration, Decorative motifs, Kelantan,

1. Introduction

Design motifs are fixed combinations of elements that are used to form larger components of the decoration (Rice, 1987). The element combined is the smallest self-contained component of the design. It is either manipulated or moved around as a single unit. Thus, the combinations of the design elements results in patterns or decorative styles which are often holistically analysed based on principles such as symmetry, proportion, etc. Design styles are often described using expressions such as representational, naturalistic, realistic, abstracts, iconic or geometric (Rice, 1987).

A style may reflect the aesthetic preferences or mirror significant features of the natural and social environment. Thus, decoration is a "visual communication that reproduces the principles and relationships by which a community structures and organizes its perceptions of the cosmos and social realities" (Munn, 1966 cited by Rice, 1987, p. 251). For example, ceramic art affords insight of the life and psychology of a people by its qualities (Rice, 2006); therefore, pottery design has been important in the study of the development of decorative art. According to Shepard (1985), the two distinct pottery design media (plastic and graphic) gives rich and varying records. Studying the decorative motifs and styles of pottery whether expressed in painting or in plastic decoration has yielded insight into the lifestyle of people as well as their aesthetic perceptions and ideological systems (Rice, 2006). According to Shepard (1985, 256), "pottery decoration shows the trials of the beginner, the work of the expert, the efforts of the copyist and the expression of the creator."

Kelantan traditional ceramics are not only known for unique forms, but also the realistic traditional aesthetic concept of art in Malay (Tajul, Ramli, & Mohd, 2011). These aesthetic values, if sustained can play a significant role in maintaining identity; their preservation will demonstrate a recognition of the necessity of the past, and of the things that tell its story (Tanselle, 1998). However, to sustain the heritage values, designers must be sensitive to those unique qualities (e.g., aesthetic values), by identifying and analyzing them based on proven design principles. According to Tuck (2010), the best design comes when proven principle works in harmony with art.

2. Decorative Analysis of Kelantan Heritage Ceramics

Based on forty-four (44) ceramics heritage wares discovered from the six museums; eleven (11) unique decorative motifs were identified after analysing with Gestalt theory. Gestalt is a psychological term which means "unified whole"; the theory attempt to describe the organisation of visual elements into groups or unified wholes when certain principles are applied. Gestalt theory has six basic principles of grouping elements (Tuck, 2010), these include; similarity, continuation, closure, proximity, pragnanz and symmetry.

i *Similarity*: this occurs when objects/elements looks similar to one another, people often perceive them as group or patterns

ii *Continuation*: is a grouping concept when the eye is compelled to move through one object and continue to another object

iii *Closure*: Occurs when an object is incomplete or space is not completely enclosed. According to (Spokane, n.d.), if enough of the shape is indicated, people perceive the whole by filling the missing information.

iv *Proximity*: this occurs when elements are placed close together. They tend to be perceived as a group (Spokane, n.d.).

v *Pragnanz*: This involves balancing of figure and ground by differentiating an object from its surrounding area.

vi *Symmetry*: involves viewing objects as symmetrical shapes that form around their centre (Tuck, 2010).

However, none of these principles stands alone; all of them function in totality with one another (Tuck, 2010). Therefore, the proportionality concept needs to be applied to achieve a totality of function and aesthetic appeal. Thus, PhiMatrix Software was used to aid the analysis. PhiMatrix is a design and analysis software which uses proven principle (Phi proportion or Golden section rule) to unveils the beauty, harmony and balance of nature's proportion in a design or artwork ("PhiMatrix^{TM} Overview," n.d.). Thus, the application of *PhiMATRIX^{TM} Software* helps to identify unique heritage values in Kelantan ceramic wares that can be sustained as genius loci.

2.1 Motif One

This motif is used as surface decoration on Kelantan pottery wares (Fig. 1). The design is a combination of two major elements (crescent/moon shape and dotted line) arranged in a repeated manner to form a design pattern. A review of the present mambong pottery wares in Kelantan revealed that this motif is still being used to decorate their pottery wares.

Figure 1: The motif one

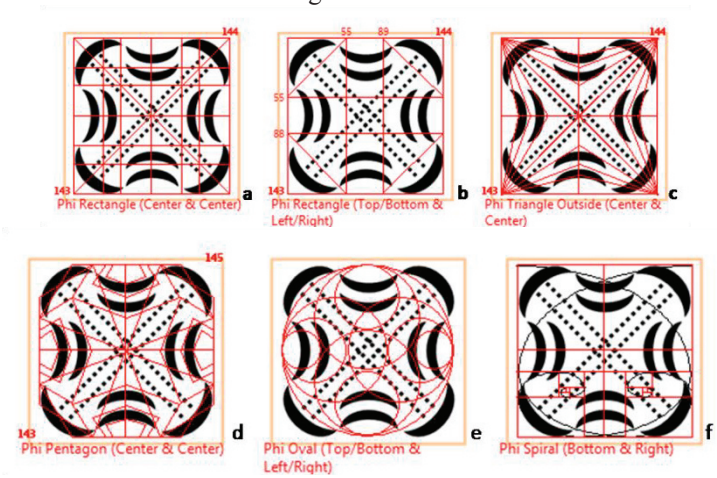


Figure 2: Motif one analyzed with PhiMatrix software

The entire six gestalt principles were applied to create this design pattern. It has common elements (similarity) placed closed to each other (proximity), with a clear difference between the ground and the elements (pragnanz). The connecting edges of the crescent shapes also revealed a continuation (Fig. 2d) and closure grouping (Fig. 2e); while the elements are arranged to form their centre (Fig. 2a, c, d).

Analysing holistically using the Golden rule (Phi proportion), the design conform to six Phi ratios, these includes; the Phi-rectangle when projected from the centre (Fig. 2a) and also when projected from the sides (Fig. 2b); the Phi-Triangle (Fig. 2c); Phi-Pentagon (Fig. 2d); Phi-Oval (Fig. 2e) and Phi-Spiral (Fig. 2f).

Calculating the Golden section using Fig. 2b;

$$\left.\begin{aligned}\frac{89}{55} &= 1.618\\ \frac{144}{89} &= 1.618\end{aligned}\right\} \frac{89}{55} = \frac{144}{89} = 1 : 1.618 \text{ (Golden Ratio)}$$

The calculation proves that the design pattern conform to the golden section rule; the proportional ratio equals to the golden number (1.618). Thus, this decorative motif is seen as a heritage value with timeless beauty across culture and time.

2.2 Motif Two

This motif was discovered on a Kelantan pottery ware called "*Guri*", which has been stored in the museum since 1984. The design is a combination crescent/moon shapes and dotted lines (Fig. 3).

Figure 3: The motif two

The design pattern can be perceived mainly from five gestalt principles, these includes; the similarity, continuation, closure, proximity and pragnanz grouping while symmetry grouping is not applicable. The design arrangement is asymmetrical (Fig. 4b, c, d). Analysing using PhiMatrix software also revealed that the design pattern conform to four (4) golden section rules. These include; Phi-Rectangle (Fig. 4a); the Phi-Pentagon (Fig. 4b); Phi-Oval projected from top (Fig. 4c) and projection from bottom (Fig. 4d). These can be proved from the Phi-ratio values in (Fig. 4a);

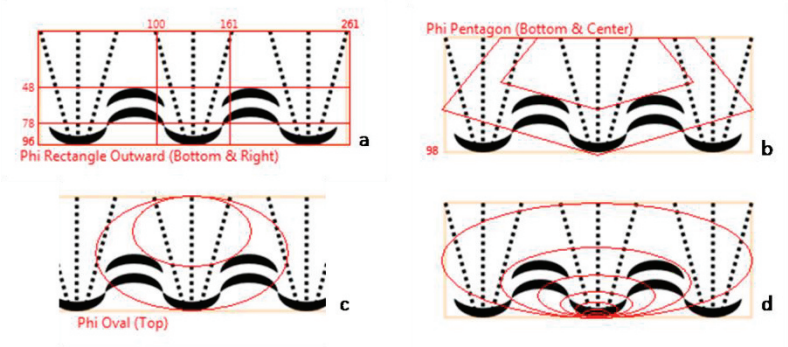


Figure 4: PhiMatrix analysis of motif two

i.e.:

$$\left.\begin{aligned}\frac{161}{100} &= 1.61\\ \frac{261}{161} &= 1.62\end{aligned}\right\} \frac{161}{100} \approx \frac{261}{161} \approx 1 : 1.618 \text{ (Golden Ratio)}$$

Although the proportional ratio of the design is not exactly the value of the Golden ratio (1.618); however, the values fall within the close range of golden ratio (1.61-1.62), making the differences negligible (Meisner, n.d.).

2.3 Motif Three

Just like motif two; this motif (3) was also discovered on *Guri*. Three elements were combined to create the design pattern; these include dotted lines, straight lines and circular shapes (Fig. 5)

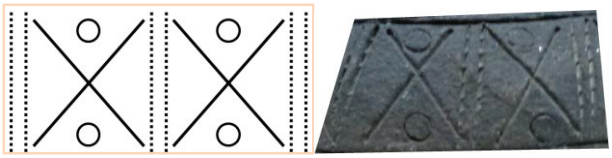


Figure 5: The motif three

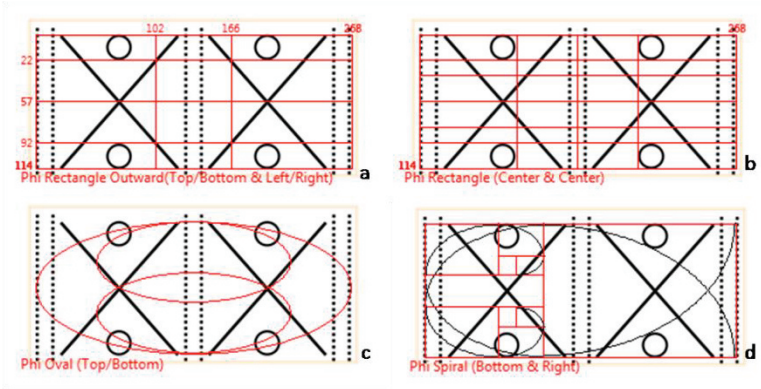


Figure 6: PhiMatrix analysis of motif three

The grouping of the elements can be perceived from the six gestalt principles. The presence of more than one common element in the design proves the similarity grouping while the arrangement of the elements reflects the proximity concept, although not highly intensified. The dotted lines are evidence of closure grouping, while the diagonal lines give a continuation effect to the design pattern. The elements were clearly differentiated from the ground (pragnanz) and the elements are symmetrically arranged (Fig. 6b & c).

From the PhiMatrix analysis, the design pattern also conforms to Phi proportional ratio when projected outward (Fig. 6a) and from the centre (Fig. 6b) using Phi-Rectangle. There is also evidence of conformity to Phi-Oval (Fig. 6c) and Phi-Spiral (Fig. 6d). The conformant to Phi-proportion can also be proved by calculation as shown below;

i.e.: **0** **102** **166** **268**

$$\left.\begin{aligned}\frac{166}{102} &= 1.627\\ \frac{268}{166} &= 1.614\end{aligned}\right\} \frac{166}{102} \approx \frac{268}{166} \approx 1 : 1.618 \text{ (Golden Ratio)}$$

From the proportional ratio calculated, the values if rounded-up to one decimal place will give the same value has the golden number (1.6). Thus, the proportion of the design pattern conforms to the Phi proportional ratio (golden rule).

2.4 Motif Four

This design is a combination of three design elements; the dotted line, crescent and star shape (Fig. 7). The design pattern can be perceived from the six gestalt principles of grouping; this is based on the presence of similar elements; close arrangement (proximity); the dotted lines used (closure), and the flow of connection between the crescent and the dotted lines (continuation). The clarity between the figure and ground also proves the pragnanz while the PhiMatrix analysis in Fig. 8 (c & d) shows that the pattern is symmetrical.

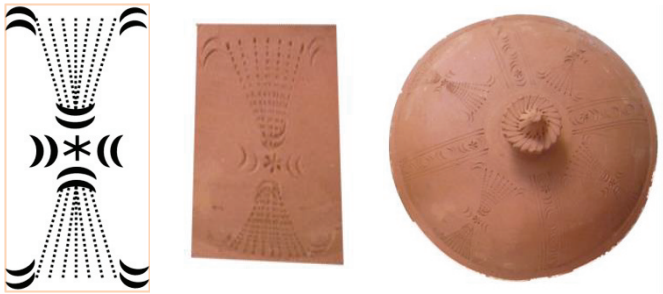


Figure 7: The motif four

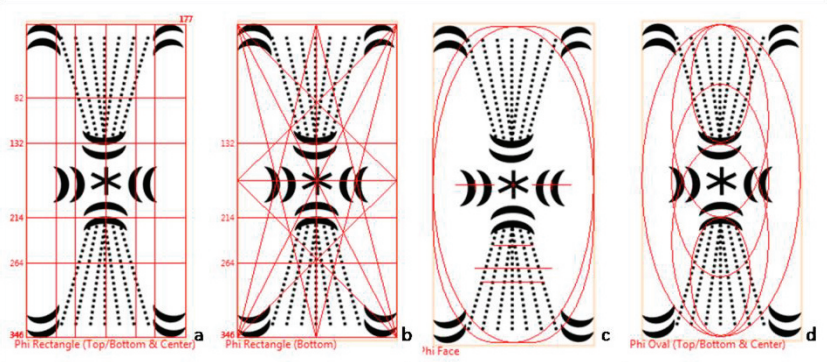
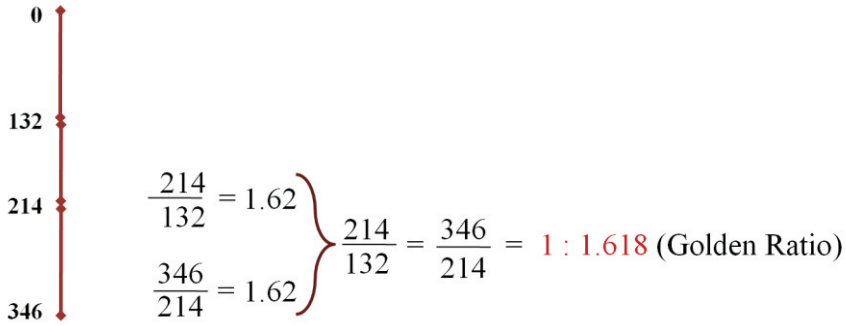


Figure 8: PhiMatrix analysis of motif four

Fig. 8 also revealed that the design pattern conform to Phi-Rectangle when projected towards the centre (Fig. 8a) and bottom (Fig. 8b). Analysing using Phi-Face (Fig. 8c) and Phi-Oval (Fig. 8d), also shows that the pattern conform to the Phi-proportion ratio. This was proved by calculation, using the PhiMatrix vertical values from Fig. 8a;

i.e.:



The calculation above shows that the design proportion conforms to the golden section rule; i.e. the proportional value of the design (1.62) is equal to the golden number (1.618).

2.5 Motif Five

This pattern is created with two elements (crescent and star shape) (Fig. 9). Based on the repeated and closely arranged crescent shapes, the pattern can be perceived using similarity, proximity grouping. Fig. 10 (d & f) also revealed closure and continuation effect while Fig. 10 (a, b, d & e) shows that the arrangement of the elements is symmetrical.

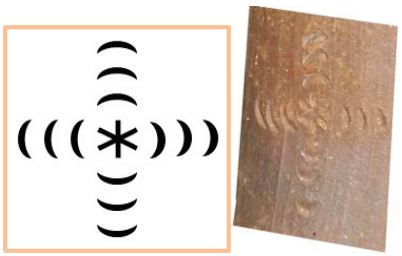


Figure 9: The motif five

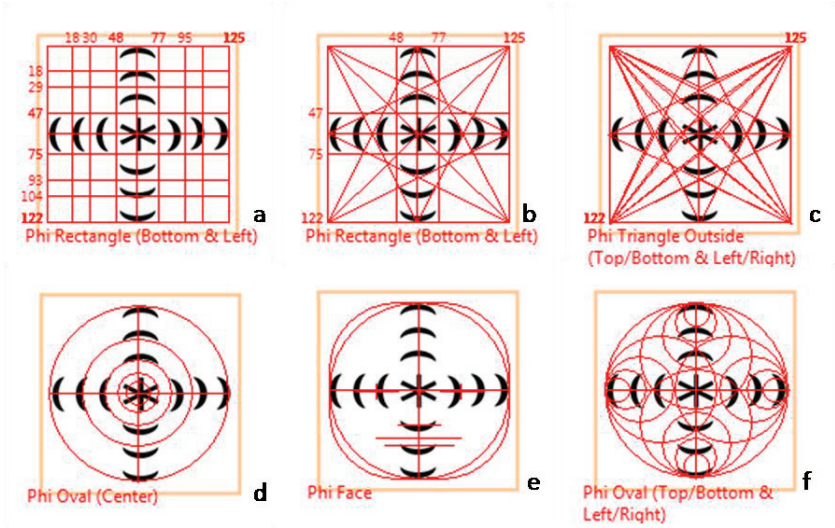


Figure 10: PhiMatrix analysis of motif five

The design pattern also conform to some Phi proportional ratio, these include, Phi-Rectangle (Fig. 10a & b); Phi-Triangle (Fig. 10c); Phi-Oval (Fig. 10d & f); Phi-Face (Fig. 10e). This is proved mathematically below using the PhiMatrix values from Fig. 10b;

i.e.: 0 — 48 — 77 — 125

$$\frac{77}{48} = 1.6 \qquad \frac{125}{77} = 1.62$$

$$\frac{77}{48} \approx \frac{125}{77} \approx 1 : 1.618 \text{ (Golden Ratio)}$$

Rounding-up the values to one decimal place shows that the proportional ratio of the design pattern (1: 1.6) is equal to the golden section ratio (1: 1.618).

2.6 Motif Six

This design pattern is a combination of horizontal, vertical and diagonal lines (Fig. 11). The closely arranged lines give proximity, continuation and similarity groupings. The closure effect can also be noticed between the diagonal lines at the upper part of the design. Analysing using the PhiMatrix software also revealed the conformity of the design pattern to Phi-Rectangle proportional ratio (Fig. 12).

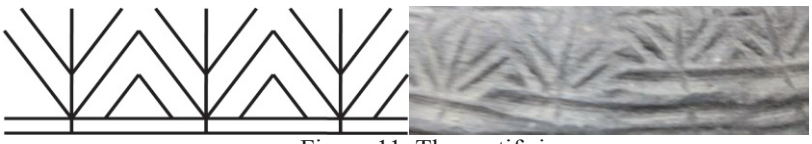


Figure 11: The motif six

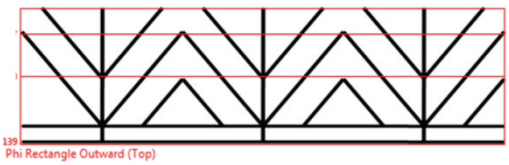


Figure 12: PhiMatrix analysis of motif six

2.7 Motif Seven

Three elements are combined to form this design pattern, these include; dotted line, crescent and dot (Fig. 13). From the totality concept of Gestalt Theory, this design can be perceived mainly from five gestalt principles. The repeated pattern creates similarity grouping while the close arrangement gives proximity, continuation and closure to the pattern (Fig. 14c). Although, the arrangement of the elements are asymmetrical (Fig. 14d); however, the totality of the elements and its surroundings shows the presence of pragnanz grouping.

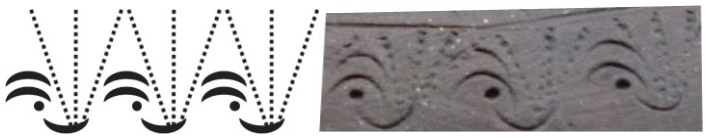


Figure 13: The motif Seven

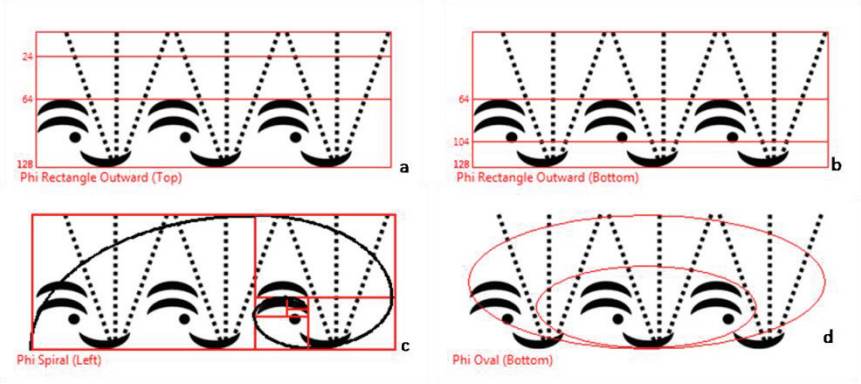


Figure 14: PhiMatrix analysis of motif seven

Analysing using PhiMatrix software shows that the design pattern conform to Phi proportion; this includes, Phi-Rectangle (Fig. 14a & b); Phi-Spiral (Fig. 14c) and Phi-Oval (Fig. 14d). This can be proved mathematically using the PhiMatrix values from Fig. 14b;

i.e.: $$\frac{104}{64} = 1.625 \approx 1 : 1.618 \text{ (Golden Ratio)}$$

The calculation above shows that the ratio of 104 to 64 (1.625) is almost equal to the golden number (1.618). The difference is negligible since when rounded to one decimal place, it gives the same value (1.6) (Meisner, n.d.).

2.8 Motif Eight

This motif comprises of three elements; dotted lines, crescents and star shapes (Fig. 15). The design pattern has similarity quality while the dotted lines are evidence of closure grouping. However, little (or no) emphasis was made on proximity, continuation and symmetry.

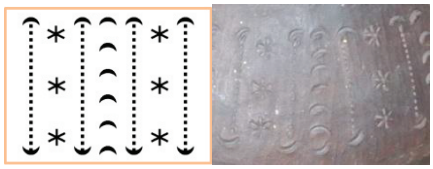


Figure 15: The motif eight

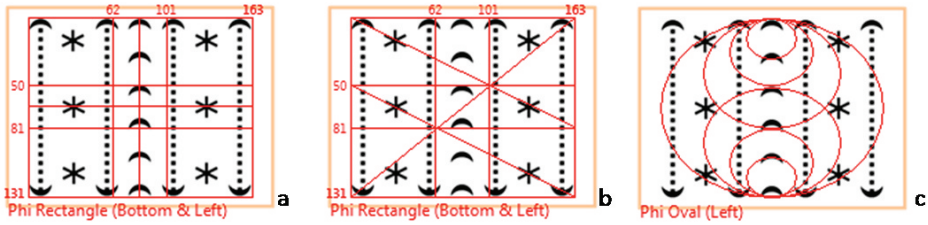
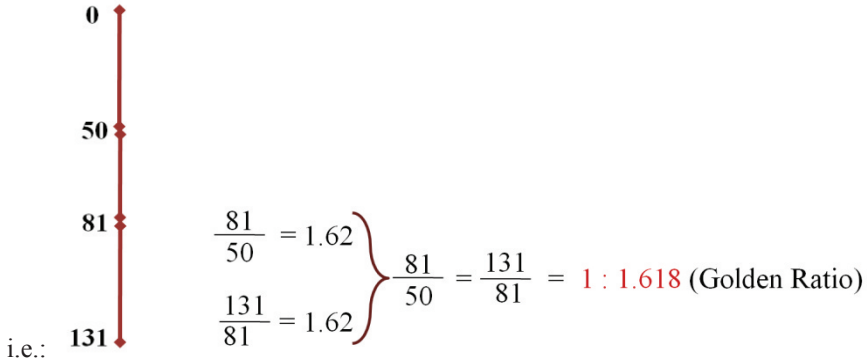


Figure 16: PhiMatrix analysis of motif eight

PhiMatrix analysis revealed that the arrangement of the design elements conform to the Phi proportional ratio. This includes the Phi-Rectangle (Fig. 16a & b) and Phi-Oval (Fig. 16c). This can be proved mathematically using the vertical PhiMatrix values from Fig. 16a;

i.e.:



The calculation above revealed that the proportional ratio of the design pattern is equal to the golden number (1.618). This is an evidence of its conformant to the golden section rule.

2.9 Motif Nine

This decorative pattern comprises of four elements; circle, line, crescent and a cross shape (Fig. 17). The elements are closely arranged, giving the pattern proximity and continuation grouping. The repetitive concept in the pattern is also evidence of similarity grouping while the centralize placement of the circular shapes reflects symmetrical grouping.

Figure 17: The motif nine

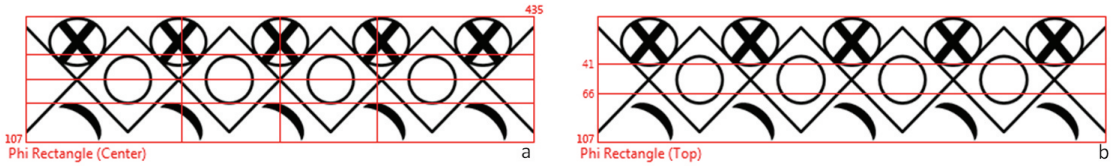
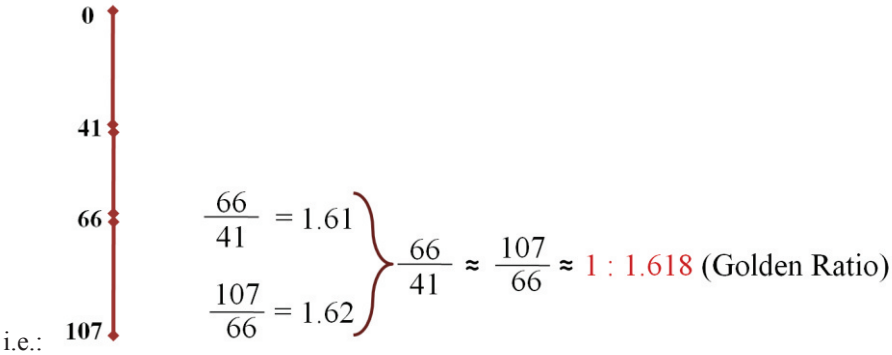


Figure 18: PhiMatrix analysis of motif nine

Analysing using PhiMatrix software revealed that the arrangement of the elements conforms to the Phi-Rectangle proportional ratio (Fig. 18a & b). This can also be proved mathematically as shown below;

i.e.:



From the calculation above, the proportional ratio of the design pattern (when rounded to one decimal place) is equal to the golden section number. This prove that the design arrangement proportionally conform to the golden section rule.

2.10 Motif Ten

This design concept combines wavy dotted lines and star shapes (Fig. 19). The repeated elements in the design are evidence of similarity grouping while the wavy dotted lines give continuation and closure effects; however, there is less emphasis on proximity.

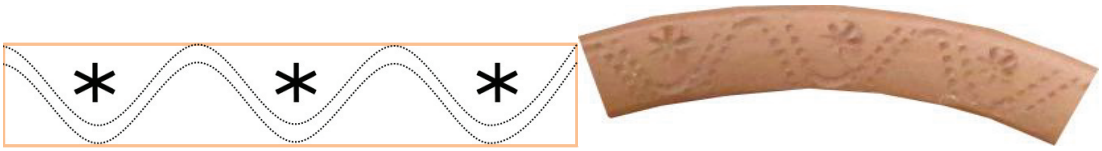


Figure 4.19: The motif ten

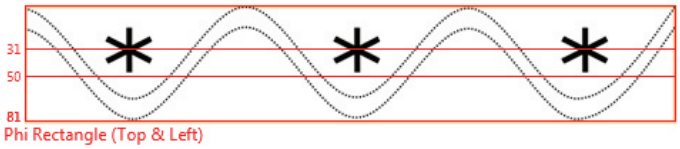


Figure 20: PhiMatrix analysis of motif ten

Analysing using PhiMatrix software revealed that the design conform to Phi-Rectangle proportional ratio when projected from the top and left (Fig. 20). This is proved mathematically bellow;

i.e.: **0** **31** **50** **81**

$$\frac{50}{31} = 1.613 \qquad \frac{81}{50} = 1.62 \qquad \frac{50}{31} \approx \frac{81}{50} = 1 : 1.618 \text{ (Golden Ratio)}$$

The calculation show that at one decimal place, the proportional ratio of the design pattern is equal to the golden number (1.6...); thus, it can be concluded that the design conform to the golden section rule.

2.11 Motif Eleven

This motif is formed with the combination of two elements; the dotted line and crescent shape (Fig. 21). Viewing the design from gestalt principles; the repeated concept used in creating the pattern gives similarity perception, while the close arrangements are evidence of proximity. The dotted lines also created a closure grouping while there are less emphasis on continuation and symmetry.

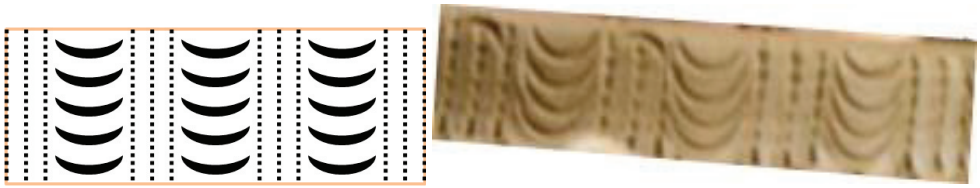


Figure 21: The motif eleven

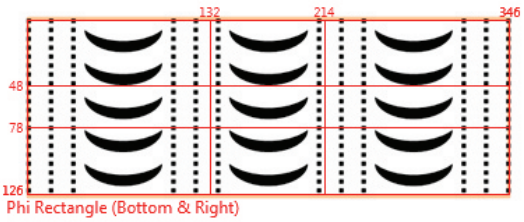
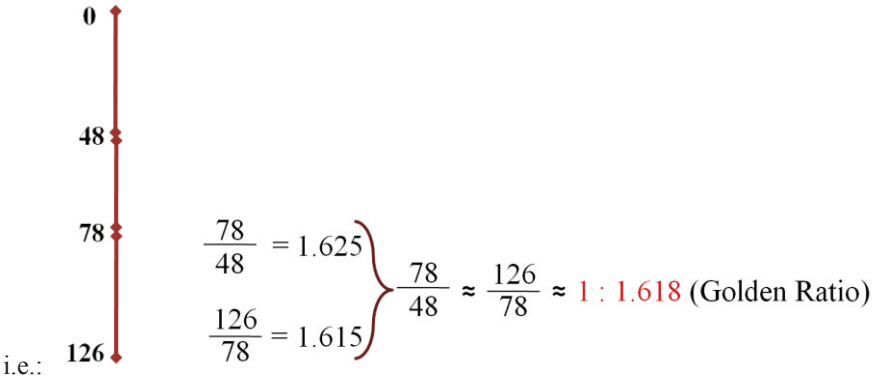


Figure 22: PhiMatrix analysis of motif eleven

Analysing using PhiMatrix software shows that the design conforms to Phi-Rectangle proportion ratio. This is proved mathematically in the calculation below;

i.e.:



From the calculation, the proportional ratio of the design pattern (to one decimal place) is equal to the golden number (1.6...); thus, it can be concluded that the design conform to the golden section rule.

Conclusion

One of the interesting discoveries from the decorative analysis is the conformant to their belief system. Most of the decorative patterns comprises of elements arranged in old numbers (i.e. 3, 5) which is in line with the Islamic belief. The presence of circular and crescent shapes in most of the patterns can also be associated with the Islamic belief in moon, which is often represented with a round or crescent shape. The proportional arrangements of the decorative patterns (which have been identified to conform to the golden section rule) prove their timeless beauty across culture and time. Thus, it is important to go beyond the traditional aspects of preserving and safeguarding ceramic heritage wares. The heritage values (aesthetic qualities) can be incorporated into contemporary products; this sustainable concept will not only preserve culture and history, but also enhance contemporary products.

References

Meisner, G. B. (n.d.). Phi: The Golden Number. Retrieved August 25, 2013, from www.goldennumber.net

Munn, N. (1966). Visual categories: An approach to the study of representational systems. *American Athropologist*, *68*(4), 936–950.

PhiMatrix^{TM} Overview. (n.d.). *PhiPoint Solutions, LLC*. Retrieved August 20, 2013, from http://www.phimatrix.com/overview.htm

Rice, P. M. (1987). *Pottery Analysis: A sourcebook* (1st ed., p. 559). The University of Chicago Press, Ltd., London.

Rice, P. M. (2006). *Pottery Analysis: A Sourcebook* (2nd ed., p. 584). The University of Chicago Press, Ltd., London.

Shepard, A. O. (1985). *Ceramics for the Archaeologist* (p. 461). Braun-Brumfield, Inc., Ann Arbor.

Spokane. (n.d.). The Gestalt Theory. *Graphic Design*. Retrieved December 28, 2013, from http://graphicdesign.spokanefalls.edu/tutorials/process/gestaltprinciples/gestaltprinc.htm

Tajul, S. S., Ramli, H., & Mohd, F. S. (2011). Local Genius of Mambong Pottery in Kelantan , Malaysia. *International Journal of Humanities and Social Science*, *1*(21), 147–155.

Tanselle, G. T. (1998). *Literature and Artifacts, Charlottesville, VA*. Bibliographical Society of the University of Virginia.

Tuck, M. (2010). Gestalt principles applied in design. *Six Revisions*. Retrieved December 28, 2013, from http://sixrevisions.com/web_design/gestalt-principles-applied-in-design/

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Recent conferences: http://www.iiste.org/conference/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar