

Cosmology Element in the Decorative Motifs of Bronze Drums and its Relationship with the Socio-Culture of the People of the Late Prehistoric Period in Southeast Asia

¹Adnan Jusoh, ²Zuliskandar Ramli and ²Nik Hassan Shuhaimi Nik Abdul Rahman

¹Department of History, Faculty of Human Sciences, Universiti Pendidikan Sultan Idris,
39500 Tanjung Malim, Perak, Malaysia

²Institute of Malay World and Civilisation, National University of Malaysia,
43600 Bangi, Selangor, Malaysia

Abstract: This study focuses on bronze drums, a type of artefact which is the relics of the people of the Late Prehistoric period. These objects are widespread and found in several locations in Southeast Asia, including Malaysia. The main objective is to look at the cosmic element based on the motifs and decorative patterns of the bronze drums. Among the research problems are to examine, the relationship between the star motif displayed on the tympanum of the bronze drums and the element of cosmology and also the extent of its relationship with the socio-culture of the people of the Late Prehistoric period in Southeast Asia. Employing the methods of literature review and typology, the research discovered that the star motif is an important decorative motif because it is often displayed on the bronze drums tympanum. Moreover, it was found that various shapes or forms of the star motif are displayed on the bronze drums tympanum in fact, the number of points on the star motif is also different among the bronze drums and can be either 8, 10, 12, 14 or 16. This phenomenon shows that there exists a belief that the star motif is very important in the socio-culture of the people of the Late Prehistoric period. This is because the star motif is often linked to the element of cosmology that represents, the symbol or emblem of the highest power that rises above human ability in this universe.

Key words: Bronze drums, motif, cosmology, beliefs, universe

INTRODUCTION

The word cosmology is a combination of 2 words that is cosmos and logos which are derived from Greek words. According to Arbi (1996), cosmos means universe or the condition of an orderly world while logo means matters that are related to fundamental or rational. Ezrin further adds that cosmology is a study about evolution and structure of the universe which is orderly that is in existence at the present time. Ezrin further explains that cosmology is related to the theory of the origin of the cosmos (cosmogony) and description related to the structure of the cosmos (cosmography) (Husin, 2004). Juli Edo, explained that cosmology is a term that is used to refer to the theory of the origin of the world (cosmogony) and its dynamism. Haziyah Husin stated that the interpretation of cosmology has connections with the views of a group of people who sees the natural world (the world) and the super world (the hereafter), the people and the individuals themselves. According to her, if scrutinized this view is not far different from the view

expressed by Muktar (1996) who stated that human life covers 2 things which are the external and internal. Based on the analysis of Amjad Muktar, the internal includes what is within the individuals themselves such as intelligence, creativity, aesthetics, aspirations, emotion, intellect, values, ideas and beliefs. The external on the other hand, refers to what is available in their surroundings including the sun, the moon, the sky, the galaxies, the space, the heavens. In this context, he mentioned that something that is available in the external surroundings includes climate, geographic location, geological conditions, culture and others (Huzin, 2004).

Meanwhile, Yatim (1995) stated that cosmology has various interpretations that came from the previous researchers. In general, cosmology is defined as the study of all that is in this world or this universe. Cosmology is also regarded, as a theory or belief system that uncovers the secret relationship between the union of the universe with an existence. If viewed in terms of its philosophy, El-Muhammady (1996) stated that cosmology

is the metaphysical part that discusses about the world as a totality of all space and time. Among the nature elements that are often used as motifs of cosmology are the stars, the moon, the waves and the clouds. However, there are also cosmic motifs that are associated with the views of the people who produced those motifs about the world and their surroundings. The intimate relationship between humans and their environment could, also indirectly encourage humans to appreciate it and eventually translating it creatively through art or material culture.

BRONZE DRUMS, SPREAD AND FUNCTION

One of the important relics of material culture during the bronze age, specifically the people of the Late Prehistoric period in Southeast Asia is the bronze drum. This object is made from a mixture of several metal components such as tin, lead, copper and so on (Priyono, 2002). Bronze drums are decorated with a variety of decorative motifs which are displayed either on the tympanum or the body part of the drums and among these are the star, alphabet, bird, tangential circle, layered circle and several other motifs (Jusoh, 2011a).

Bronze drums were widely distributed in several locations in the region of Southeast Asia and China; in fact bronze drums were reproduced in new forms by a few communities who used them in their daily life. According to Chin You-Di, there were several communities in mainland Asia who shared and mutually used bronze drums in their daily life and among these communities were the Yuah or Viet ethnic in the Dongson area (Vietnam), the local people in the North of Thailand, especially during the time of Srivijaya culture, the Muong community (Vietnam), the Tai Yai and Intha community in Myanmar, the Karen community who lived in the borders of Thailand and Myanmar, the Zhuang community in the Southern part of China and the Han ethnic also in China (Jirawathana, 2004). This phenomenon shows that the bronze drum was very popular that it was used widely by various communities, in particular those who lived in the mainland Asia region.

Apart from the shape of the bronze drums which are unique and interesting, the spread of the bronze drums is also a result of its multi-purpose function. Choo (1987) stated that:

The drums were symbols of power and wealth and were buried with their owners, usually tribal chiefs in order to secure continuity of their authority in afterlife

In addition, the function of the Dongson bronze drums was different from one community to another based

on the type of settlement area they were in, for example it was used as a symbol of status and worship of their ancestral spirit (Laos), a place to store their grains (Vietnam), a mark to remember the dead (Malaysia), to invoke rain (Indo-China), to mark the commencement of the ceremony of having an audience with the king (Thailand) and to keep corpses (Indonesia) (Idrus, 2000).

THE ELEMENT OF COSMOLOGY ON THE BRONZE DRUMS

The reality is that the level of knowledge and understanding about bronze drums among the public in this country is lacking. Their knowledge of bronze drums is only general and they do not really understand in detail the hidden meaning behind the decorative motifs of a bronze drum, much less the decorative motifs associated with the element of cosmology. The public's perception of the decorative motifs and patterns on the bronze drums is impressionistic in nature. Thus, in order to facilitate the focus of the discussion and analysis related to the position of the cosmic element, the tympanum, therefore will be divided into 4 sections, namely section 1-4 as shown in Fig. 1.

Based on Fig. 1, each section is represented by a number of specific motifs and typically there is relationship between 1 motif with the others, namely:

Section 1: Section 1 is the middle most part or the centre of the tympanum of any bronze drum. This section is also the hitting area for the tympanum of a bronze drum and sometimes its shape is a bit bulging. There are 2 types of motifs displayed which are the star and triangle motif.

Section 2: Section 2 is the area that is of 2nd position from the centre of the bronze drum's tympanum. The

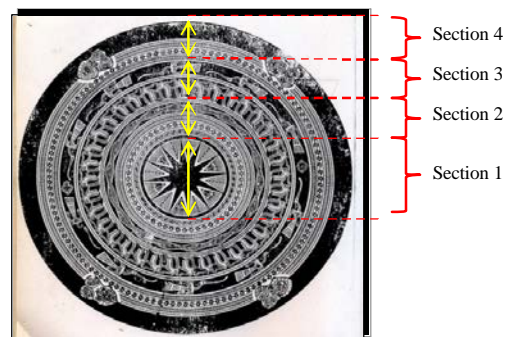


Fig. 1: Tympanum of the Ngoc Lu 1 bronze drum (Vietnam) (Thong, 1990)

shape of its motifs has interesting geometric elements but sometimes quite complex in nature; among them are alphabet, stair, tangential circle, dotted circle and a few other motifs also of geometric elements.

Section 3: Section 2 is followed by section 3 where the space or area in this section is wider compared to section 2 and 4. The design of the decorative motifs displayed has human elements and the scope of their life's activities. Among the motifs often displayed are human motif, animal motif, boat motif and motif of birds which are flying counter clockwise and a number of other types of motifs. Nevertheless, between each layer of motif (for example, flying bird motif) with another motif (for example, human or deer motif) is sometimes bordered by motifs of geometric element, such as the stair or tangential circle motif.

Section 4: Section 4 is the outer most part (the edge) of a bronze drum's tympanum. Typically, the design of the decorative motifs found in this section are also of geometric element but displayed in simple and easy to draw form, among these are the saw and stair motif. Nevertheless, this section is also very important because it is the location where sculptures of animal figure (frog) are found, in particular for the bronze drums of the Heger 1 and 2 type.

Based on the explanation mentioned earlier, the position of the star motif is in the centre most section or location of a bronze drum. This description can be seen in Fig. 2 which shows the position of the star motif that is located in the centre of the bronze drum's tympanum.

Meanwhile, if viewed in terms of the concept or philosophy of this position, it indicates that it is very special because it can make important and comprehensive or fair contributions for all the creatures on this earth. The reality is that the star or the sun is a part of the cosmic element that is at the uppermost position or rank and is capable of giving light to all the living creatures on this earth. Nevertheless, the shape of the star motif is different between 1 bronze drum and another, for example as illustrated in Fig. 3.

If observed carefully, the shape of the radial or point of the star motif on the bronze drums of the Heger 3 type is found to be sharper in nature compared to the star motif on the bronze drums of the Heger 1 type. The comparison of the shape of the star motif that is found on the tympanum of the Heger 1 drum (bronze drum of Kg. Batu Buruk 1, Terengganu) and Heger 3 drum in Myanmar is as shown in Fig. 4.

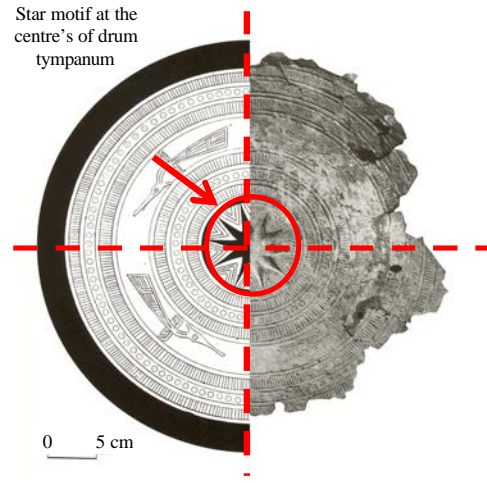


Fig. 2: Position of star motif on the drum tympanum

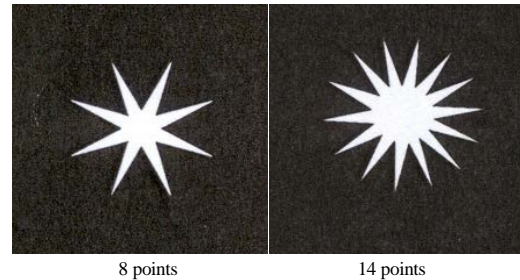


Fig. 3: Shape of the star motif

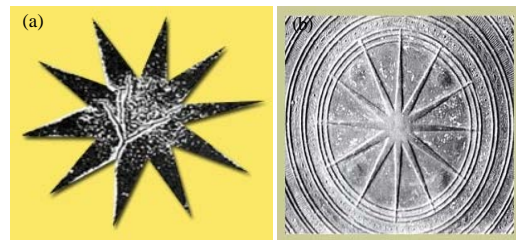


Fig. 4: Comparison of the shape of the Heger 1 and 2 bronze drum's star motif: a) Star motif of the Heger 1 drum Kg. Batu Buruk 1 (Terengganu); b) Star motif of the Heger 3 drum (Myanmar)

Meanwhile if viewed from other aspects, the star or the sun is often times regarded, as representing the basis or source of the highest power. The likelihood is that this then becomes the impetus for the people of the Late Prehistoric period to believe in the speciality of stars as a symbol of power. Thus, the star motif was made a symbol that represented the source of power and it was then translated, as 1 of the decorative patterns displayed on the bronze drums. Indirectly, the star motif is very

significant in meeting its function to represent the element of cosmology. For instance, by referring to the tympanum of a Ngoc Lu I bronze drum that was found in Vietnam, it was found that the position of the star motif is in the middle of the tympanum of the bronze drum which is surrounded by various other motifs, among which are the human motif, animal motif, geometric motif and others (refer to section 1). This situation seems to reflect that the star motif functions, as a cosmic source to the other creatures that live on this earth that are represented by the other motifs (for example, star motif, bird motif, stair motif, saw motif, tangential circle motif, layered circle motif and many others). The space between the star motif (section 1) and the human motif or the star motif (section 3) is bounded by another element that is represented by motifs of geometric element (section 2). This situation shows that the star motif is at the highest position and functions, as an element of cosmology and it is not reachable by life on earth whether humans or animals. There is a barrier that becomes the line of separation between the position of humans or animals (creatures) with the cause or source of supreme power.

STAR MOTIF AS ELEMENT OF COSMOLOGY ON THE BRONZE DRUMS

Results of the study show that the star motif is one of the most popular motifs, if compared to the other types of decorative motifs displayed on bronze drums. This is because usually the star motif will be displayed on the tympanum of the bronze drums, particularly bronze drums of the Heger 1-4 type. However, the number of points or radials on the star is different from 1 bronze drum to another; as an example there are bronze drums with 8, 10, 12, 14 or 16 points. Among the examples of bronze drums with 8 points are the Dongson 1 bronze drum (Vietnam), Dongson 4 bronze drum (Vietnam), Dongson V bronze drum (Vietnam), Viet Khe bronze drum (Vietnam) (Thong, 1990), Yunnan M12 bronze drum (China) (Kempers, 1988) and No. 224/225 bronze drum (Thailand) (Jirawathana, 2004). Examples of the characteristic or shape of the radial or point of the star motif that is displayed on the bronze drum with 8 points are as shown in Fig. 5.

Contrastingly, the bronze drum of the Heger 1 type typically displays 10-12 points. Among the example of bronze drums with 10 points are the Kg. Batu Buruk 1 bronze drum (Terengganu) (Peacock, 1971), Kg. Sg. Lang 2 bronze drum (Selangor) (Peacock, 1969) and Mersi bronze drum (Indonesia) (Kempers, 1988) (Fig. 6).

Meanwhile, examples of bronze drums with 12 points are Kg. Batu Buruk 2 bronze drum (Terengganu) (Peacock,

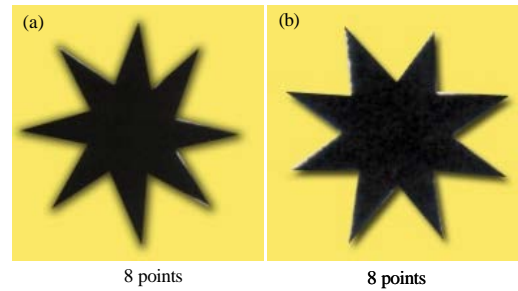


Fig. 5: Shape of the star motif (8 points): a) Viet Khe bronze drum (Vietnam); b) No. 224/2525 bronze drum (Thailand)

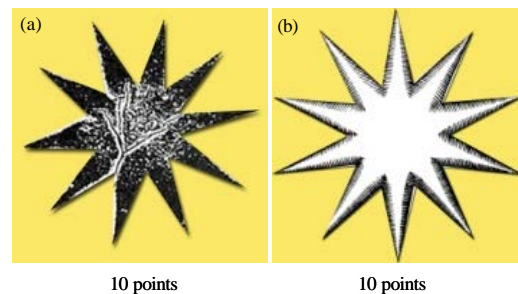


Fig. 6: Shape of the star motif (10 points): a) Kg. Batu Buruk 1 bronze drum (Terengganu); b) Mersi bronze drum (Indonesia)

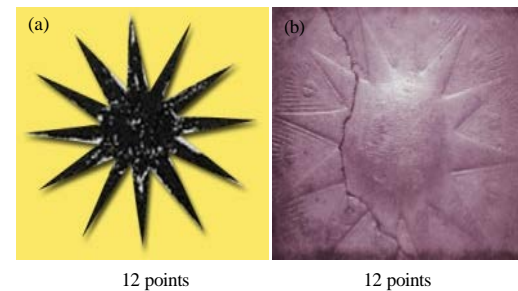


Fig. 7: Shape of the star motif (12 points): a) Kg. Sg. Lang 2 bronze drum (Selangor); b) Sambas 1 bronze drum (Indonesia)

1971), Sambas I bronze drum (Indonesia) (McKinnon, 1994) Dong Hieu bronze drum, Yen Bong 2 bronze drum and Hoa Binh bronze drum (Vietnam) (Thong, 1990), Semarang bronze drum (Indonesia) (Kempers, 1988), Banyuwening bronze drum (Indonesia) (Kempers, 1988), Laos bronze drum (Eiji, 2002), Timbang Dayang bronze drum (Sabah) (Jusoh, 2012) and Ongbah Cave bronze drum (Thailand) (Kempers, 1988). Examples of the characteristic or shape of the radials or points of the star motif that is displayed on the bronze drums with 12 points are as illustrated in Fig. 7.

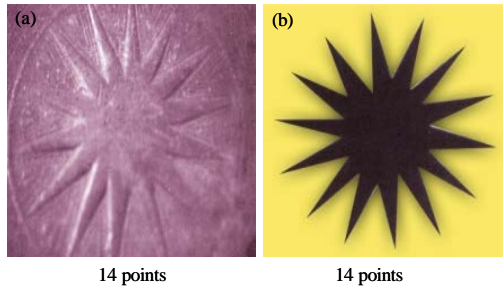


Fig. 8: Shape of star motif (14 points): a) Sambas 2 bronze drum (Indonesia); b) Co Loa 1 bronze drum (Vietnam)

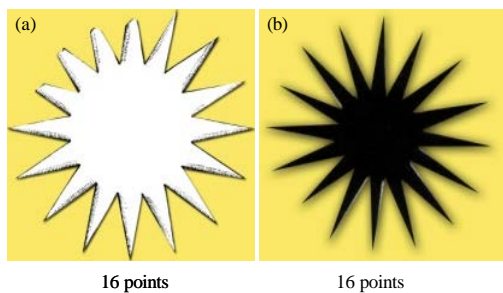


Fig. 9: Shape of the star motif (16 points): a) Babakan bronze drum (Indonesia); b) Hoang Ha bronze drum (Vietnam)

Nonetheless, there are bronze drums which were found to display number of points totalling 16 points. Among the examples of bronze drums with 14 points are the Co Loa 1 bronze drum, Ngoc Lu 1 bronze drum, Nong Cong bronze drum (all 3 in Vietnam) (Thong, 1990) and Sambas 2 bronze drum, Indonesia (McKinnon, 1994). Examples of the characteristic or shape of the radials or points of the star motif displayed on the bronze drum with 14 points are as shown in Fig. 8.

Meanwhile, bronze drums which display 16 point star motif are the Hoang Ha bronze drum (Vietnam) (Kempers, 1988) and the Babakan bronze drum (Indonesia) (Kempers, 1988) (Fig. 9).

ELEMENT OF COSMOLOGY IN THE SOCIO-CULTURE OF THE PEOPLE OF THE LATE PREHISTORIC PERIOD

Essentially, there is no absolute certainty about the importance of the star motif that was used as motifs on the bronze drum. Nevertheless in terms of logic, the use of the motif has significance for individuals or craftsmen who produced those objects. Certainly, the individuals or craftsmen would not produce a specific motif or symbol

without taking into consideration the importance or meaning contained behind it for the people who would be using the object. Apart from the creativity of the bronze drum makers, the use of the star motif actually has significance to the community or people who used the bronze drums at that time (Husin, 2004).

So far, not many researchers especially in the field of archaeology have given views or interpretations about the use of the star motif specifically. However, discussions related to the display of the star motif on the tympanum of the bronze drums have oftentimes been presented by a few researchers. In fact, design of the motif has become a polemic amongst researchers, in them of whether it is a star or sun motif. Leong Sau Heng interprets the motif as a star where he states:

The tympanum is always decorated with a central star, the points of the star being either 8, 10, 12, 14 or 16 in number (Heng, 2002)

The same view is presented by Othman Yatim in connection with the motif in the centre of the tympanum of a bronze drum found in this country; he states that the motif which is rather prominent (central motif) is the motif of a star which has divisions or strips. This motif is often surrounded by a few layers of wavy lines that resemble the sea (Yatim, 1995).

B.A.V. Peacock when commenting on the decorative motifs following the discovery of 2 bronze drums from Kampung Sungai Lang, Kuala Langat, Selangor in 1964 mentioned that the star motif is one of the decorative patterns that is displayed on the bronze drum of Kampung Sungai Lang, Kuala Langat, Selangor. He stated that:

The drumheads are decorated with a typical repertoire of Dongson motifs arranged in concentric bands round a central raised star (Peacock, 1969)

Meanwhile, W. Linehan stated that the sun motif or the star motif is also displayed on the bronze drum of Kg. Batu Pasir Garam, Sungai Tembeling (Pahang):

The centre of the face is occupied by a 10-rayed sun or star with faint, tangular lines between the rays (Linehan, 1951)

To summarise, Leong Sau Heng and B.A.V. Peacock clearly considered the motifs displayed on the bronze drums tympanum, as a star motif while W. Linehan was still doubtful to identify whether it is a star motif or a sun motif. In contrast, Bernet Kempers was more inclined to say that the motif found on the tympanum, as a symbol or an emblem of the solar star (Kempers, 1988). So too with

M. Colani who reviewed the use of the star or sun motif on the tympanum of the bronze drums, in line with the view of Bernet Kempers, in which he suggested that the motif could possibly represent the sun related to the worship of the sun which symbolized the importance of the sun to the people (Jirawathana, 2004). The views of these 2 researchers show that they are more inclined to believe that the motif displayed on the tympanum of the bronze drums is the sun motif and not the star motif.

In addition, the interpretation of the motif displayed in the middle or the centre of the tympanum of the bronze drums was also once a polemic, especially among researchers from Vietnam and China. Xiaorong Han stated that Vietnamese researchers are more inclined to express the motif as a symbol or emblem of the sun as it is said to have connections with the beliefs of the ancient Vietnamese people's who were said to worship the sun (Han, 1998). Meanwhile for the Chinese researchers, they stated that the motif essentially is also a manifestation of the beliefs of the ancient Chinese community who also worshipped the sun, especially the Chu community and several other communities found in Southern China (Han, 1998). Clearly, the researchers from these 2 countries; namely, Vietnam and China both are of the opinion that the motif is a symbol of the sun and not the star motif. This view is also in agreement with the view presented by Bernet Kempers who stated that the motif displayed in the middle of the tympanum of the bronze drum is the sun motif. Therefore based on the views presented by several researchers as discussed earlier, it is indeed clear that there are 2 different viewpoints about the status of the motif that is found in the middle or centre of the bronze drums tympanum, namely whether it is a star motif or a sun motif. Nevertheless in terms of reality, both the motifs in fact represent the highest symbol in the universe, representing the element of cosmology.

There are some indicators clarifying that the people of the Late Prehistoric period had practised rituals in the form of beliefs in their daily life. Abdullah Jumain Abu Samah explained that the relics in graves during the Neolithic period show that at the time there was already use of things such as pots, stone bracelets, bead forms and stones resembling gems. The religious beliefs of the people at that time rested on the worship of ancestral spirits (Abu Samah, 1994). Soejono summarized that during this paleo-metal period, the people's life became developed. The existence of megalithic monuments, several variations of artefacts made from metal (bronze, iron, gold), various types of crockery with a variety of decorative motifs, all imply that there had existed strong social organization, religious beliefs that were complex in nature and also skills in craftsmanship. This shows that the people after the Neolithic period, in particular the Late

Prehistoric period already had practices related to beliefs in their daily life. The decoration of motif on the bronze drums has highlighted the existence of the elements of belief in the socio-culture that is related to the element of cosmology. Choo (1987) while commenting on the decorative motifs on the bronze drums mentioned funerary purposes have been suggested, as well as usage during religious and other ceremonies for communication with spirits during agricultural rites (to invoke rain).

Descriptions of rituals displayed on the bronze drums show decorative motifs of a group of humans who are dancing as if they are involved in a specific ritual. The human image is depicted as wearing a head dress and holding a type of musical instrument that resembles a flute. This is because in the socio-culture of the people who practice animistic beliefs, there are indeed too many rituals being practised. Animism means a form of belief where each object has a spirit or soul that has its own personality. The element of belief is manifested through traditional practices and respect for the objects in the form of the sun, moon, stars, birds, trees, sea, mountains, hills and so on (Jusoh, 2011b). Among them are the rituals to call the spirit or soul of the ancestors, rituals of worshipping the beach, rituals to start a farm or before the planting season arrives, rituals before the harvesting season, rituals for medicinal purposes and so on. This is because the daily life of the people of the Late Prehistoric period could not be separated from the circle of beliefs and the universe. Thus, animistic beliefs underlie the socio-culture of the people with the existence of ritualistic ceremonies such as burials, beliefs in spirits and souls of the ancestors and so on. The burial practice of the corpse with bronze drums as objects of accompaniment is a socio-cultural manifestation and form of belief that existed among the people of the Late Prehistoric period in Southeast Asia.

CONCLUSION

The bronze drum is a type of important artefact that represents the people of the Late Prehistoric period. The uniqueness of the bronze drum is highlighted through various forms of decorative motifs until it became widely spread in Southeast Asia. Its various functions, either as an object of burial, object of ritual, gifts, object of trade, social status and many more had resulted in the bronze drum to become something that was often sought after and used by various communities.

The star motif is one of the main elements that is highlighted on the tympanum of the bronze drum. Although, the number of points on the star motif differs between one bronze drum and another, it's interesting

layout has placed its reputation highly. Thus, according to the beliefs of several communities in Southeast Asia, it is not only giving light to humans but it essentially represents the symbol or emblem of the highest power in this universe.

ACKNOWLEDGEMENTS

This research was conducted using the 2013-0020-107-72 grants and thus the researchers would like to express their gratitude to the Ministry of Education and Universiti Pendidikan Sultan Idris for the research grants awarded.

REFERENCES

- Abu Samah, A.J., 1994. [Social stratification in the early kingdom in the archipelago]. Master Thesis, The National University of Malaysia, (In Malay).
- Arbi, E., 1996. [Islamic cosmology in old Malay literary tradition]. Proceedings of the Seminar on Arts and Cosmology, October 1-2, 1996, Kuala Lumpur, Malaysia, (In Malay).
- Choo, A.A., 1987. *Arhaeology: A Guide to the Collections National Museum Singapore*. National Museum Singapore, Singapore.
- Eiji, N., 2002. Heger I drums, bronze halberds and ranked societies in the Mekong basin. *J. Indo-Pac. Archaeol.*, 25: 125-128.
- El-Muhammady, M.U., 1996. [Islam and cosmology]. Proceedings of the Seminar on Arts and Cosmology, October 1-2, 1996, Kuala Lumpur, Malaysia, (In Malay).
- Han, X., 1998. The present echoes of the ancient bronze drum: Nationalism and archaeology in modern Vietnam and China. *J. Southeast Asian Stud. Student Assoc.*, 2: 27-46.
- Heng, L.S., 2002. Heger 1 type drums found in Malaysia: Some comments on the significances of these finds. Proceedings of the International Seminar on Dongson Culture and Tradition in Southeast Asia, January 14-17, 2002, Muzium Negeri Terengganu, Malaysia.
- Husin, H., 2004. [Motif of Malay textile, 1900-1999: A motif analysis based on cosmos]. *PURBA*, 23: 19-40, (In Malay).
- Idrus, I.S., 2000. [Analysis of animal decorative pattern on the top surface of dongson drum]. *Jurnal Sejarah Negeri Selangor Darul Ehsan*, 3: 51-61, (In Malay).
- Jirawathana, M., 2004. The bronze kettle drums in Southern Thailand. Proceeding of the Seminar on Thailand-Malaysia: Malay Peninsula Archaeology Programme, September 4-10, 2004, Department of Museum and Antiquity, Kuala Lumpur, Malaysia, pp: 63-78.
- Jusoh, A., 2011a. [Animal motifs on the bronze drum and it relationship with agrarian society]. *PURBA*, 30: 35-56, (In Malay).
- Jusoh, A., 2011b. [Dongson drums in Malay Peninsula: Analysis of their motif and decoration]. *Jurnal Arkeologi Malaysia*, 24: 30-66, (In Malay).
- Jusoh, A., 2012. [The finding of bronze drum from Timbang Dayang (Sabah) and their important from archaeological context]. *Jurnal Arkeologi Malaysia*, 25: 49-63, (In Malay).
- Kempers, A.J.B., 1988. *The Kettledrums of Southeast Asia: A Bronze Age World and its Aftermath*. A.A. Balkema Publishers, Rotterdam, Netherlands, ISBN-13: 9789061915416, Pages: 599.
- Linehan, W., 1951. Traces of a bronze age culture associated with iron age implements in the regions of Klang and the Tembeling, Malaya. *J. Malayan Branch R. Asiatic Soc.*, 24: 1-59.
- McKinnon, E.E., 1994. The sambas hoard: Bronze drums and gold ornaments found in Kalimantan in 1991. *J. Malayan Branch R. Asiatic Soc.*, 67: 9-28.
- Mukhtar, A., 1996. Islamic modern architecture in the perspective of cosmology. Proceedings of the Seminar on Arts and Cosmology, October 1-2, 1996, Kuala Lumpur, Malaysia.
- Peacock, B.A.V., 1969. [Drum from Kampung Sungai Lang]. *Malaysia Dari Segi Sejarah*, 5: 17-30, (In Malay).
- Peacock, B.A.V., 1971. [Two dong drums from Kuala Trengganu]. *Malaysia Dari Segi Sejarah*, 6: 16-20, (In Malay).
- Prijono, S., 2002. Elements composition and conservation technique of bronze objects from the first century of Christ in Java and Bali. Proceedings of the International Seminar on Dongson Culture and Tradition in Southeast Asia, January 14-17, 2002, Muzium Negeri Terengganu, Malaysia.
- Thong, P.H., 1990. *Dongson Drums in Vietnam*. Social Science Publishing House, Hanoi.
- Yatim, O.M., 1995. *Islamic Arts*. Dewan Bahasa dan Pustaka, Kuala Lumpur, Malaysia, ISBN-13: 9789836235046, Pages: 72.