

RELATIONSHIP BETWEEN ENCLOSURE RATIO AND EMOTIONAL EXPERIENCE ON SHWEDAGON COMPLEX

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Abstract: *The enclosure is an influencing factor in any field of creating space. The sense of enclosure is produced by proportions between the height and width ratio of areas that are comfortable to the observers. According to this, the sense of enclosure is based on user perception of what makes a satisfying place. Most Buddhist Myanmar people perceive the spatial experience of peacefulness and freedom from stress within the religious monument precincts. Zedi environments stimulate devotees not only the essence of Buddhism but also reflect spatial qualities. The main constituent of spatial qualities is an enclosure which directly affects user comfort and sense of feeling. The aim of the paper concerned about the relationship between the degree of enclosures and user emotional experience around the stupa complex. Firstly, the author reviewed the enclosure theory in urban street space, besides, to the spatial definition related to enclosure proportion. Secondly, defined enclosures are selected as the most useable common space for devotees on the Shwedagon platform. Finally, the study tried to investigate the emotional experience that is evoked by stupa to affect the enclosure around the Shwedagon complex.*

Key Words: *Enclosure degree, scale, and proportion, Emotional experience, Shwedagon Zedi.*

1. INTRODUCTION:

There is a strong relationship between regions of the brain and the value of space enclosure by Neurophysiological research. Ratio and scale is an important factor for enclosure and direct impact on the user's perception of comfort. The sense of enclosure is produced by proportions between the height and width ratio of areas that are comfortable to the observers. According to this, the sense of enclosure is based on user perception of what makes a satisfying place.

Thousands of religious monuments in Myanmar, millions of devotees spend their precious time in them to gain merits, to have a chance to purify their souls by practicing insight meditation. Everyone visits the Buddhist monuments can get a sense of peacefulness that reflects the essence of Buddhism.

This emotional experience came from not only the essence of Buddha's teaching but also the individual experiencing space. Most of the pagoda environments in Myanmar have significant form and space with tazaung and trees. Creating Space and natural environment can be able to stimulate and more promote the value of design building.

The potential of good design has not the only meaning of space but also spatial qualities. Spatial qualities involve two fundamental aspects which are form and spatial enclosure. The research aims to investigate the relationship between the enclosure ratio and user emotion and comfort. Shwedagon Zedi is a rich and varied spatial experience made from the massive form and soft shape. The most useable common space on the Shwedagon platform are selected to study and commonplace describes the potential of good design which attain spiritual enlightenment or spatial experience.

Analysed and comparative study both visually and spatially that make the essence of traditional Buddhist built environments. The spatial enclosure is an influencing factor in any field of creating space. The sense of enclosure is produced by proportions between the height and width ratio of areas that are comfortable to the observers.

2. LITERATURE REVIEW:

Enclosure in Religious complex

The enclosure is the location influenced by the Main stupa form on the stupa complex. The degree of the enclosure is the height of the stupa and the distance from the center of the stupa to the surrounded location. The degree of the enclosure is important to the character of space.

Zedi (Stupa type, Myanmar term)

Zedi means solid stupa type and form were erected to enshrine relics of the four Buddhas to commemorate some sacred spot each has a sealed-up chamber in the basement.

Urban space enclosure

Urban space enclosure is an inverted U - shape the relationship between the height of the defining buildings to the width of the street. (1)

Sense of enclosure

When building forms define public spaces which proportions between height and width in an area to create an enclosure that evokes the sensorial value of that space. (1)

Pythagorean theory of space

According to the Pythagorean theory of space, Tenuous form matter which separates as a medium between objects. Pressure endowed atmosphere set frontier and limit to physical objects in it. The endowed atmosphere gives mystical and spiritual qualities. There are pressure and tension between two bodies that spatial pressure keeps things apart. (2)

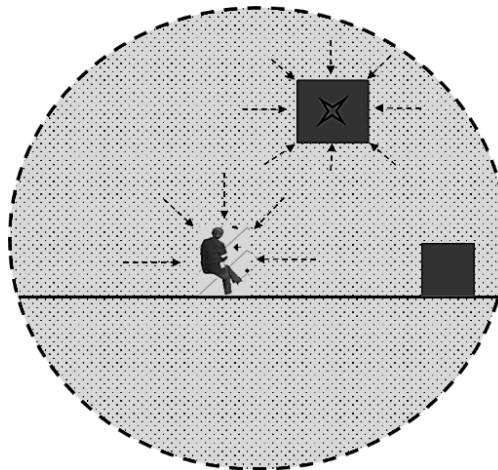


Figure (1) endue atmosphere of spatial tension between two bodies. Source:2

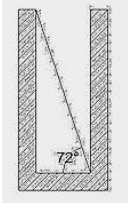
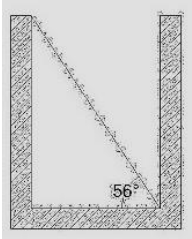
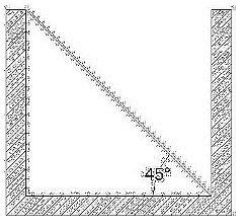
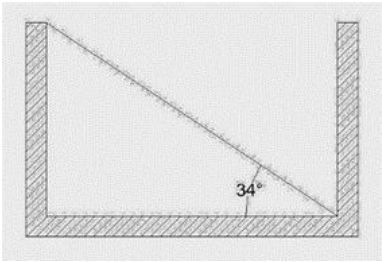
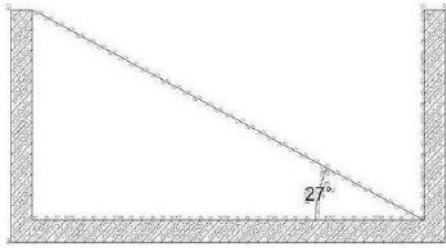
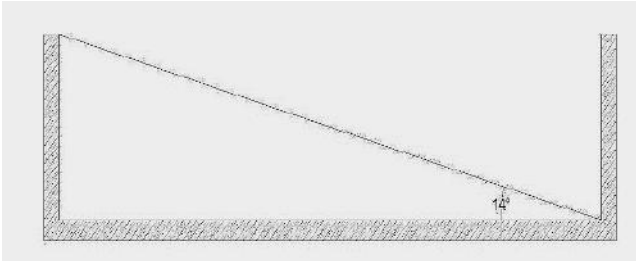
3. RATIO AND SCALE OF ENCLOSURE:

Enclosure, according to the literature, is a function of ratio and scale. Enclosure degree promotes public spaces in an area that influences the participator's sense of feeling. There is a slice difference between the scholars suggested ideal height-to-width ratios. They suggested minimum ratios of 1: 2 and maximum ratios of 4:1 for urban street spaces. The spatial definition is changed by not only the enclosure degree but also the height and width values of the enclosure.

Observer's sense of feeling directly related to the spatial definition. If spaces have the same ratios but different scales, they don't have the same sense of enclosure. For example, the recommended design for urban street space is 1:2; the height of 10 feet to a width of 20 feet is expected to the same sense of enclosure but a height of 100 feet to a width of 200 feet, although both have the same ratio, which is mostly incorrect. The following table shows the relationship between the enclosure degree and the ratio of the Urban street space. (7)

Table (1) the relationship between the enclosure degree and the ratio of the Urban street space

Enclosure ratio (Height: Width)	Sense of spatial definition	Degree of enclosure
4:1	Claustrophobia and confinement	

3:1	Strong and feel like concrete canyon. very narrow sky view	
3:2	Strong and clear sense of enclosure. Strong influence within the enclosure	
1:1	High and strong place making potential, Comfort and safety and meaningful of enclosure itself.	
1:1.5	High and strong place making potential, Comfort and safety and meaningful of enclosure itself.	
1:2	Good and enough for place making and view of sky equal to visual field, Comfort and safety and meaningful of enclosure itself.	
1:4	Weak, place making potential is low, discomfort and lack or psychological shelter	

Source: 7

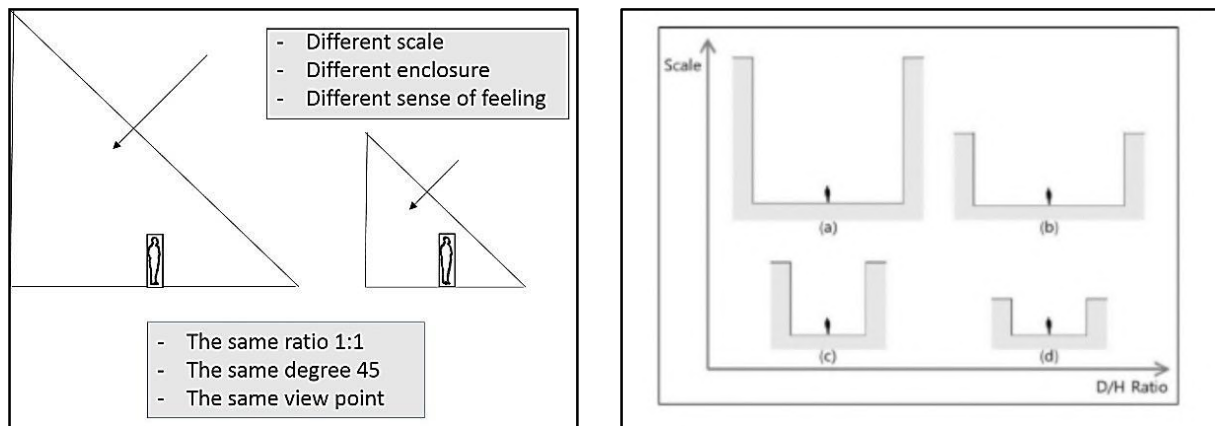


Figure (2) different dimension of same ratio and degree has different sense of feeling

Source: 3,4

4. STUDY AREA AND METHOD:

Shwedagon Zedi is situated on Singuttara hill, partly natural and partly artificial. The summit of the hill has been levelled and forms a platform 990 feet along south to north and 635 feet wide from east to west. The Buddha's parting mandate for the brothers was that the hairs must be enshrined on a hill called Singuttara Hill, in their native land; because it was on that hill that the possessions of the three preceding Buddhas, (Kakusanna, Kanagunna, Kassapha) had been enshrined.

The king, Okkalapa and the two brothers put the Buddha's relics and built a small 44- taung (66ft) stupa on the full moon day of Tabaung 103 BC for the public to pay Obeisance. Repairs were made and the original structure was raised by one king after another until it reached the present height 326ft in the time of the reigning Mon Queen Shin Saw Pu (14th century AD). The height is the Shwedagon Zedi is 326' and the width is 374' approximately. There are 64 small pagodas encircling to the Shwedagon Zedi.

The total compound area is 114 acres in nowadays. The proposed Shwedagon Zedi is the special reference to study which has plenty of enclosure and emotional richness. It is also Buddhist religious function of public spaces. There are totally 72 buildings which are Pythat Tazaungs, shrines, zayats, pagoda trustee's offices on the platform. It is still alive and need to be chosen special reference to study. The aim of the research is the relation between the different degree of enclosures which influenced by main stupa form and human sense of feeling.

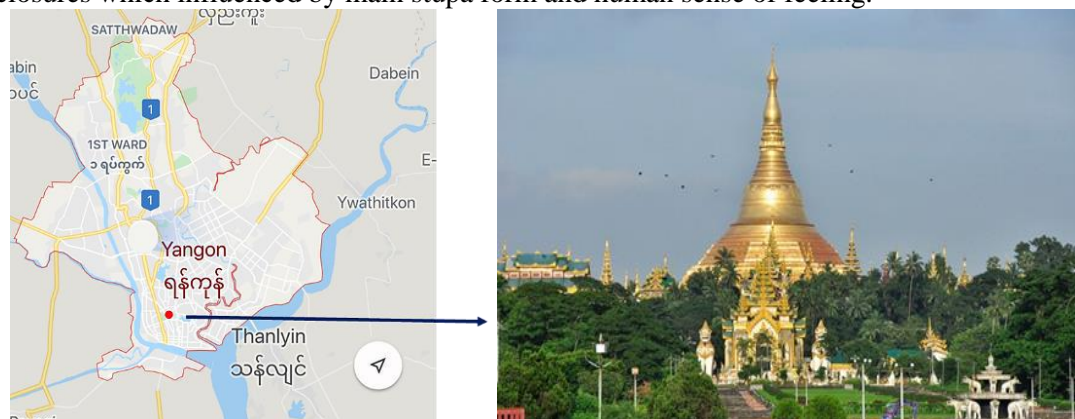


Figure (3) Location of the Shwedagon, Yangon, Myanmar

Source: 9

Firstly, defined enclosures are selected as the most useable common space for devotees on the Shwedagon platform. And then calculate the degree and ratio of selected enclosure to measure the stupa height and the width from the center of the main stupa to the selected enclosure to study. After that try to investigate the emotional experience that is evoked by stupa to affect the enclosure around the Shwedagon complex.

5. THE RELATIONSHIP BETWEEN ENCLOSURES DEGREE AND EMOTIONAL EXPERIENCE

Shwedagon Zedi is situated central significant plan of the city. The yellow and gold surrounding the blue sky create a sensation of architectural power which has no parallel. There are significant form and shape, spatial configuration and enclosures that contribute to the quality of spaces on the Shwedagon platform. Among them ratio and scale of enclosure is one of important factors. Therefore, the study investigates the relationship between enclosure ratio and sense of space for selected four enclosure spaces which are visitors mostly used on the Shwedagon platform.

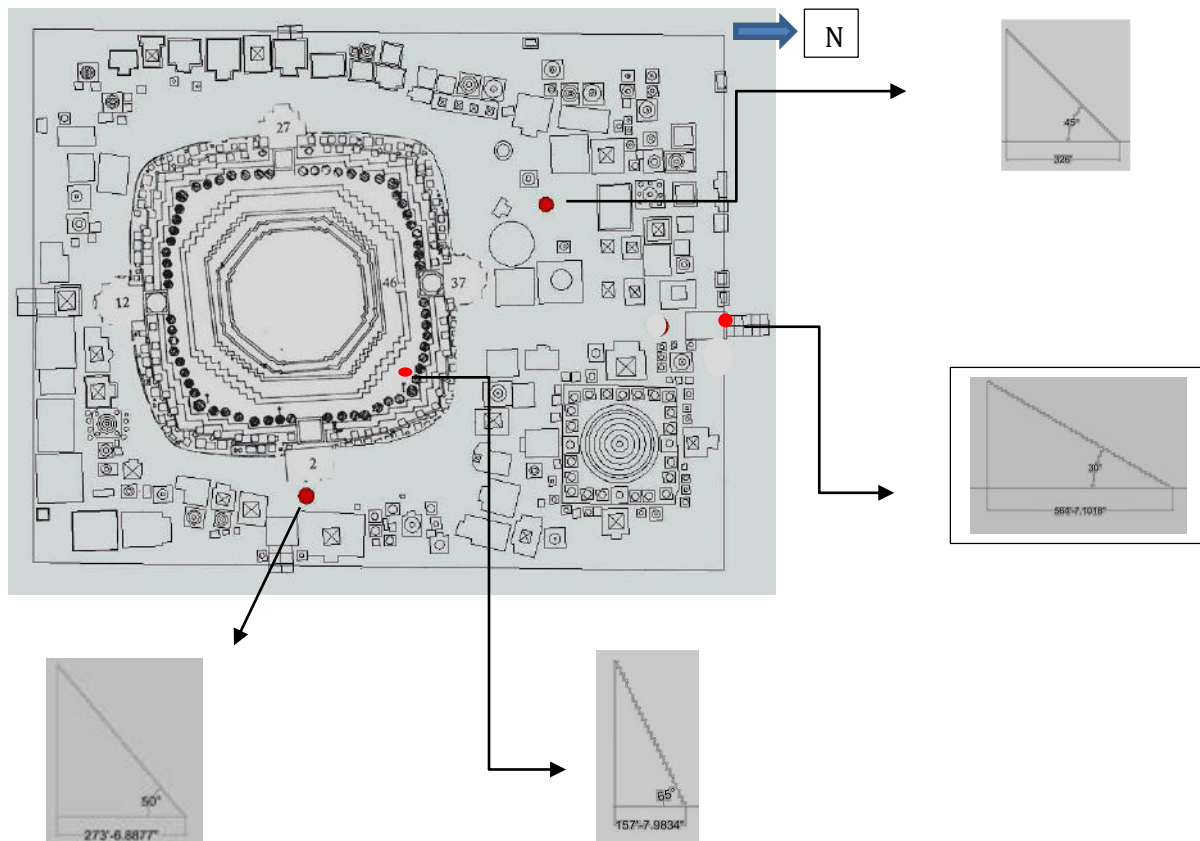


Figure (4) selected define areas on the stupa complex and enclosure degree and the distance from the centre of the main stupa and each defined area

65 degree Enclosure

Enclosure one was located at the level of first tire which is situated 20 feet above the Zedi platform. The degree of enclosure is 65 degree and the height to width ratio is approximately 8:1. It is very high value to compare with the maximum enclosure ratio. The participators can only see the massive texture of stupa form and visual perception is shut down. Recess line textures of stupa are enormous scale than the human scale. According to this texture effect and enclosure ratio, the observer can feel Claustrophobia and extreme aura which means devotees are highly influenced in a small confined space by the height of the main stupa. There is no sense of enclosure and spatial definition.

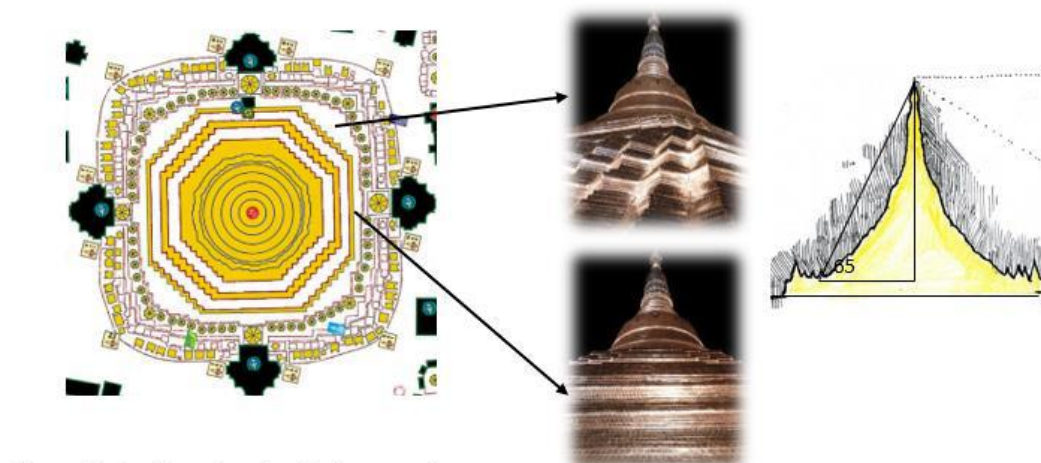


Figure (5) the vision from the 65 degree enclosure

50 degree Enclosure

50 degree Enclosure was located circle pathway just like pedestrian around the main stupa that is situated 80ft far from the boundary of the plinth. The degree of enclosure is 50 degree and height to width ratio is 5:1. This Enclosure is more fully confined than other enclosures because the pedestrian situated between Tazaungs with

pythat and Gjou dain (eight special posts). Participator can be influenced more detail by the design elements within this enclosure. In this enclosure the form is a little bit steep and it's main stupa look after above the sky to the devotees.

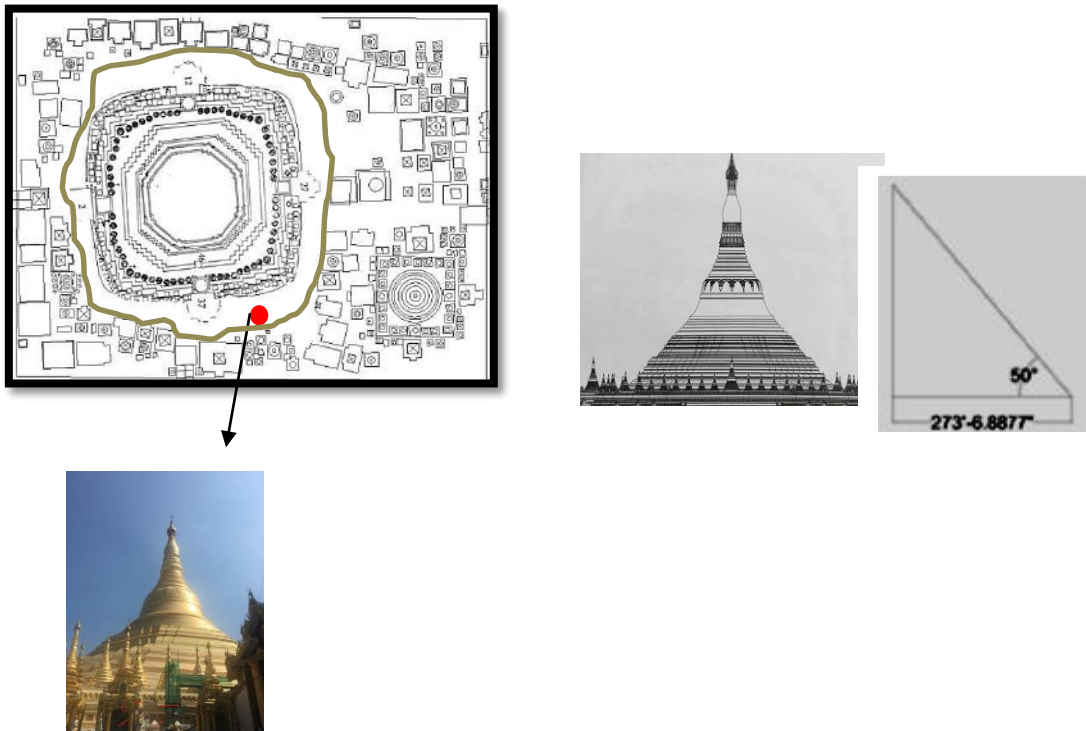


Figure (6) the visual field from the 50degree enclosure

45degree Enclosure

45 Degree enclosure is situated in the middle of the north-west corner. Enclosure ratio is 1:1 and degree is 45. This ratio is strong place making potential enclosure ratio. Visual comfort and release from the tension of the main stupa. The entire proportion of the Zedi can be seen and perceive a sense of peacefulness within the enclosure. There is enough space approximately 7900 square feet. The spatial definition is magnificent and degree of openness. Although the visitor can see clearly from the plinth to the height of the main stupa form and rich decorated façade near the stupa plinth.

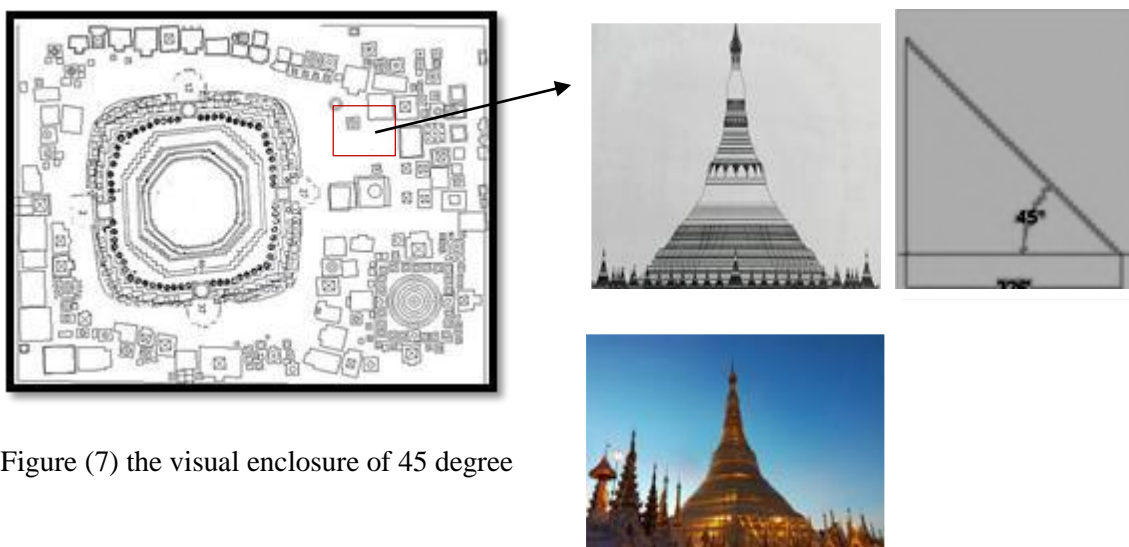


Figure (7) the visual enclosure of 45 degree

30 degree Enclosure

This enclosure is situated in front of the north zaungtan. Height to width ratio is 1:7. This ratio is enough place making potential and view of sky to visual field occupied by the whole proportion of the stupa. Shwedagon stupa form is seen from that view is just like a focal point. The enclosure influenced by the height of the main stupa and height of surrounding Tazaung which is comfort and coziness.

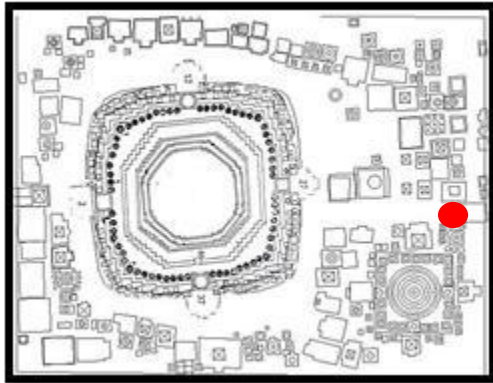
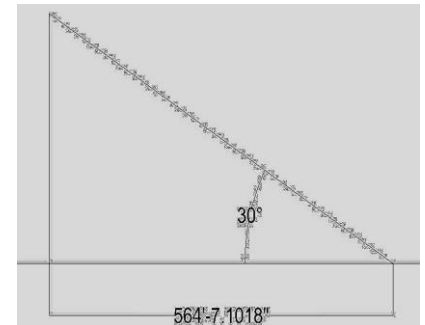
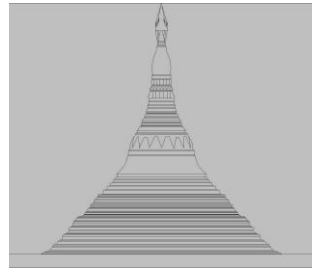


Figure (8) approximately 1:2 is good visual proportion to the stupa and perceive sense of picturesque.



6. CONCLUSION:

The study examined the relationships between enclosures on the Shwedagon platform and participator's senses. There are many spatial elements that contribute to the quality of zedi spaces. Among them ratio and scale of enclosure is one of the main factors that to support the zedi reverent. The result can be seen that emotional impact of the user depend on the degree of enclosure. The results found that the observed enclosures ratio that most of the people used conform to optimal H/W ratio of the urban religious space. On the other hand, these enclosures more influence on users than others.

REFERENCES:

1. Chris Haile, January 2012. "A Myth of Urban Design: The Sense of Enclosure Theory", Article. <<http://www.chrishaille.com/2012/01/a-myth-of-urban-design-the-sense-of-enclosure-theory>>
2. Max Jammer.2012. "Concept of Space". Master Thesis Explanatory Document
3. Juhani Pallasmaa. July 2014. "Space, place and atmosphere. Emotion and peripheral perception in architectural experience" Researchgate.
4. Jaecheol Kim, April 2017. "Comparing the influences of the D/H Ratio, Size, and Façade Design of an Enclosed Square on Its Perceptual Qualities as a Sustainable Urban Space in South Korea", Article.
5. Shwedagon Zedi maintenance groups: The records of Shwedagon Zedi
6. Dr. U Nyanawara. Myanmar-English Encyclopedic Dictionary of Buddhist terms-part 1 and 2.
7. Majdi M. Alkhresheh. Enclosure as a function of Height-to-width ratio and scale.
8. Khin Myo Chit. A Wonderland of Pagoda legends.
9. <http://www.google.com.map>