

**THE REPUBLIC OF TURKEY
BAHÇEŞEHİR UNIVERSITY**

CIRCLE IN ARCHITECTURE

M. S. Thesis

NAZLI EFE

ISTANBUL, 2015

**THE REPUBLIC OF TURKEY
BAHÇEŞEHİR UNIVERSITY**

THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES

MASTER OF ARCHITECTURE

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Thesis Supervisor: Assoc. Prof. Dr. Emine Özen EYÜCE

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ABSTRACT

CIRCLE IN ARCHITECTURE

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What are the power symbols in the architecture of the modern era? Ring of Life in Fushun, 30 St Mary Axe in London, Genbaku Domu in Hiroshima, Stockholm Public Library, Rotunda de la Villette in Paris, National Parliament House in Dhaka... What makes those buildings so powerful and iconic? When these buildings are compared to the earlier edifices like the Borobudur Temple in Magelang, Pantheon in Rome, Stonehenge in Wiltshire, Istanbul's Hagia Sophia, primitive dwellings like the Indian tipi or the Matakam houses in Cameroon, we see a meaningful connection. Intentionally by mentioning the location of the edifices I want to stress the fact that they belong to different cultures from various regions. Despite the differences, there is a dramatic similarity among the structures which is their form. All the instances above have similar architectural characteristics like having the idea of physically arising, constituting centrality, creating a powerful look in the cityscape – nearly all examples are landmarks-, gathering and uniting people. Those listed features are the end products of a simple figure; the circle. Even though geometrically by means of architectural organization these powerful, iconic structures have a lot in common –constituting a circular form and having a central characteristic– they differ in an important point, which is the meaning that they manifest. It is obvious that today's buildings having a similar, circular morphology as historical ones do not manifest the same worldview. The message given by the circular edifices has transformed from sacred to profane. In this specific point, one should ask what is the force or intention that creates this shift in the meaning. What is so powerful and attractive about the circle that intuitively or consciously pushes people to use this symbol to transfer or adapt meaning from the ancient times until now? The answer to these questions is based on Nietzsche's theory of 'will to power'. As it is previously underlined what strikes the attention the most in the given edifices is the manifestation of power through the circle. In the circle, the idea of power has never changed throughout the history, what has changed is the quality of power which is sacred or profane.

In this thesis, the altering and remaining meanings of circle throughout the architecture history is analyzed. With the intention of demonstrating the altering meaning of the circle from sacred to profane, one should prove the sacredness aspect of the circle first. Religious monism and creation myths are discussed in relation to the circle, to point out its spiritual character. The relation of the *monad*- the first, the essence- and the circle is

explained elaborately. Moreover, the circle is analyzed from a philosophical monistic point of view where the symbolic meaning that is transformed by people's intentions is based on and anatomized by Nietzsche's theory of "will to power". This part expresses the link between the circle and the power. After drawing the relation of power and circle, the altering meaning of circle – the shift from sacred to profane, and remaining meaning of circle – power – is simultaneously analyzed through the history on architectural edifices by referring to the crucial developments. The aim of this thesis is to focus on the archetypal meaning and the importance of the circle form in architectural history as a depiction of the world perception and additionally to ground and assert the change of the symbolic meaning of circle with Nietzsche's key concept; "will to power".

Keywords: Circle, Architecture, Power, Meaning, Symbol

ÖZET

MİMARLIKTA DAİRE

Nazlı Efe

Mimarlık Yüksek Lisans

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Modern dönem mimarlığının güç sembolleri nelerdir? Fushun'daki Ring of Life, Londra'daki 30 St Mary Axe, Hiroşima'daki Genbaku Domu, Stockholm Halk Kütüphanesi, Paris'teki Rotunda de la Villette, Dhaka'daki Parlamento binası... Bu yapıları güçlü ve ikonik kılan nedir? Bu binalar erken dönem yapıları ile karşılaştırıldıklarında – örnek vermek gerekirse Magelang'daki Borobudur Tapınağı, Roma'daki Pantheon, Wiltshire'daki Stonehenge, İstanbul'un Aya Sofya'sı, Kızılderili çadırı veya Kamerun'da bulunan Matakam evleri gibi ilkel yapılar – anlamlı bir bağlantı görürüz. Yapıların bulunduğu yerler kasten belirterek, bu yapıların farklı coğrafyalarda bulunan farklı kültürlere ait oldukları gerçeği vurgulanmak istenmiştir. Farklılıklara rağmen, tüm yapıların çarpıcı bir ortak noktası vardır, bu da sahip oldukları biçimdir. Yukarıda bahsedilen örneklerin tamamı, fiziksel olarak yükselmek fikrine sahip olma, merkezîyet oluşturma, şehir peyzajında güçlü bir görünüme sahip olma – neredeyse tüm örnekler birer kent simgesidir – insanları toplama ve birleştirme gibi benzer mimari özelliklere sahiplerdir. Sıralanan bu özellikler basit bir şekil olan dairenin sonucudur. Mimari organizasyon bağlamında geometrik olarak, bu güçlü ve ikonik yapıların ortak özellikleri çok olmasına rağmen – dairesel biçimlenme ve merkezi karakter gösterme – önemli bir noktada ayrışır, bu nokta onların dışa vurdukları anlamdır. Benzer dairesel morfolojiye sahip olan günümüz yapılarının, tarihi olanlarla aynı dünya görüşünü ortaya koymadıkları açıktır. Dairesel yapılarla verilen mesaj kutsaldan, kutsal olmayana dönüşmüştür. Bu önemli noktada şu sorulmalıdır: anlamdaki bu farklılığa yol açan güç veya niyet neydi. Bilinçli veya bilinçsiz bir şekilde insanların geçmişten bugüne kadar anlamı koruyarak ve/veya anlamını değiştirerek kullandıkları daire sembolünü bu kadar güçlü ve çekici kılan nedir? Bu soruların cevabı Nietzsche'nin 'güç istenci' teorisine dayandırılır. Daha önceden altı çizildiği üzere, verilen örneklerde en çok dikkati çeken, gücün daire ile dışavurumudur. Tarihsel süreç içerisinde dairenin iletmiş olduğu güç fikri hiç değişmez, değişen; gücün niteliğidir yani kutsal veya dünyevi oluşudur.

Bu tezde dairenin değişen ve sürekli kalan anlamları mimarlık tarihi içerisinde incelenir. Dairenin kutsaldan dünyeviye kayan anlam değişimini açıklayabilmek için öncelikle dairenin kutsallığı kanıtlanmalıdır. Daire dini monizm ve yaratılış mitleriyle ilişkili bir biçimde tartışılarak kutsal yönü ortaya konulur. Buna ek olarak daire, felsefi monizm çerçevesinden incelenir ve insanların yönelimleri sonucu dairenin anlamındaki değişim burada Nietzsche'nin 'güç istenci' kavramına dayandırılıp açıklanır. Bu bölüm daire ile

güç arasındaki ilişkiyi vurgular. Daire ile güç ilişkisi ortaya konduktan sonra, dairenin değişen anlamı – kutsaldan kutsal olmayana kayış – ve ebedi kalan anlamı – güç – bir arada tarihsel süreç içerisindeki önemli olaylara değinilerek mimari örnekler üzerinden incelenir. Bu tezin amacı, her dönemde dünya görüşünü yansıtan dairenin mimarlık tarihindeki arketipik anlamı ve önemi üzerinde durmak, ilaveten dairenin değişen sembolik anlamını Nietzsche'nin anahtar kavramı 'güç istenci'ne dayandırmak ve açıklamak.

Anahtar Kelimeler: Daire, Mimarlık, Güç, Anlam, Sembol

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ABBREVIATIONS

JSB : Jatiyo Sangsad Bhaban

1. INTRODUCTION

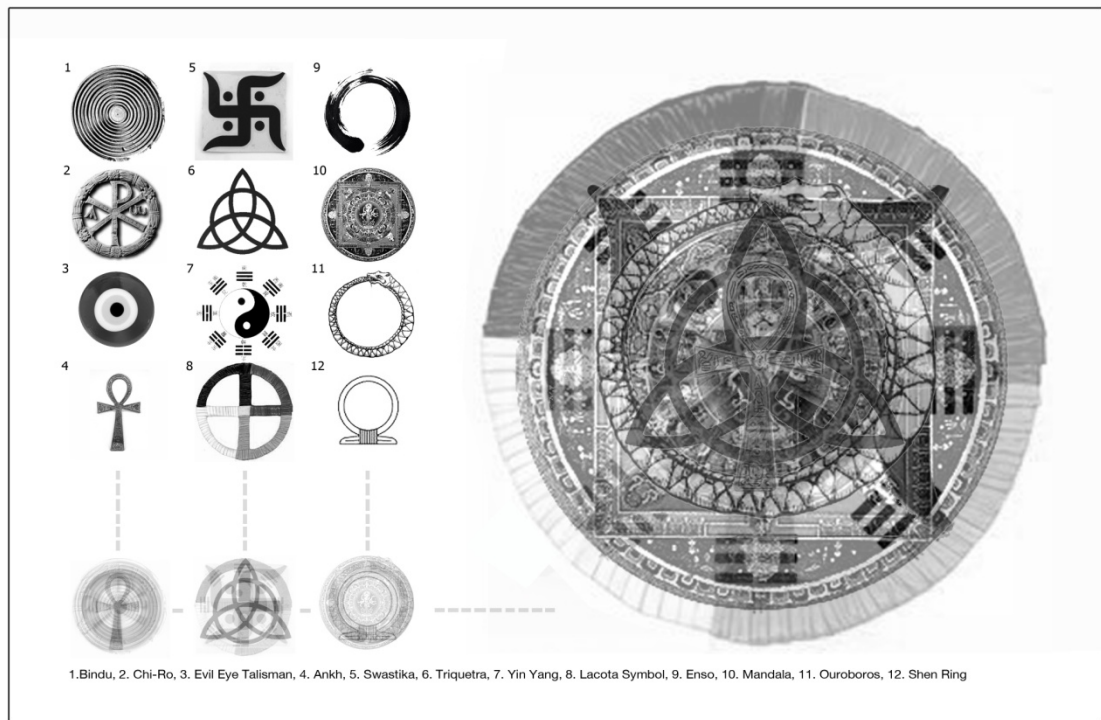
What are the power symbols in the architecture of the modern era? Torre Agbar in Barcelona, U.S. Capitol Building in Washington, D.C., Vidhan Sabha in Bhopal, *Genbaku Dōmu* in Hiroshima, Berlin's Reichstag with its dome, Tokyo Metropolitan Government Building, Ring of Life in Fushun, 30 St Mary Axe in London... What makes those buildings so powerful and iconic? When these buildings are compared to the ancient iconic structures like the Borobudur Temple in Magelang, Stonehenge in Wiltshire, Istanbul's Hagia Sophia an Indian tipi or the rural dwellings in Cameroon like Matakam houses we see a meaningful connection. Intentionally by mentioning the location of the buildings I wanted to stress the fact that all the structures belong to different cultures from different regions despite this there is a dramatic similarity among the structures which is created by the symbolic value that they carry. All the structures above have similar architectural characteristics like constituting centrality and the idea of physically arising, creating a powerful look in the cityscape – nearly all examples are landmarks-, gathering and uniting people. Those listed features are the end products of a simple figure, the circle. Although these powerful iconic structures have a lot in common, they differ on an important point, which is the meaning that they manifest. It is obvious that the same symbolic meanings of the ancient structures are not continuing in the modern era. Even though geometrically by means of the architectural organization they look alike –constituting a circular form and having a central characteristic– what was the force or intention that created this shift in the meaning? What is so powerful about the circle that intuitively or consciously pushes people to use this symbol to transfer or adapt meaning from the ancient times until now?

Mentioning about the evaluation process and the trail of thought in the process of determining the research topic plays a crucial role in understanding the content of the thesis. Firstly, the aim of writing this thesis is to focus on the aspect of the spiritual relationship and sacred bond of architecture and men through the symbols used in architecture by telling the underlying myths and the stories. There was a big confusion and unclarity about where to begin, what to classify and how to finalize the subject

because of the intangibility of the topic and the lack of a significant study field, in the beginning the research were made regardless of a specific era, geography or culture. Along with all the confusion, as the research gets more intensified and with further analysis a very surprising fact about the symbols was realized. This realization or so to say this minor enlightenment was triggered because of the fact of finding a common ground with the majority of the symbols from all around the world. Most of the symbols that are used in arts and architecture are circular or centralized or both. The symbol of eternity Shen Ring or the symbol of life Ankh from ancient Egypt, the symbol of holy trinity Triquetra used by Celts, Chi-Ro the first Christian cross used in Roman Empire, the symbol of the infinite void Enso used by Zen Buddhists, the symbol of polarity Yin Yang from Taoist thought, Swastika used by many different cultures symbolizing solar beneficence, Mandala as universal perfection in Buddhism, Bindu symbolizing centre in Tantric belief, and countless other examples from different cultures have an analogy in a formal sense. The circle is a common geometric figure in all cultures. That situation fits the nature of the circle since it has a uniting character and meaning. When this primal shape, circle is analyzed in philosophical terms the definition is put into words like this; “Expanding from the ‘nowhere’ of its dimensionless center to the infinitely many points of its circumference, a circle implies the mysterious generation from nothing to everything” (Schneider 1995, p.4). Basically this definition states that everything is created from circle and circle unites everything, always pointing to an ultimate wholeness. The spirituality of the shape does not just constitute a common ground for symbols from different cultures but also generates a perfectionist depiction of our inner selves and nature.

Looking at a circle is like looking in a mirror. We create and respond irresistibly to circles, cylinders and spheres because we recognize ourselves in them. The circle is the reflection of the universe (world's) – and our own – deep perfection, unity, design excellence, wholeness and divine nature (Schneider 1995, p.2).

Figure 1.1: Unification of various symbols in a circle



Source: This figure is a personal drawing.

After comprehending the fact that the circle and also the sphere in the third dimension are the symbols of self, it no longer seems like a coincidence of encountering the similar symbols in different geographies and eras. “The circle is a symbol of the psyche even Plato described the psyche as a sphere” (Jung 1968, p. 284). In order to comprehend and make sense of the artifacts of a man, it is necessary to know about the psyche of the human being. Circle is one of the important images which is rooted in a very deep place in consciousness and obviously reflected to all kinds of production of human being. As the well-known Romanian professor of religious history Mircea Eliade (1907-1986) states (1991, p.12):

Images, symbols and myths are not irresponsible creations of the psyche, they respond to a need and fulfill a function that of bringing to light the most hidden modalities of being. (...) The study of them enables us to reach a better understanding of man- of man ‘as he is’.

The essence of Being is one of the most important inputs of this study to clarify the symbolic meaning of the circle. Moreover how man and architecture create this spiritual bond through these symbols is an important topic that is analyzed with architectural myths and narratives. Comprehending the spirituality of the circle symbol is the first

step. In the process of searching the meanings of the circle a substantial link is recognized. As it is previously mentioned circle is the mirror of self, it reflects our essential Being. In this point a very critical question should be asked. What is the origin of our Being?

Parmenides of Elea, who has studied on explaining the source of all existing things, claims that Being is an unmoving, undivided perfect sphere. According to Nietzsche, the essence could be explained as the 'will to power'. Nietzsche argues that the smallest particle of matter is imbued with an expression of 'will to power'. In defining the essential nature of existence, philosophers had different explanations. Circle and power were named as the origin, the fundamental of existence. It is clear that circle and power are strongly related in philosophy. But it wouldn't be wrong to claim that the same pattern continues in architecture too, which is discussed in the following.

The second step is to examine the application of the circle symbol in architecture. Examples of circular or central structures were not restricted to a certain geography or era. As a result of this survey it is recognized that even though the concepts of wholeness, perfection, unity were encountered in modern, circular and centralized structures, unfortunately the idea of spirituality abandoned this form in this specific era. Realizing the fact that the spirituality of the circle is no longer as effective as it used to be in the modern era, generalizing the spiritual aspects and trying to resolve the current structures with this idea would be a failure. Contemplating on the remaining sides of the circle symbolism, it is reached that the concept of power was common in all eras. Circle used to be a symbol of power and is still used as a symbol of power. As it is mentioned at the beginning of the thesis Tokyo Metropolitan Government Building (1988-1990), designed by Kenzo Tange has a central plan with a circular entrance, giving a message of the power of the rulers in the city. Similarly the second dome of Reichstag (1999), which is redesigned by Norman Foster, symbolizes the power of the society above the government erasing the impact of the earlier dome which was symbolizing another power, the power of National Socialism. Another example can be given as 30 St Mary Axe (2001-2003) being one of the iconic symbols in London. Norman Foster and Arup Group designed a circle shaped ground plan rising over a pre-bombed area this skyscraper is the symbol of commercial power. The examples are numerous. In the

above-mentioned examples, however, it is hard to talk about the spirituality, but certainly there is the aspect of power. When the spirituality of the circle abandoned this form, materiality took its place. In the following chapters of the research, this shift of meaning from spirituality to materiality, from sacred to profane is analyzed elaborately with the occasions in the history of civilization that had a strong effect on architecture. Up to this point, as the research makes it clear, this inference has shaped: It is clear that circle used to have a sacred meaning, but later this symbolic meaning has changed and the meaning was dragged to a more profane manner. If the ‘circle is a mirror of psyche’, the reason of the altering meaning should be only understood by studying this mysterious area mainly psychology and philosophy. This decision of interpreting the meaning through psyche directed the thesis to the German philosopher and cultural critic Friedrich Wilhelm Nietzsche (1844-1900). Since some of the fields that Friedrich Nietzsche has worked on are religion, morality and cosmology; his theories especially one of his key concepts “will to power” become a cornerstone in this thesis in understanding and interpreting the symbols used in architecture in different eras. Nietzsche states that (1968, p.550):

(...) the eternally self-creating, the eternally self-destroying, this mystery world of the twofold voluptuous delight, my “beyond good and evil,” without goal, unless the joy of the circle is itself a goal; without will, unless a ring feels good will toward itself— do you want a name for this world? A solution for all of its riddles? A light for you, too, you best-concealed, strongest, most intrepid, most midnightly men? — This world is the will to power—and nothing besides! And you yourselves are also this will to power—and nothing besides!

According to his worldview the world is continuously changing, it creates and it destroys. This explanation is defining the nature of the circle like Nietzsche states that the ‘circle is itself a goal’. The circle symbol corresponds Nietzsche’s cosmos idea. Nietzsche names this world as the “will to power”.

People who are a part of this world also have this desire of will to power. According to the idea people are continuously creating, endlessly destroying with the aim of being more powerful. This situation unveils the changing meaning and remaining power of the symbol circle. *Genbaku Dōmu*, meaning Genbaku Dome in Hiroshima is one of the most well-known symbols of the destructive power.

*Genbaku Dōmu was strongly damaged by the first atomic bomb in the attack of the United States in 1945. The skeletal remains of the dome were left due to the exposed framework. Later in 1966 after all discussions, the Hiroshima City Council decided on preserving the building*¹

“A building is a symbol, as is the act of destroying it. Symbols are given power by people. Alone, a symbol is meaningless, but with enough people, blowing up a building can change the world.”² As it is mentioned in the movie *V for Vendetta*, all this activity of constantly building and destroying, this circular transformation in the meaning of symbols with the demand of “will to power” corroborate Nietzsche’s idea. The circle was and still is a powerful image and by using this power human beings will to manifest different meanings that they create during the history. The reasoning about the creation of meaning is analyzed by giving references to the architecture history. The shift in the meaning which was triggered by the changes is explained by the milestone developments in history exemplifying Renaissance, Industrial Revolution, and Enlightenment, etc. which directly and dramatically influenced architecture, human psyche, and philosophy is analyzed. The mentioned trail of thought builds the spine of the thesis.

The aim of writing this thesis is to focus on the mythological meaning and the importance of the geometry of circle in architectural history and additionally to analyze the change of the symbolic meaning of circle in architectural field with Nietzsche’s key concept; “will to power”. Trained as an architect, the language of architecture depicted by symbols is important in understanding the cultures and the spiritual needs of people. It is substantial to see the effects of those symbols on societies because they are the manifestation of power coming from a very primal part of our being. Architecture is one way and the solidest way of seeing the common ideas of different cultures. Architecture is not just a solid structure, it contains myths – written and oral culture – creates a visual and spiritual bond with people, stores and transfers the collective memory and most importantly architecture has been the mirror of psyche, end product of ‘will to power’.

¹ *UNESCO world heritage center*, 2014. [online]. <http://whc.unesco.org/en/list/775> [accessed 29 November 2014].

² *IMDb*, 2014. [online]. <http://www.imdb.com/title/tt0434409/quotes> [accessed 29 November 2014].

An altering meaning of a symbol in architecture reflects only the visible part of the altering consciousness of the individual and the society. The will to power of the individual that rests in him gave birth to a profane world like he created a sacred world in the past. In this world we cannot talk about spirituality anymore, rational thinking rules this world. Yet the subconscious of the individual is brim with symbols, myths and stories. Refusing the existing reality in us and running towards to another reality, producing new realities and building them as artifacts creates tension. This tension alienates modern man to his milieu and creates a crisis of inadaptability to his time. Therefore, it is crucial to analyze the meaning of the artifacts and their symbolic values in order to offer an insight into to the existential problems and needs of the modern man.

1.1 SCOPE OF THE STUDY

In this first chapter, the aims, motivations, content and methodology of this work are explained, and the thesis is introduced.

With the intention of proving the shift of the meaning of circle according to the theory of ‘will to power’, the chapters will be ranged as following: Circle: Parent Of Shapes and Numbers, Circle In Philosophy, Circle In Architecture, Alternating and Remaining Meanings of Circle.

The chapter, Circle: Parent of Shapes and Numbers, is focused on the meaning of circle. In proving the shift of the meaning of the circle, primarily the sacred and the spiritual aspect of the circle should be covered. The generating quality of the basic form circle is analyzed. Geometric value of the circle and its generator character is discussed, focusing on the concept of the creation of the cosmos via Sacred Geometry and with the esoteric teaching Kabala, encountering with the new symbols like Seed of Life, Flower of Life, Tree of Life... Moreover looking from the same perspective the generator quality of the circle is given in the world of numbers. Esoteric Numerology, *Monad* and circle’s generator character is discussed, focusing on the concept of the creation of the cosmos. The second chapter, Circle in Philosophy, circle is analyzed from a

philosophical monistic point of view. Moreover Nietzsche's theory 'will to power' is discussed in relation to the circle. In the following chapter, Circle in Architecture, the usage of the circle in an architectural organization is examined throughout the history of architecture. This chapter is comprised of two parts naming; Constructing A Sacred Space and Constructing A Profane Space. What does it take to be a sacred space? Concepts of microcosmic representation and spiritual orientation is subject to the first part. The next part under the title, Circle In Architecture, is Constructing A Profane Space. The matter of this chapter is to analyze the profane structures having circular character focusing on the desacralized cosmic view. By studying profane circular buildings, their symbolic meanings are studied. This distinction between sacred and profane comes from the differentiation of the quality of power. In bold outlines before the industrial revolution, circular structures were preserving sacred functions manifesting sacred powers, after this era they were used in many other functions that serve for profane needs. This distinction is analyzed in detail.

In the fifth chapter, Altering and Remaining Meanings of Circle, circular buildings and cities are analyzed in a chronology by stressing the important historical phenomena that caused the change in the meaning. In the end it is seen that even though the symbolic meaning of circle has transformed, the will of reaching to the power – in some cases reaching to the powerful one, god – or the demand of being more powerful hasn't changed. This chapter discusses sacred circle and profane circle with its relation to power. In conclusion, the reason for choosing this topic is explained, and the current situation of the world is criticized.

1.2 METHODOLOGY

Interpretive- historical research and logical argumentation methods can be named to clarify the study technique. These two methods is used in the study in proving the shift in the meaning of circle symbol and moreover to show the power aspect of the circle in architecture history.

The main purpose of this thesis is to prove the change in the meaning of circle in architecture throughout the history. One of the main concerns in this study is to find architectural edifices including circularity and to classify them according to their meanings. But the primary concern is detecting the change in the meaning of circle and legitimate reasoning of the shift with the help of the other disciplines like psychology and philosophy.

The study is a synthesis of three main disciplines, architecture, history, and philosophy, creating a multidisciplinary research problem. The proposed framework for this problem is to create and use eclectic methods. The method of the study is mainly done in an interdisciplinary, interpretative way. Interpretive- historical research and logical argumentation methods can be named to clarify the study technique. Interpretive-historical research suits best to collect the data since it gives the researcher a chance to collect the data about the usage of circle form in edifices and meaning of circle symbol in architecture history. Moreover, logical argumentation sets the ground to discuss and reason the change of the meaning of circle in various disciplines.

Following the methodology mentioned above, the study follows these steps.

- i. *Literature review:* Key terms for the classification of the edifices is determined by utilizing architectural and sociological literature.
- ii. *Proving the importance of circle:* The universal perception of the circle symbol is discussed priorly in order prove the change of the meaning in the following chapters.
- iii. *Creating a philosophical base:* Circle is explained in relation to philosophical monism and ‘will to power’.
- iv. *Classification of the edifices:* Owning circularity, architectural works from various times and geographies are grouped according to their meanings.
- v. *Reasoning and discussing the change in the meaning:* Logical argumentation method is used to discuss the change in the meaning of circle in architecture on a philosophical base.

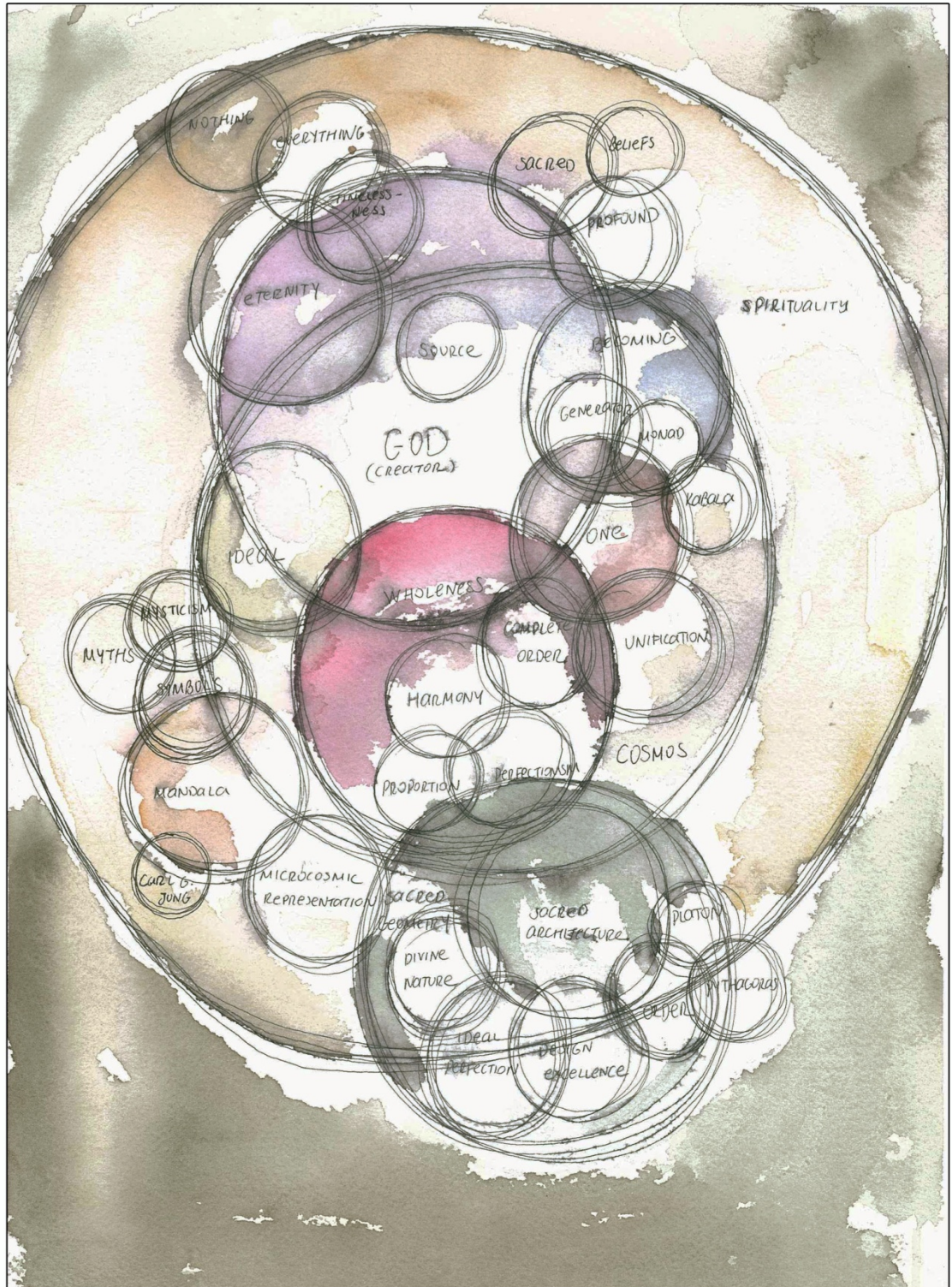
2. CIRCLE: PARENT OF SHAPES AND NUMBERS

In 14th century Pope Benedicts XII was selecting artists to work for the Vatican, requesting from each applicant a sample of his ability. Although Florentine painter Giotto (1266-1337) was known as a master of design and composition, he submitted only a circle drawn freehand, the famous 'O of Giotto'. Yet he was awarded the commission (Schneider 1995, p.2).

The circle has been a big mystery. From the very beginning of the history, people encountered, produced and tried to unveil its mystery with admiration. Ironically this symbol tells more than it actually shows. It is incredibly staggering how all the subtle, complex and existential ideas do fit in a simple loop. Florentine painter Giotto was not being lazy by submitting only a freehand drawn circle, his art was the reflection of his cognizance of the universal essence at the highest level. Mentioned drawing represents more than any other drawing can. This chapter, Circle: Parent of Shapes and Numbers, will try to put in the words the sacredness of circle by discussing creation myths from various beliefs, its geometric, numeric values and the concept of *monad*.

Before defining circle in technical terms, it is important to bring out the connotations and concepts which it creates in our minds. About the circle we know more than we presume. We respond to circles and react in a circular way out of our control which Black Elk explains in the book *The Beginner's Guide to Constructing the Universe Schneider*, (1995, p.1). Everything an Indian does is in a circle, and that is because the power of the world always works in circles, and everything tries to be round. The figure below that I drew at a very early stage of the process in writing this circles. This diagram not only helped me to focus on the field that I want to work further, but it also helped me to realize the knowledge that we already have that are sown in our subconscious. This was the phase where I decided to work on the meaning, later the decision has changed to work on the altering meaning of circle in the scope of architecture.

Figure 2.1: Visual conceptual map of a circle



Source: This figure is a personal drawing made in the early stages of the thesis

The connotations of the circle that are shown in the drawing are done without any technical study or systematic research. The connotations are as listed; eternity, timelessness, everything, nothing, sacred, belief, profound, spirituality, source, God, creator, wholeness, one , generator, Becoming, *Monad*, Kabala, unification, complete order, wholeness, harmony, proportion, perfection, ideal, cosmos, mysticism, myth, symbols, Mandala, Carl G. Jung, microcosmic representation, sacred geometry, divine nature, sacred architecture, ideal perfection, design excellence, order, Platon, Pythagoras. These concepts can be increased. This roughly illustrated graphic also shows the interrelation of terms. The words are classified and grouped according to their context; some are detached, some intersect, some unite as if the void is filled with meanings and they are moving in a fluidic sense from one circle to another. Overall they are gathered under four main topics God (creator), Spirituality, Cosmos and Sacred Architecture. And it is needless to say that they are all in a circle which unites all these concepts. The words that are shown in the diagram are the concepts that all people are familiar with; the listed terms have common resemblances in different cultures. That is what makes the circle a universal symbol, yet more an archetypal symbol. According to the Oxford Dictionary, the term archetype means; “*Psychoanalysis* (In Jungian theory) a primitive mental image inherited from the earliest human ancestors and supposed to be present in the collective unconscious.”³ Being one of those primordial images, the circle is present universally in individuals conscious. Archetypal symbolism and subconscious are the scope of the study of the fifth topic, Altering and Remaining Meanings of Circle. As it is previously expressed not only the American Indians find the circle important but it is also important in other cultures like, “In the Zen sect, the circle represents enlightenment. It symbolizes human perfection” (Jung 1968, p. 268). Circle is used in many civilization’s art, architecture, crafts, rituals, and other products of visual culture as a symbol, exemplifying, the eternity symbols; Shen Ring and Ouroboros from ancient Egypt, the symbol of holy trinity Triquetra used by Celts, Rose windows and labyrinths used in Christianity, the symbol of the infinite void Enso used by Zen Buddhists, the symbol of polarity Yin Yang from Taoist thought, Mandala as universal

³ *Oxford university press*, 2014. [online]. <http://www.oxforddictionaries.com/definition/english/archetype> [accessed 10 October 2014].

perfection in Buddhism, the pattern of the universe Flower of Life used in many cultures, Bindu symbolizing centre in Tantric belief, and countless other examples from different cultures have an analogy in formal sense. In the book of Sacred Symbols Peoples, Religions, Mysteries; Thames & Hudson Editors, (2009, p. 567) it is stated that:

The circle as an image of concentrating spiritual thought and feeling is omnipresent in Christianity, especially in its more mystical representations. It appears in the form of rose windows and labyrinths and is one obvious way of connecting the points of the cross, the basic symbol of the Christian religion. The cross itself is strongly associated with the idea of a crossroads at which essential energy is concentrated. It is also the Tree of Life, with its inevitable connotations of decay, death and rebirth.

Circle is used in rituals too especially in dances.

Enthusiasm is a word that means literally “god within,” (in Greek en, “in” and theos, “god”). Enthusiasm is sharing an energy that is conceived of as divine, as mana. We find movements expressing similarly shared religious emotions in countless other sacred dances, such as the dance of apsaras (semi-divine beings) in Indian temple carving. We all become enthusiastic when we dance. With or without belief in divine beings, the mana of shared rhythms carries us in the waves of the dance (Doczi 2005, p. 31).

Imagine a shaman dancing with his drum in a very enthusiastic way, his dance has a circular pattern. A similar circular dance pattern can be seen in folk dance groups. Our moves are circular especially when we are enthusiastic. Sun and moon salutations in Yoga practice have a circular motion. It starts and ends with the same pose and the repetition of the cycle is fundamental. Circumambulation of the Kaaba is another example of circular movement done with religious emotions. A Sufi whirling in Mevlevi Order is another instance. This motion urges unification and the feeling of oneness. Similar ideas about circle can be seen in written culture, in Vedic texts, it is stated that: “Whence shall he have grief, how shall he be deluded who sees everywhere the Oneness? “Isha Upanishad (Schneider 1995, p.1). Concordantly oneness is one of the symbolic meanings of the circle. The symbolic meanings of the circle are discussed in detail onwards. But what is the basic meaning of the circle? The circle is defined as; “A plane curve everywhere equidistant from a given fixed point, the center”⁴ and

⁴ Farlex inc., 2014. [online]. <http://www.thefreedictionary.com/circle> [accessed 10 October 2014].

etymologically it is described as “c.1300, "figure of a circle," from Old French cercle "circle, ring (for the finger); hoop of a helmet or barrel" (12c.), from Latin circulus "circular figure; small ring, hoop; circular orbit" (also source of Italian cerchio), diminutive of circus “ring””.⁵ In its simplest sense, the circle is a closed loop with a circumference having equal distance from the center. Even though we speak fully from a scientific perspective devoid of mysticism, the circle is more than that. As in the book *The Beginner's Guide to Constructing the Universe Schneider*, (1995, p.1) it is mentioned that:

Its radius and circumference are never both measurable at the same time in similar units due to their mutual relation to the transcendental value known as "pi" = 3.1415926... When either the radius or circumference is measurable in whole, rational units, the other is an endless, irrational decimal. Thus, a circle represents the limited and unlimited in one body.

From a scientific point of view or a spiritual point of view, the idea of circle contains mystery and inexplicableness. Just like the circle, defining the sphere is not easy, it cannot be measured alone, and imaginary tools are needed to help us.

A revolving sphere presents us with the notion of an axis. We think of this axis an ideal or imaginary line through the sphere. It has no objective existence, yet we cannot help but be convinced of its reality; and to determine anything about the sphere, such as its inclination or its speed of rotation we must refer to this imaginary axis. Number in the enumerative sense corresponds to the measures and movement of the outer surface of the sphere, while the universal aspect of Number is analogous to the immobile, unmanifest, functional principle of its axis (Lawlor 2001, pp,10-11).

The ambiguity or so to say obscureness of determining the measures of the circle – and in the third dimension sphere –is one of the characteristics which makes it more special among other forms. Due to its relation to the transcendental value the pi and the circle involves infinity, irrationality, and mystery. Not only the circle or sphere itself but the journey of drawing them plays a big role of adding on to their meaning. As Schneider, (1995, p.6) states that:

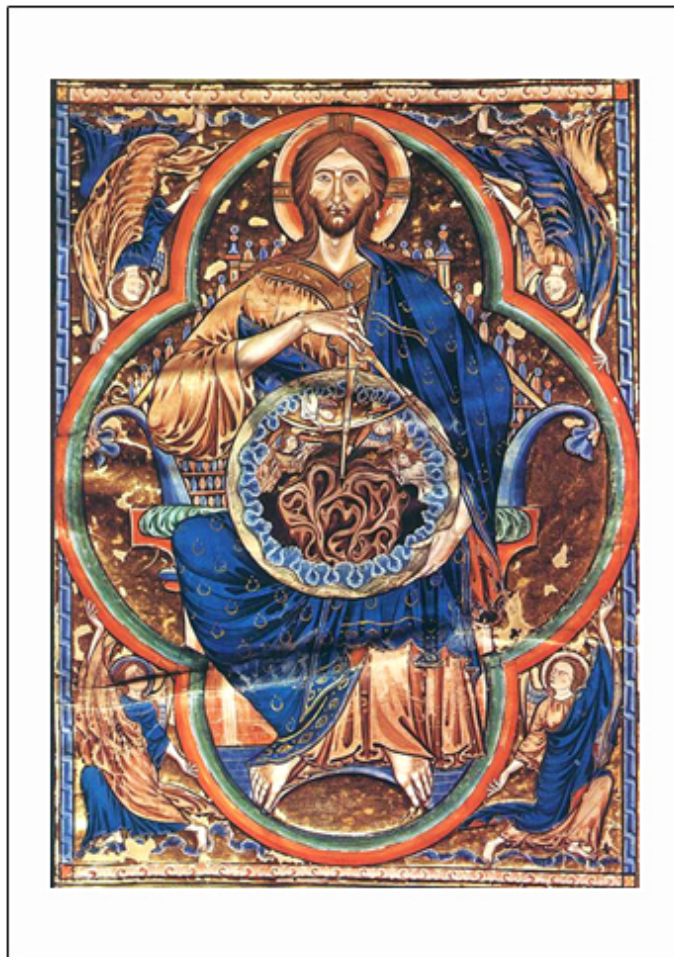
⁵ Douglas harper, 2014. [online]. <http://www.etymonline.com/index.php?term=circle> [accessed 10 October 2014].

The Medieval geometers contemplated on compass as an abstract symbol of the eye of God. In their worldview its legs represented rays of light and grace shining from heaven to earth from deep within us outward toward the periphery of our ordinary awareness. The compass has only one role: from a central seed-point it creates the transcendental hole, called the circle.

An important place where the compass was used is in a manuscript illumination from a Bible (1252-1270) called Christ the Geometer which is in Cathedral Museum, Toledo.

Christ is shown using compass to re-enact the creation of the universe from the chaos of the primal state. (...) Geometry is symbolized here in both the individual and universal sense as an instrument through which the higher archetypal realm transmits order and harmony to the vital and energetic worlds (Lawlor 2001, p.11).

Figure 2.2: Jesus with a compass



Source: Lawlor, R., 2001, *Sacred Geometry: Philosophy and Practice*, Colorado: Thames & Hudson Ltd, p,11.

The circle being so indefinable creates an analogy with the creation, the sacredness of the circle comes from this resemblance. The circle and its relation to creation myths is an important part of this chapter. It is seen that circle was the seed of creation; everything came into being from a circle. The spirituality of this process reflects the process of drawing the circle. Therefore compass is contemplated as the creator and respected as a tool for creation. It is a well-known symbol, square and compass, used by Freemasons. On top of the compass, there is a capital G, which stands for God and also Geometry. Geometry is one of the most important tools to comprehend existence. The ancient Greek philosopher and mathematician, Plato states “Geometry is knowledge of the eternally existent (Schneider 1995, p.xxix). Just like Plato other ancient philosophers used geometry to solve the mystery and make sense of the creation additionally they used it to explain the relation of the man and the world.

‘Geometry’ means ‘measure of the earth’. In ancient Egypt, which Greece inherited this study, the Nile would flood its banks each year, covering the land and obliterating the orderly marking of plot and farm areas. This yearly flood symbolized to the Egyptian the cyclic return of the primal watery chaos, and when the waters receded the work began of redefining and re-establishing the boundaries. This work was called geometry and was seen as a re-establishment of the principle of order and law on earth. (...) This activity of ‘measuring the earth’ became the basis for a science of natural law as it is embodied in the archetypal forms of circle, square and triangle (Lawlor 2001, p.6).

By the help of geometry, ancients started having an idea on the world that they are living in. They codified and methodized the cyclic routine by calculating, measuring and observing. Geometry and astronomy together helped and still helping people to arrange efficient places and times for dwelling, agriculture and migrating. The knowledge of geometry was the key of civilization’s improvement. It is not a coincidence that, in history the brightest period of civilizations are the times that they are mostly concern of the knowledge of mathematics and physics.

The ancient Greeks were the first civilization to establish the study of sacred numbers and geometry, although they probably learned the basics from ancient Egypt. This knowledge was preserved by the Arab world during the early Middle Ages, and then started to return to Western Europe in the 12th century with the appearance of translations of Arabic and Greek texts into Latin (Skinner 2009, pp.7-8).

All those aforementioned civilizations had their most powerful era when they were holding the knowledge of geometry. This ancient knowledge was not only influencing people's daily lives but the knowledge of geometry; mostly sacred geometry was shaping their philosophy and architecture. The relation of both architecture and geometry and philosophy and geometry are two important topics and will be focused on later in detail. The spiritual aspect of the geometry, namely sacred geometry, is the main concern of this chapter. The question why geometry is sacred, is an important question to ask. For Pythagoreans,

because it was the most concrete and yet the most abstract form of reasoning. Geometry (...) is the archetypal patterning of many things, perhaps even all things, be they noumenal (something whose experience may be felt but not proved), conceptual, mathematical, natural or architectural (Skinner 2009, p.6).

As it is aforesaid, geometry is the tool of reasoning both the world seen and unseen. This unseen, unpredicted word can be defined with the forms and figures being members of geometry. "Fra Luca Pacioli, the great Renaissance teacher of sacred geometry. The student's concentration on the transparent solids was a discipline to assist in seeing the metaphysical realities beneath all appearance" (Schneider 1995, p.108). In this defining process the archetypal figure, circle lies in the core of this reasoning endeavor. Ibn- Arabi assimilates this process to the differentiation of geometrical forms within a circle: "The world in its entirety is circular in form, within which are then differentiated the forms of all figures, such as quadrature, triplicity, hexad, and so on indefinitely" (Akkash 2005, p. 73). As Ibn- Arabi states that the circle includes all the other forms, it is the womb where archetypal symbols are born but yet not only the geometric forms also the numbers are born from the sacred form, circle. As in the book *The Beginner's Guide to Constructing the Universe* Schneider, (1995, pp. 2-3) it is mentioned that:

To ancient mathematical philosophers, the circle symbolized the number one. They knew it as the source of all subsequent shapes, the womb in which all geometric patterns develop. The Greek term for the principles represented by the circle as Monad, from the root menein, "to be stable," and monas, or "Oneness." (...) Ancient mathematical philosophers referred to the Monad as The First, The Seed, The Essence, The Builder, The Foundation, The Space-Producer and, most dramatic, The Immutable Truth and Destiny. It was also called Atlas because like the Titan upholding the heavens it supports, it corrects and separates the numbers it produces. (...) The ancients didn't consider unity to be a "number" but rather a parent of numbers.

This chapter: Circle, The Parent of Shapes and Numbers, gets its name from the generator quality of the circle. As it is underlined in the quote from the book *The Beginner's Guide to Constructing the Universe*, circle is the source of the all forms which makes it the parent of shapes, and what is more, circle is the symbol of number one, positions it to be the parent of all numbers. The generator character of the circle by means of shapes and numbers is the main issue of this chapter. In this section, generation of shapes and numbers through circle is analyzed with this sequence; first by determining the term *monism* and *monad*, circle being the essence of the creation will be proved, later the method of generation shapes and numbers will be discussed by means of various monistic ideas from different beliefs. According to the definition, monism is; “1. The view in metaphysics that reality is a unified whole and that all existing things can be ascribed to or described by a single concept or system. 2. The doctrine that mind and matter are formed from, or reducible to, the same ultimate substance or principle of being.”⁶ As it is stated in the definition, *monism* consists of various theories which are based on these ideas; that there is only one essence, there is a basic substance in creation and this creation or so to say the reality is a unified whole. *Monism* has two branches; religious monism and philosophical monism. This chapter's focus is on the religious monism. Philosophical monism will be the subject of the 3rd chapter: Circle in Philosophy. Like in the definition, the metaphysics of circle has a parallelism with the monistic idea. The relation is better understood when the term *monad* is clarified. The word *monad* comes from a western philosophical tradition; the term was first used in Greek philosophy and later adopted by Christian Gnostic belief system. Schneider explains this term as following,

The Monad, or oneness, expressed as a point and a circle, is the foundation for our geometric construction of the universe. The three parts of the circle –center, circumference, and radius forming the space within –correspond to the the principles of the Monad: equal expansion, cycles, and efficient space. These principles, along with the Monad's wholeness, are all-pervasive and lie at the foundation of the world's object and events, as the number one is hidden within every integer (Schneider 1995, p.20).

⁶ Farlex inc., 2014. [online]. <http://www.thefreedictionary.com/circle> [accessed 10 October 2014].

⁶ Douglas harper, 2014. [online]. <http://www.etymonline.com/index.php?term=circle> [accessed 10 October 2014].

Schneider demystifies *monad* with these words; “To understand this unity the ancient mathematical philosophers contemplated the principles of the *Monad* through the arithmetic principles of the “number” one and by exploring its geometric expression as the circle” (Schneider 1995, p.20). *Monad* is almost synonymous with the circle. From circle being the source, shapes and numbers were evolved, and from *monad* which means one, generated dyad, triad and all other numbers moreover points, lines, and forms. “The Monad is the universe's common denominator” Schneider, (1995, p. 4). As it is clearly comprehended from the quotes, the circle is the denominator of the shapes and numbers. The important question to be posed is “how?”

2.1 CIRCLE: PARENT OF SHAPES

How circle breeds shapes and numbers is clarified in order. The sequence of creating platonic solids is explained with drawings and images. All platonic shapes are regular forms in Euclidean geometry, getting their name from the Greek philosopher Plato.

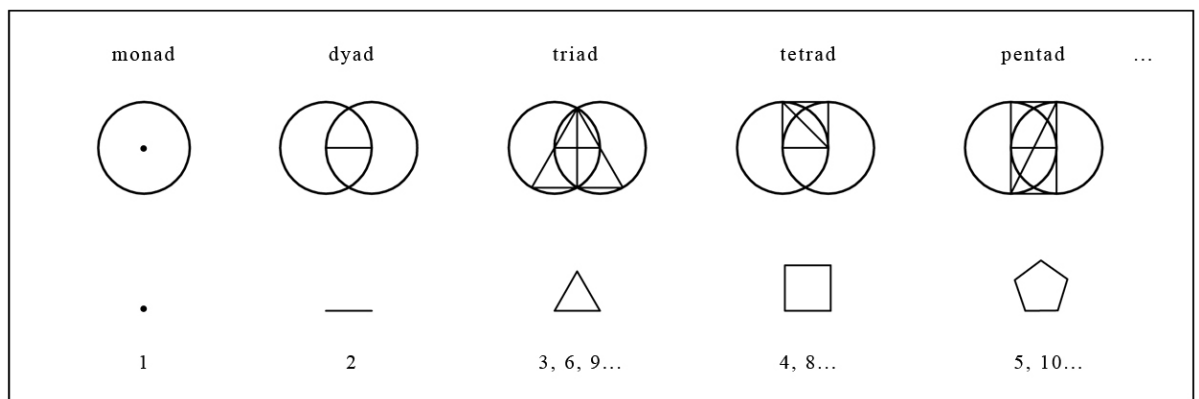
A platonic solid has certain characteristics by definition. First of all, its faces are the same size. For instance, a cube, the most well-known of the Platonic solids, has a square on every face, so all its faces are the same size. Second, the edges of a Platonic solid are all the same length; all edges of a cube are the same length. Third, it has only one size of interior angles between faces. In the case of a cube, this angle is 90 degrees. And fourth, if a Platonic solid is put inside a sphere (of the right size), all the points will touch the surface of the sphere (Carroll 2013, p.161).

In the process of constructing platonic shapes, a simple point is needed. Everything starts with a point. The point is the seed of the circle. Here with the circle *monad* is created, which is The One, The Absolute, The Essence. The next step is to create duality from unity. To reach *dyad* from *monad* another identical circle should be drawn. To form the second circle the basic thing is to do is to mirror the first circle. As it is seen in the image below which is originated and interpreted from the book *A Beginner's Guide to Constructing the Universe*, there are two circles that are intersecting. In this area that is received with the intersection of two circles, the line is created. This phenomenon is very important because it is the evolution of a simple point to a line, from no dimension to one dimension, from *monad* to *dyad*. The intersected area is very crucial, it is an

ancient geometric form, yet a symbol that is called *vesica pisces*. The term *vesica pisces* should be worked through.

Author Lawrence Blair points out that the vesica pisces is a geometric form generator. Once a circle or "sphere-point," has moved at least one radius distant from itself, it produces an archetypal symbol: the vagina-shaped "vesica pisces" – the feminine principle of generation from which spring all other geometrical forms, such as the triangles, squares, and "golden mean" rectangles which abound in sacred architecture (Carroll 2013, p.57).

Figure 2.3: Generation of forms from a circle



Source: The figure is a personal drawing influenced by Schneider, M., 1995. *A Beginner's Guide to Constructing the Universe: Mathematical Archetypes of Nature, Art, and Science*, New York City: HarperPerennial

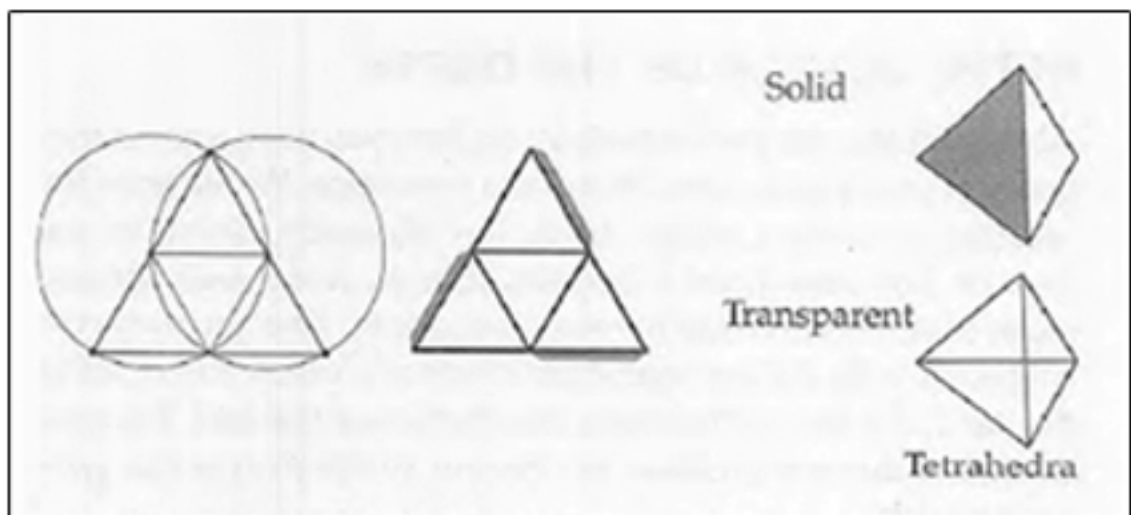
Yet another elaborate definition about *vesica pisces* is;

The vesica pisces is the symbolism of the Creative Forces. It is the circle, the All eternity that moved, which can be seen as the circle overlapping itself. Picture this moving circle as waves, as vibrations that created the universe; God moved, the universal consciousness spoke, and in so doing creation occurred. Whether God moved, spoke, or breathed over waters or another sacred sound of creation occurred, they are themes of vibrations bringing forth creation. A depiction of such a circle moving over itself is the vesica pisces, the womb of creation (Carroll 2013, p.58).

Vesica pisces – which is commonly used in Kabbalah, ancient Egyptian symbolism, Christian art and sacred architecture – is encountered in the production of Flower of Life, which is claimed to be the sacred pattern of the universe. *Monad* is the first step where there was only a point, *dyad* is the second in which the line is created, and the third step in constructing platonic shapes is *triad*. In this third level from the *vesica*

pisces a triangle is emerged. As it is shown in the Figure 2.3 by connecting the centers of the both circles with the intersecting point at the top with the lines, a triangle occurs. This triangle is special for being the initial shape, having a surface and structure, which was produced by a circle, and moreover it has equal sides and equal angles, being in perfect balance. In the next phase coming after *triad* is tetrad where a square is created. In this part only one way out of various ways of drawing a square from *vesica pisces* will be explained. One technique of creating a square is drawing arches and creating two more, bigger *vesica pisces*s. Similar to the technique applied in the Figure 2.5 when the intersecting points of the arches are connected with lines, one can create a perfect square without using any measuring tools. In this phase not only square is generated but also this phase is the gate to the volumes in the third dimension. This step is the leap from surface to volume. To create the depth we need to continue from where we were in the *triad* phase. In *triad* there was a triangle, a surface. In *tetrad* we are in need of three more triangles.

Figure 2.4: Generation of a tetrahedron from a circle

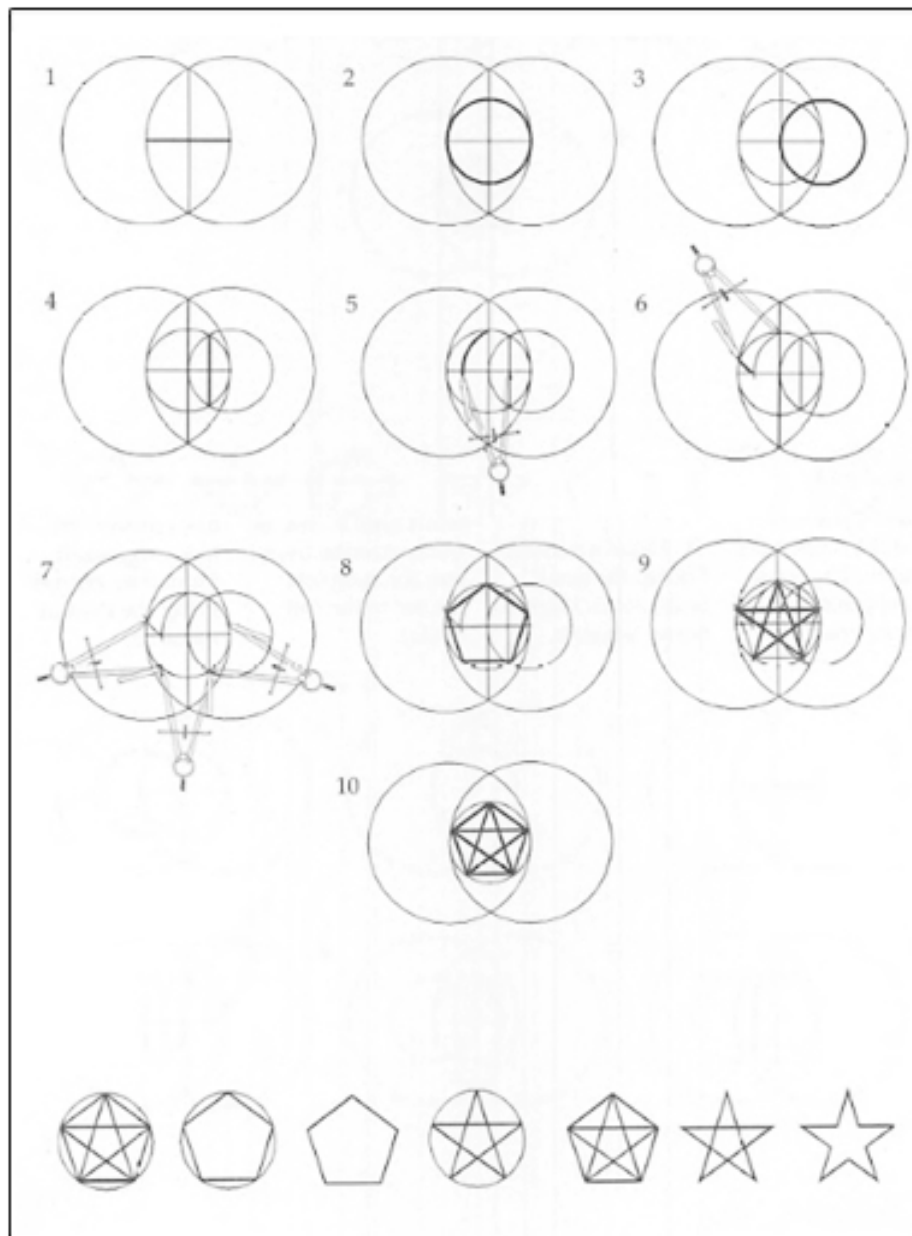


Source: Schneider, M., 1995. *A Beginner's Guide to Constructing the Universe: Mathematical Archetypes of Nature, Art, and Science*, New York City: HarperPerennial

After those four triangles are constructed like as it is shown in the Figure 2.4, the triangles should be folded to create a tetrahedron. Tetrahedron, meaning ‘with four

planes', having four equilateral triangles on each side, is the first volume to be created with this method. The last step is pentad. In this phase, the construction of five-sided polygon pentagon and pentagram (five pointed star) will be analyzed.

Figure 2.5: Generation of a pentagon from a circle



Source: Schneider, M., 1995. *A Beginner's Guide to Constructing the Universe: Mathematical Archetypes of Nature, Art, and Science*, New York City: HarperPerennial

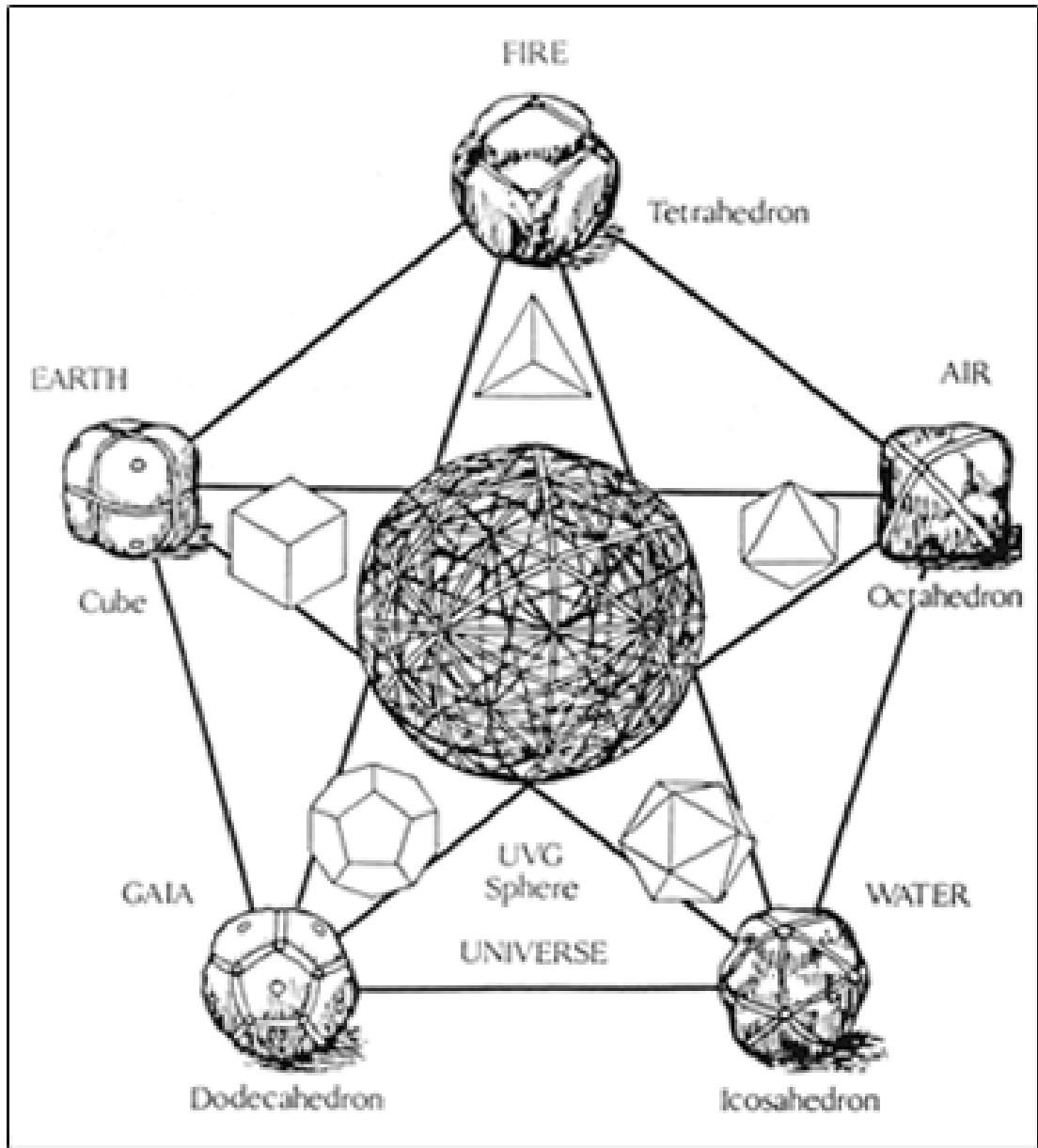
By following the same techniques with the sequence shown in the drawing 4, a pentagon is obtained. When the corners are connected with lines, a five-pointed star pentagram is generated. In the previously examined five steps the evolution from no dimension to third dimension is shown, in addition to this from a single point through a circle, a line, a triangle, a square and a pentagon is produced. By regenerating those shapes, forms in the third dimension can be constructed. These regular polygons are; tetrahedron, cube (hexahedron), octahedron, dodecahedron, and icosahedron. “Regular polygons are multisided figures that can be inscribed in a circle so that all their vertices (corners) touch that circle. Likewise, regular solid polygons may be inscribed within a sphere, with all vertices touching its surface.”(Skinner 2009, p.54) It is not a surprising fact; all platonic solids are inscribable in a sphere because they were born from a circle. Those platonic solids are thought to be essential, and they are mentioned in Timaeus of Platon’s.

Plato has these forms in mind in the Timaeus, the dialogue in which he outlines a cosmology through the metaphor of planar and solid geometry. In this dialogue, which is the most ‘Pythagorean’ of his works, he establishes that the four basic elements of the world are earth, air, fire and water and that these elements are each related to one of the solid figures. Tradition associates the cube with earth, the tetrahedron with fire, the octahedron with air and the icosahedron with water. Platon mentions ‘a certain fifth composition’ used by the creator in the making of the universe. Thus, the dodecahedron came to be associated with the fifth element, aether (prana) (Lawlor 2001, p.96).

As Plato claims in his book Timaeus, these geometries construct the universe.

These same five regular volumes are classically drawn in such a way that they are contained within nine concentric circles, with each solid touching the sphere which circumscribes the next solid within it. This design will yield many important relationships and is derived from the discipline called corpo trasparente, of contemplating the shapes, constructed of transparent material, placed one within the other. This instruction was given to many of the great men of the Renaissance, including Leonardo, Brunelleschi, and Giorgi, by Fra Luca Pacioli (Lawlor 2001, p.96).

Figure 2.6: Platonic solids

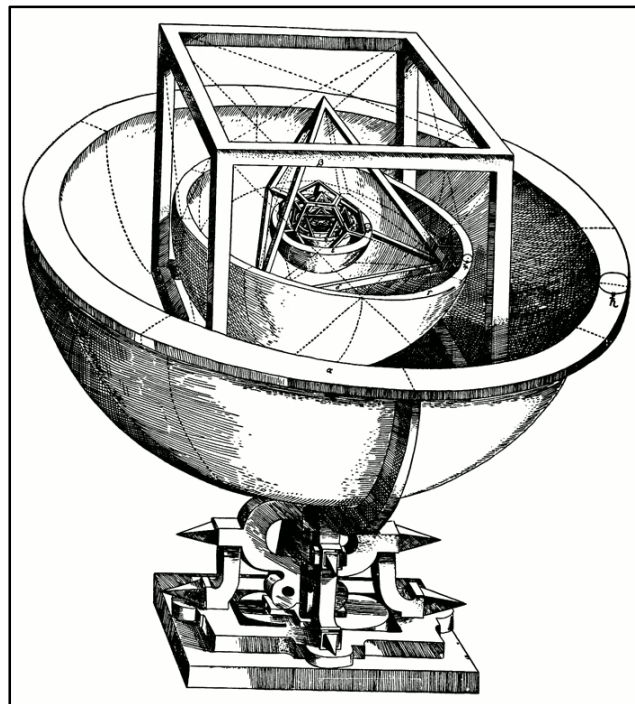


Source: bibliotecapleyades.com 2014. *The Planetary Grid - A New Synthesis*. Retrieved from http://www.bibliotecapleyades.net/ciencia/antigravityworldgrid/ciencia_antigravityworldgrid02.htm

Aforementioned platonic solids will be studied by many other mathematicians, philosophers and astronomers like Archimedes, Kepler. Kepler tried to use Plato's five perfect solids to determine the spacing of the orbits of the planets, truly applying sacred geometry to astronomy. The figure above shows how all the platonic shapes are inserted in spheres and in each other to create a harmonious whole of the solar system.

In this demonstration, the regular polyhedra are determined by nine concentric circles whose pattern gives all the necessary information for the construction of these forms. Each volume is in a simple harmonic relationship to the others, and it is the same transcendental function, $\sqrt{2}$, $\sqrt{\phi}$ and ϕ that make up these patterns of relationships. (...) But in this case if one of the concentric circles is removed then the pattern cannot yield the remaining volumes. This is an image of the great Buddhist idea of the co-dependent origination of the archetypal principles of creation (Lawlor 2001, p.106).

Figure 2.7: Kepler's spacing of perfect solids



Source: Lawlor, R., 2001. Sacred Geometry: Philosophy and Practice, Colorado: Thames & Hudson Ltd, p.11.

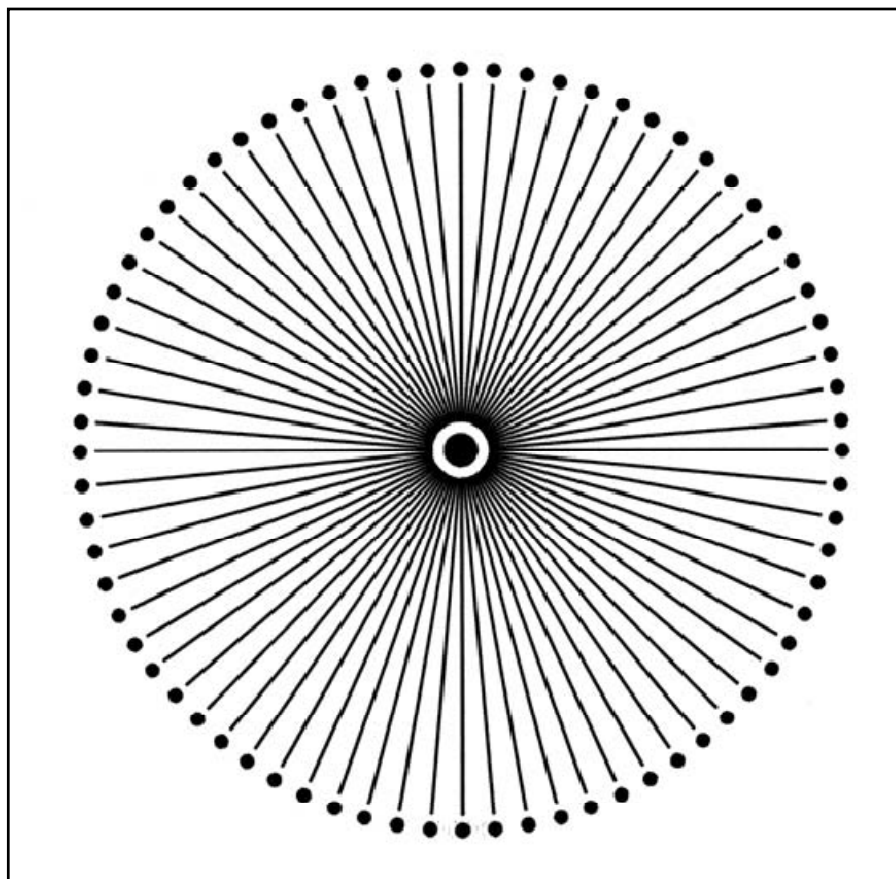
Not only in western tradition but also in eastern tradition the archetypal symbol circle played a big role in defining the universe, only in eastern cultures unlike the reasoning with the help of geometry in western culture the unveiling of the universe was done in a more spiritual sense.

The Greeks conceived the creator of the universe in terms of absolute truth, not in terms of handed-down dogma, received wisdom or religious belief. They deduced that form and number were essential to the universe and that creation proceeded from abstract forms – things that could be intellectually appreciated, but not grasped or perceived by the five senses – to physical reality. The subtleties of number and the absoluteness of geometry were part of the noumenal world, the hidden structure behind physical matter (Skinner 2009, p. 15).

In the Sufi tradition, a mystic version of Islam, the circle was also the symbol of creation. In this religious monistic idea, circle symbol is a metaphor of the essence of the universe.

Sufis see the revelation of the divine's infinite names from the incomprehensible Essence as analogous to the projection of the circumference's indefinite number of points from the indivisible center and to the reflection of God's "forms" in the mirrors of beings. Through this ontological relationship, the circle becomes the symbol of the first comprehensible form of unity the Essence takes on. The circle's inherent geometrical qualities are thus conditioned by the metaphysical reality it embodies. The circle, therefore, offers effective cues that help us understand the paradox of unity and multiplicity. (Akkash 2005, p.69)

Figure 2.8: The circle as a symbol of divinity in the state of first determination.



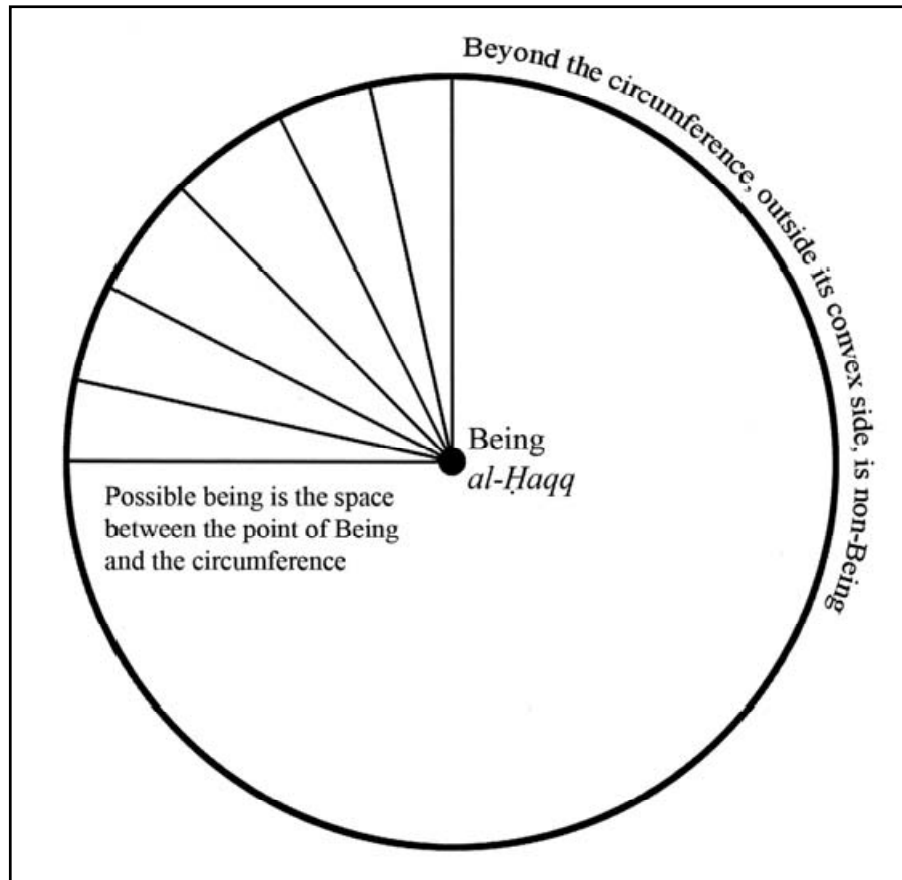
Source: Akkash, S., 2005, *Cosmology and Architecture in Premodern Islam: An Architectural Reading of Mystical Ideas*, Albany: New York Press

Ibn Arabi (1165 – 1240), the famous Sufi mystic and philosopher, says:

“The world is between the center and the circumference: the center is the first, and the circumference is the last.” He adds: “every point of the circumference is an end to a line, while the point out of which a line projects to the circumference is the beginning of that line, so he is the first and the last. He is the first of every possible being just as the point is the beginning of every line.”⁵⁶ And with reference to the verses, “And God, all unseen, surrounds them” (85:20), (...)“As he brought you forth, so you shall return” (7:29); “God initiates the creation, then the recreation, then unto him you will be returned” (30:11). Ibn _Arabi sees in the circle and the spherical form of the cosmos a constant reminder of this ultimate return (Akkash 2005, pp. 71-72).

Like it is pointed out before, the platonic solids that are generated from a circle are the essence of creation in the Pythagorean idea. By symbolizing four classical elements and aether, they construct the universe. In Sufism the area which is called *al-mumkin*, which is the space within the circumference, is the place where the possibility is created. Within this area generation of forms in Euclidean sense is possible; this may be another way of perceiving the construction of the shapes and yet numbers from a religious monistic idea. “The point is Being (al-haqq), the space outside the circumference is non-Being (al-_adam), or, say, darkness, and that which is in between the point and the space outside the circumference is the possible (al-mumkin) . . .” (Akkash 2005, p.70) Similar ideas about the creation are shared by the other monistic religious beliefs like Hinduism, Judaism especially in Kabbalah and Christianity in esoteric teachings. Those beliefs claim that there is a unity in the origin of everything, and the essence is the same, which makes the circle an appropriate symbol for this idea.

Figure 2.9: The world as divine business (*sha_n*) according to Ibn Arabi (*Futuhāt*).



Source: Akkash, S., 2005, *Cosmology and Architecture in Premodern Islam: An Architectural Reading of Mystical Ideas*, Albany: New York Press

There is another creation story that creates a huge hesitation in writing about it, because of lacking academic references in that field. Even so the congruence of this story with the other previously analyzed universe construction arguments, courage me to write about it. The Circle: Parent of Shapes, part is finalized with the generation story of Flower of Life. As it is briefly mentioned before, Flower of Life is an archaic symbol for the pattern of the universe. “The Flower of Life is a geometrical figure composed of multiple evenly-spaced, overlapping circles that are arranged so that they form a flower-like pattern with a six-fold symmetry. The Flower of Life contains the patterns of creation for ancient civilizations.” (Carroll 2013, p.54) As it is claimed, the Flower of Life consists Plato’s five platonic solids and Metatron’s Cube. Moreover it is believed

that the tree of life in Kabbalah idea was derived from this symbol. The Flower of Life symbol was encountered in different regions around the world; Ireland, Turkey, England, Israel, Egypt, China, Tibet, Greece, Japan, Sweden, Lapland, Iceland, and Yucatan. The story behind the Flower of Life is very similar to the Christian seven days of creation myth. How the Flower of Life is constructed and its creation story will be explained with the drawings by following the steps of the book *Ancient Secrets of The Flower of Life* by Drunvalo Melchizedek. At the beginning like it in the Sufi idea, there is a creator, which is referred as ‘spirit’ in the evolution of Flower of Life. First, there is a spirit which by expanding its consciousness creates a volume around it. Expansion of consciousness creates six directions; north, south, east, west, up and down, forming an octahedron, rotation of the octahedron created a sphere. This is the first circle in the Flower of Life. The second step is forming another sphere; the sphere moves to the very edge of the sphere and repeats the first phase to create another sphere. By forming another sphere, *vesica pisces* is created. *Vesica pisces* that is explained before has the information of width, proportion, depth and numbers. In the following quote, some of the symbolic meanings of *vesica pisces* are listed.

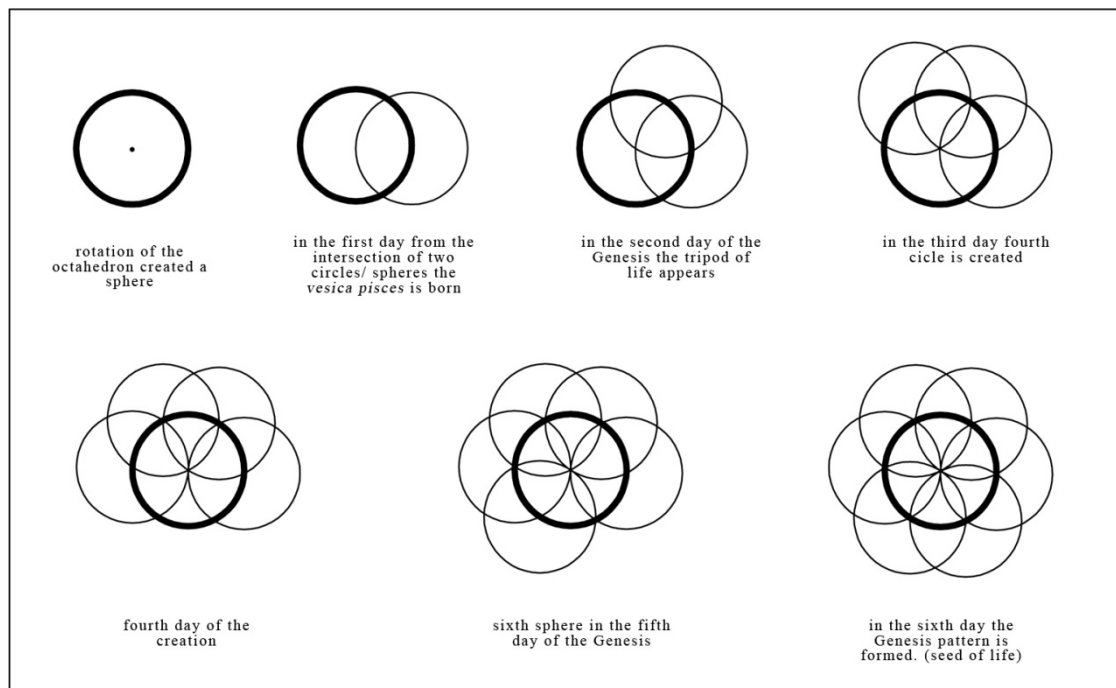
Essentially the intersection of two overlapping spheres, the vesica pisces (including the interior portion of it and/ or the more common two dimensional versions) represents, among other things: The joining of God and Goddess to create an offspring, A symbol for Jesus Christ, The vagina of the female goddess, The basic motif in the Flower of Life, A source of immense power and energy. This symbol (...) has the formative power of polygons. The vesica pisces is a form generator; from its waves or arcs the family of polygons are created (Carroll 2013, p.56).

The spirit continues to create new spheres, each time a radius away. At the end of the sixth day, the Seed of Life (the genesis pattern) is formed. When more spheres are added to the Seed of Life, we have the Fruit of Life. When all the centers of the spheres are combined in Fruit of Life, a Metadron’s Cube is constructed, being the generator of all platonic solids. As it is aforesaid, platonic solids are the building blocks of the universe. Like it is depicted in Sufism, in construction of the Flower of Life and in Ancient Greek teachings and many other monistic ideas the creation of the universe starts from a center and expands to the circumference, this creation pattern repeats itself in the creation of beings too. The human body, animals and plants come to being by

reenacting the same sequence in a metaphorical way. The mentioned creation pattern creates a unity of all beings.

The unity we share with the plants and animals is again visible from the fact that our growth, like theirs, seems to unfold from a single center, which in our case is at the top of the sacrum, just as in the frog. It may be recalled how the spirals of the daisy and sunflower also unfolds from the center. Because of its central location within the animal body, the ancients considered the sacrum of their sacrificial animals particularly sacred, hence its name: os sacrum, “sacred bone” in Latin. It is the center of the circle around the extended extremities, (...) and it is also the center of gravity of the entire body (Doczi 2005, p. 99).

Figure 2.10: Stages of the seed of life in the genesis



*Source: The figure is a personal drawing influenced by the explanations from the book *The Ancient Secret of the Flower of Life**

This formation of creation is believed to be sacred. Human body especially, being in harmony with its all parts is interpreted as divine and human proportions are used in sacred geometry that will be the study of the fourth chapter, Circle and Architecture. Previously stressed term unity can be seen in nature. Even though the spiritual side of the creation is underlined in this chapter; the unity can be explained further with the modern science.

Viewing this from a scientific symbolism, the dot is the singularity of Oneness at the beginning of the creation expanding outward, moving with overlapping waves and vibrations. Through quantum physics, science also tells us of the unity of everything, through the singularity, when all was one, unmanifested. This Oneness was not lost with the Big Bang, the manifestation, or the moving of God. The science also shows and proves, through Bell's theorem, that everything is connected and what affects one, affects the other. It is called entanglement. The theorem confirms that the universe is non-local, meaning that in the physics of quantum mechanics, particles that had previously been in each other's field (entangled) can now be moved light years apart, and if one of the particles is influenced, the other is instantly affected in apparent violation of the laws of the time and the speed of light. So with our original essence, our particles, being with the first cause, a singularity, even in the later expansion we are entangled, connected, remaining one at some level (Carroll 2013, pp. 59-60).

2.2 CIRCLE: PARENT OF NUMBERS

Since this point, the generator character of the circle was studied under the name of Circle: Parent of Shapes. From this point, the generation of numbers through circle will be analyzed under the title of Circle: Parent of Numbers. The wholeness, unity and generation idea of the circle is still the same.

Geometry and numbers are sacred because they codify the hidden order behind creation. They are the instruments used to create the physical universe. Simplicity in number, fraction and ratio provide the harmony and intellectual rigor both the universe and the geometry of Euclid and his fellow Greek geometers. The concrete application of the universality of these numbers – and the proof – embodied in music and measurement (Skinner 2009, p. 15).

There are many theories about the creation of the universe. If it is boldly divided, there are two aims, one is in geometrical sense claiming that the world's building blocks are geometric forms, and the other is in numerical sense, asserting the fabric of the universe is made out of numbers. As Plato states, "Numbers are the highest degree of knowledge. It is knowledge itself" (Schneider 1995, p. xxviii). Numbers are the codes of the universe. But from all of those numbers one number goes forth, as the circle is the parent of all shapes, the value one is the parent of all numbers.

The point was seen as a geometrical reflection of the number 1, with both sharing the same ontological condition. The point was viewed as the principle of dimension, while itself having no dimension, just as the number 1 was seen as the principle of numbers, while itself not being a number. As generative principles both were seen to transcend the domain they manifest, disclosing a mode of reasoning that plays a central role in metaphysical reflections (Lawlor 2001, p.57).

Robert Lawlor in his book Sacred Geometry further explains generative codes of the number One as following,

The number ONE can of course define a quantity; as, for example, one apple. But in its other sense, it perfectly represents the principle of absolute unity, and as such has often been used as the symbol to represent God. As a statement of form it can in one sense represent a point –it has been called to the ‘pointal’ number, the bindu or seed in the Hindu mandala –or in another sense it can represent the perfect circle (Lawlor 2001, p.12).

How the *monad* does create all the other numbers will be explained by giving examples. As it is shown in the calculation below, by just using the number one all the other numbers can be achieved.

Table 2.1: Generation of numbers from the number one

$1 \times 1 = 1$
$11 \times 11 = 121$
$111 \times 111 = 12321$
$1111 \times 1111 = 1234321$
$11111 \times 11111 = 123454321$
$111111 \times 111111 = 12345654321$
$1111111 \times 1111111 = 1234567654321$
$11111111 \times 11111111 = 123456787654321$
$111111111 \times 111111111 = 12345678987654321$

Another important thing about number one is, it preserves its character in multiplications and divisions when a number is multiplied or divided by number 1, it stays the same.

Table 2.2: Mathematical operations with the number one

$3 \times 1 = 3$	$5 / 1 = 5$
$1 \times 1 \times 1 \times 1 \times 1 \times 1 \times 1 \times \dots \times 1 = 1$	

The mathematical operations above show that the numbers that go into the operations with number one do not change.

The ancient Gnostics called it the “silent force”. Number one is the silent force within all numbers. It creates but does not change; it is like the DNA in all numbers making it the parent of all numbers. Yet another important feature of number one is, “no matter how many times unity is multiplied by itself, the result is the same: one (Schneider 1995, p.22).

In this operation, the unity is clearly seen. By multiplying unity, it is impossible to create a duality, trinity or more.

Like the platonic solids, numbers are the building blocks of the universe and as again like the platonic solids, they symbolize specific things. Starting from the number one, the symbolic meaning of the numbers will be analyzed according to the book *A Beginners Guide to Constructing the Universe*.

Number one is identified with the circle and sphere and regarded as the symbol of wholeness, radiating supreme powers. The virtue of the number one is, of it being the symbol of unity. “Unity casts its own shadow pretending to be “two,” thus “creating” polarity required for any creation. By this method, 1 generates all the single digits and the *Vesica Piscis*”⁷ Number two being the shadow or reflection of the number one, it is the symbol of duality. Next comes the number three, which is the symbol of balance and a new wholeness, created by adding unity and duality. It can be interpreted as mind, body, soul; past, present; future and birth; life and death. Four is associated with Earth,

⁷ Michael S. Schneider, 2014, <http://www.constructingtheuniverse.com/geoman.htm> [accessed 5 October 2014].

four elements, four cardinal directions overall completeness. The symbol of man is the number five; with outstretched arms and legs a human body constructs a pentagram. It is the symbol of humanity, harmony and excellence. The structure is symbolized with the number of six. It resembles order and the efficient properties of space, power and time. It is an important number in creation, according to the Bible the world was created in six days. The number seven contains the numbers three and four, therefore, is considered as the combination of soul and body, heaven and earth. Colors of the rainbow, days of a week, notes in a musical scale, and Flower of Life contain the number seven.

Number eight and octagon is commonly used in sacred buildings. "As the shape between the circle and square (rotate a square to produce an octagon) it symbolizes "between Heaven and Earth," observed by both, an admonition to those in religious and government buildings having an octagonal floor plan".⁸ Eight is also the first cubit number (2x2x2). Nine is being the symbol of eternity and fulfillment can be achieved by multiplying three by itself. It is referred to horizon, ultimate and maximum. The next number, number ten is the return to unity and fulfillment. The counting system in most of the cultures is based on number ten, helping to understand the appearances and the systems in the nature. Eleven represents a door or a passage in between realms. It is considered incomplete being in between the number of unity which is number ten and the number of order, twelve. Twelve represents both spiritual and earthly order.

(...) pattern of the zodiac was mirrored in twelve-tribe societies, the mythologies of twelve heroic ordeals, twelve spiritual disciples, and the designs of monuments, temples and cultures mediating between Heaven and Earth, from Stonehenge to the U.S. Government. There are many worldwide traditions of the Duodecimal (twelvefold) Cosmology.⁹

In order to understand the universe in a deeper sense numbers help us as guides. They are the design tools of cosmos.

⁸ Michael S. Schneider, 2014, <http://www.constructingtheuniverse.com/geoman.htm> [accessed 5 October 2014].

⁹ Michael S. Schneider, 2014, <http://www.constructingtheuniverse.com/geoman.htm> [accessed 5 October 2014].

Similar to the numbers letters can be guides for this cosmic design. Like circle being the parent of shapes, number one being the parent of numbers, Aleph (or Alif) is the parent of letters, having a numerical value, which can be named as numeral. Aleph is the first letter of many Semitic Alphabets, like Hebrew, Arabic, Syriac, and Phoenician. Even though the form of Aleph changes in all cultures the symbolic meaning is similar. In Qabbala,

The letter ALEPH symbolizes this mystery. ALEPH symbolizes, not an ultimate principle of explanation—that would be to introduce 'God' in another form—but rather an archetypal sign whose meaning is to project into us a constant awareness of the mystery of existence (Suarez 1982, p.7).

Suarez continues to explain aleph with these words; “Unlike our Latin alphabet (recognizable as the Hebrew ALEPH-BAYT) the Hebrew letters are not simply initials. Each letter is a word-complex; a coalescence of other letters themselves word-complexes—an *equation*”. (Suarez 1982, p.6) and adds,

In the cipher of the Qabala, the symbol ALEPH is used to project the concept of an unthinkable immense energy, beyond the limitations of time and space, without which nothing could exist, operating within the structure of everything on every scale as that by virtue of which it is able-to-be. Unconditioned, timeless, unthinkable, yet a power most intimately concerned with our very being (Suarez, 1982, p.7).

The immense energy and the virtue of able- to –be idea is also symbolized by aleph, in this case alif in the Sufi tradition.

The letter alif (A), written as a vertical stroke (|), is the first letter of the Arabic alphabet. The term alif derives from the root a.l.f., “thousand,” the verb of which, allafa, means “to bring together,” “to attune,” “to harmonize,” and “to compose.” (...) the alif is a geometrical line, all letters, as geometrical shapes, can also be reduced to it. (...) The alif thus became the origin of all the letters just as God’s generosity was the source of all existents (Akkash 2005, p. 101).

According to Ibn Arabi, his name was mentioned in the symbolism of circle before,

(...) the alif is not a letter but the origin of all letters, just as 1 is not a number but the origin of all numbers. (...) Numerically, the alif is number 1; geometrically, it is the line; and calligraphically, it is the diameter of the circle within which the other letters are differentiated. Accordingly, the alif represents the first definable form of unity that emerged from the undefinable point. (...) The original alif was “not traced by the pen, nor was it dependent upon it, but sprung from the outward urge of

the Point in its principal centre.”¹⁵⁸ The act of overflowing brings out the alif without any detriment to the integrity of the flawless dot that remains transcendent in its eternal incomparability (Akkash 2005, p. 102).

As the Sufi mystic Ibn Arabi puts it, the alif is the symbol of number one in a numerical sense, and the symbol of the circle in a geometric sense. Aleph in Qabbalah is the only letter that cannot be pronounced on its own. “Although it *is there*, yet because it has no pronunciation of its own it does not really *exist* (Suares 1982, p.7). Like in the mathematical equations which are exemplified before, when number one is multiplied or divided by other numbers, other numbers stay the same, and we cannot see number one. In the equation, it is like an invisible factor, yet we know that the number one is in all other numbers. After number one comes number two, in Arabic numerology the letter *ba*.

The letter ba_ (B), written as a horizontal line with a point underneath it (˘.), is the second letter of the Arabic alphabet. (...) The ba_ is seen to represent the first differentiation of the alif. It is its first articulated form with which the alif uniquely appears.¹⁶⁰ Thus the ba_ is taken to stand for the human presence, the Universal Man, that is, the outward mode of the divine presence. The ba_, the Sufis teach, is nothing but man, the “first man,” who is “the spirit of being,” created in the image of God, the alif (Akkash 2005, pp. 102-103).

Like it is aforesaid, number two was generated through number one, being its reflection or shadow. The same metaphor is used for alif and *ba*, like Akkash explains, the horizontal *ba* graphs the shadow of the vertical alif standing before the radiating light of the point. *Ba* is the trace of the original source, which is the point that appears beneath it. This point is regarded as the transcendental point leading to the creation. The source and the shadow relationship is the metaphor of the divinity that images itself in the human form. (Akkash 2005, pp. 102-103)

Table 2.3: Numeric values of letters

Α, α	1	ا	1	س	60	1
Β, β	2	ب	2	ع	70	2
Γ, γ	3	ج	3	ف	80	3
Δ, δ	4	د	4	ص	90	4
Ε, ε	5	ه	5	ق	100	5
Ζ, ζ	6	و	6	ر	200	6
Η, η	8	ز	7	ش	300	7
Θ, θ	9	ح	8	ت	400	8
Ι, ι	10	ط	9	ث	500	9
Κ, κ	20	ي	10	خ	600	10
Λ, λ	30	ك	20	د	700	20
Μ, μ	40	ل	30	ذ	800	30
Ν, ν	50	م	40	ظ	900	40
Ξ, ξ	60	ن	50	غ	1000	50
Ο, ο	70					60
Π, π	80					70
Ρ, ρ	100					80
Σ, σ, ς	200					90
Τ, τ	300					100
Υ, υ	400					200
Φ, φ	500					300
Χ, χ	600					400
Ψ, ψ	700					
Ω, ω	800					

Source: Arpat, A. 2006. *Dini Mimaride Gizli Tasarım Yöntemleri*, İstanbul: Birsen Yayınevi. p.21.

Following the number one, all numbers are tools of understanding and symbolizing the universe. “Nature itself rests on an internal foundation of archetypal principles symbolized by numbers, shapes and their arithmetic and geometric relationships” (Schneider 1995, p. xx) Shapes and numbers are spread in universe, they are all around us in nature, we as well, our body, are constructed out of shapes and numbers. People, intentionally or unintentionally use these archetypal symbols in their rituals, arts and artifacts. The question “why we are using those symbols” leads us to another important question “how did it all begin”. How all those numbers and shapes are generated, what is the essence of the creation? The symbolic answer to this question is the circle. Philosophers, mathematicians, scientists, astronomers and religious people seek clues to a deeper understanding of the universe for ages. The pattern in the creation of the universe starts from a single center, turning into a circle or sphere, and all the knowledge was born from this simple loop. This ancient knowledge was symbolized in different cultures in order to manifest the idea of wholeness, unity, perfection, creation

and eternal power. Especially in sacred arts and sacred architecture, the circle was a common theme, being loaded with countless messages and meanings. Shouldn't be disguised, the circle still is an important geometry used in contemporary architecture. The fourth chapter: Circle and Architecture, circular and spherical forms in architecture is examined with their manifested meaning. This chapter is consisted of two parts namely, Constructing a Sacred Space and Constructing a Profane Space. This chapter, in which the symbolic meanings of the archetypal symbol circle and its generator feature was explained, created a base for the topic of Constructing a Sacred Space. This chapter was a step to explain the common importance of the circle in all cultures and the roots of where the sacredness of the circle comes from in geometric and numerical sense. The next chapter's subject is built upon this information with a philosophical point of view.

3. CIRCLE IN PHILOSOPHY

In the previous chapter, Circle: Parent of Shapes and Numbers, the focal point was the importance of circle in geometry and mathematics. If we define architecture as the meaningful composition of forms, it can be comprehended why the discussions are made in the scope of mathematics and geometry. According to my definition of architecture, which is described above, there is another significant word, which is meaningful. Meaning, being one of the primary components of the architecture will be discussed in a philosophical field, in reference to the circle.

In the previous chapter while explaining how the circle is the parent of shapes and numbers, a religious monistic path was followed. In this chapter, philosophical monism will be the main point of view. As it is mentioned before, monism is pointing to the essential one. Essential one, which will be explained soon, is mainly indicate an element or a creator.

When it is assumed that the creator or god is the source of power, one can make a deduction of, the circle is the *monad*, the *monad* is the power so the circle is the power. Circle being the most frequently used symbol is also used in architecture as a typology. Despite the functional reasons, philosophical reasons of using circle will be the main intention to be underlined in this topic. The aim of using this symbol since the beginning of the history is reasoned by the ‘will to power’ theory. ‘Will to power’ which is handled later, indicate persons the essential will of becoming more powerful. The reason why people are using this primordial symbol throughout the history may be the result of the notion ‘will to power’. Using circles may be the evidence of a concrete expression of a deeply rooted idea of ‘will to power’. In order to do this statement, the theory of ‘will to power’ in relation to *monad* should be discussed.

Circle in Philosophy, being a preparation for the next chapter enables the comprehension of the circular edifices that manifest power. Starting with monism and finalizing with ‘will to power’, this chapter, Circle in Philosophy, analyzes circle at a deeper level.

The monistic idea in philosophy is a very wide topic. Philosophers who studied monism define the origin, the essence, the Being with various sources. In the scope of the thesis, only the concepts of unity, god, power and circle related ideas about *monad* is discussed, referring mostly numerous philosophers in a chronologic order.

Pre- Socratic philosopher Thales (c.624 – c. 546 BC) from Miletus, who had hypothesis about the nature of matter, claimed that the originating principle of nature was a single material substance that was water. Thales's student, Anaximander (c. 610 – c. 546 BC) who was also from Miletus, did not share the same thoughts about the originating single material substance like water cause water does not constitute the balance in it. For Anaximander the reality was a thing that could not be known by us, he puts aperiion which means endless, indefinite, unlimited primordial mass as the source of all things. Anaximenes (c. 585 – c. 528 BC) following a similar approach, called material monism, like Thales, reasons the origin of things with an element. His understanding of the beginning was the element, air, claiming that everything in the world is composed of it. And Heraclitus of Ephesus (c. 535 – c. 475 BC) grounded his idea on fire, which is constantly changing. He considered fire as a fundamental element, the symbol of process and claimed that the fire gave rise to the other elements.

Parmenides of Elea whose monistic idea is very similar to what is discussed in this thesis, claims that Being is an unmoving, undivided, perfect sphere.

He abandoned the Milesian tradition for a stricter notion of unity which excluded the possibility of a generated cosmos, taught of a single god who worked by intellection alone, and posited an essential connexion between divinity, eternity, reality, and spherical shape (Palmer 2009, p. 10).

Parmenides' hypothesis about the sphere and being is clarified by A. H. Coxon as in the following; "Parmenides does not say that Being is spherical, but that the totality of its perfection is like that of a sphere. [The sphere] is an appropriate analogue for the universal perfection of Being" (Palmer 2009, p. 156). Continuing with other monistic thinkers, Apollonius of Tyana (c. 15 – c. 100 CE) who is a Post-Socratic philosopher who centered his cosmologies on the *Monad* like the Neopythagorians. Stoics in Athens argued that God is the only substance of Being. Plotinus (c. 204/5 – 270, claimed that there was an ineffable transcendent god, 'The One,' of which subsequent realities were

emanations. “The One is the absolutely simple first principle of all. It is both ‘self-caused’ and the cause of being for everything else in the universe.”¹⁰

When we come to the modern philosophers, we can say that the monistic idea continues evolving. Starting with the Dutch philosopher Baruch de Spinoza (1632- 1677) he explains the essence with god.

Spinoza argues the whole of the natural world, including human beings, follows one and the same set of natural laws (so, humans are not special), that everything that happens could not have happened differently, that the universe is one inherently active totality (which can be conceived of as either “God” or “Nature”), and that the mind and the body are one and the same thing conceived in two ways.¹¹

Spinoza puts God in a deterministic system in which everything in nature is a part of it and this totality can be envisaged as a circle. “He claims that a circle existing in nature and the idea of the existing circle, which is also in God, are one and the same thing, which is explained through different attributes.”¹² German philosopher Georg Wilhelm Friedrich Hegel (1770-1831) believed in a system of the entire universe as a whole. He grounded his ideas on faith. “For Hegel, all reality (everything) was interrelated within one vast, complex system or whole which he called the “Absolute.””¹³ The last modern monistic philosopher which will be mentioned in this section is Ernst Heinrich Philipp August Haeckel (1834-1919). The German biologist and philosopher Haeckel formed a new philosophy that was strongly affected from Darwinism. His monism was grounded on a materialistic base. According to Hegel, “The great unity pervading the universe, a universe governed by ineluctable law, could be understood materially as nature in her organized diversity and spiritually as God; or as Spinoza expressed it: deus sive natura” (Richards 2005, p.93).

¹⁰ Gerson, L., 2014. Plotinus, The stanford encyclopedia of philosophy (Summer 2014 Edition), Edward N. Zalta (Ed.), [online]. <http://plato.stanford.edu/entries/plotinus/> [accessed 4 April 2015].

¹¹ Waller, J., Internet encyclopedia of philosophy, *Benedict de spinoza, metaphysics*, [online]. <http://www.iep.utm.edu/spinoz-m/> [accessed 25 May 2015].

¹² Waller, J., Internet encyclopedia of philosophy, *Benedict de spinoza, metaphysics*, [online]. <http://www.iep.utm.edu/spinoz-m/> [accessed 25 May 2015].

¹³ *Hegel's philosophy*, [online]. <http://www.carroll.edu/msmillie/philocontempo/Hegelphilo.htm> [accessed 25 May 2015].

As it is perceived from the all above-mentioned ideas to the question of the essence of being, philosophers had different explanations. Although, throughout the time the philosophers explanations had differed, there are also existing similarities in their hypothesizes. When we group the answers given to the essential substance of Being, the following concepts come to the forefront: Single material substances; indefinite and endless primordial masses; perfect spheres or circles, the God as ‘The One’ or the ‘Absolute’. These concepts were the most frequently argued by the monistic philosophers, by following different paths. In this specific point, where I group and align all the monistic ideas, one more time I want to stress the importance of the circle/sphere. As it is seen, the sphere was assumed as one of the first principles of Being for some philosophers. This means the essential substance can either be a sphere, the God, the Absolute... Since the circle and other concepts are qualified as the first principle, doing the reverse definition is also possible. Circle can define all the other concepts, if we approach more carefully, we might say that the circle shares mutual characteristics of the pre-mentioned concepts. Thus circle can be the Absolute, the God, the essential element, etc... It is important to comprehend all the direct definitions and connotations of the circle in order to see the relation of meaning and form in the next chapter, Circle in Architecture.

On the path to prove that the circle has been used for the manifestation of power in architecture, we come to an important concept of Nietzsche’s, which is ‘will to power’. As it is previously mentioned in the introduction chapter, consciously or unconsciously people use the circle as a symbol to either show their power or to reach the powerful one. This complex symbol constituting countless meanings is used to satisfy their will to power. The step from monistic philosophy to Nietzsche’s ‘will to power’ might have seen irrelevant but on the contrary they are all deeply interrelated. In this journey from monism to ‘will to power’, the name of a key philosopher should be mentioned. This highly important philosopher is Gottfried Wilhelm von Leibniz (1646- 1716). The power aspect of his *monad* philosophy is discussed in relation to Nietzsche’s ‘will to power’. This gradual transition from monism of Leibniz to Nietzsche’s ‘will to power’ not only will help us to understand Nietzsche’s philosophy, but also it shows us the evaluation of monistic idea in history of philosophy due to the scientific developments.

German philosopher and mathematician Gottfried Wilhelm von Leibniz with his famous text *The Monadology* (1714) is handled in this thesis briefly, in order to lay a bridge between the circle, *monad* and power. Leibniz explains *monad* as following; “Something that has no parts can’t be extended, can’t have a shape, and can’t be split up. So monads are the true atoms of Nature – the elements out of which everything is made.”¹⁴ Leibniz argues that the *monads* are the ultimate elements of the universe and substantial forms of being, having different qualities. “The subject of any proposition signifies a complete individual substance, a simple, indivisible, dimensionless being or monad, while the predicate signifies some quality, property, or power.”¹⁵ In this chapter, the qualities of *monads* are not discussed in order not to wander from the main subject. In his text *Monadology*, he puts the relation of *monad* and God in relation to power as following:

*In God are present: power, which is the source of everything; knowledge, which contains the details of the ideas; and, finally, will, which changes or produces things in accordance with the principle of the greatest good. To these correspond in the created monad, the subject or basis, the faculty of perception, and the faculty of appetite. In God these attributes are absolutely infinite or perfect, while in the created monads or in the entelechies (perfectihabies, as Hermolaus Barbarus translates this word), they are imitations approaching him in proportion to the perfection.*¹⁶

While *monad* and God share the same attributes like power, it will not be wrong to claim that these attributes are also shared by the circle too, being the symbol of perfection, infinity, and Being. For Leibniz *monads* are centers of force, and power is the essence of the *monads* reflecting the whole universe. Leibniz’s *monads* which he defines them as being the centers of power; have influenced firstly the physicist, mathematician and philosopher Roger Joseph Boscovich (1711-1787) and later the philosopher Friedrich Wilhelm Nietzsche (1844- 1900) was influenced by Boscovich’s works dramatically.

¹⁴ Leibniz, G. W., 2007. *The principles of philosophy known as monadology*. Jonathan Bennett (Ed.). [online]. <http://www.earlymoderntexts.com/pdfs/leibniz1714b.pdf> [accessed 10 April 2014].

¹⁵ Kemerling, G., 2011. Leibniz: logic and harmony. *The philosophy pages*, [online]. <http://www.philosophypages.com/hy/4j.htm> [accessed 13 April 2015].

¹⁶ Kemerling, G., 2011. Leibniz: logic and harmony. *The philosophy pages*, [online]. <http://www.philosophypages.com/hy/4j.htm> [accessed 13 April 2015].

And it was Leibniz's metaphysics of nature that originally suggested the idea of force-points to Boscovich. Certainly, his concept of force-points resembles Leibniz's monads in many respects. For both are construed as entities without parts, extension, or figure. In regard to the recognition of what has been called "Nietzsche's Monadology," it is probable that the assertions that suggest a monadic conception of "reality" are intimately related to the Leibnizean elements preserved in Boscovich's theory of the interior dynamics of matter. Perhaps, by focusing upon Boscovich's theory of oscillating centers of forceso scrupulously, Nietzsche unconsciously or inadvertently incorporated Leibnizean themes into his conception of perspectival "interpretations (Stack 2005, p.45).

As it is stated in the quote, Nietzsche's idea of 'will to power' is rooted in the idea of Leibniz's monadology. Even though Nietzsche disagrees with Leibniz in some points, it is claimed that Nietzsche is effected by his philosophy indirectly through Boscovich.

"Analogically, he construes Boscovich's "point-centers" (the fundamental elements of the natural world) as "will-points," "will-quanta" or what he also calls "wills-to-power." Since these unobservable centers of force or energy are understood in terms of human analogy, Nietzsche extends psychic functions to them. Just Perspectivalism: Knowledge/Interpretation as Leibniz conceived of monads (spiritual substances) on the model of the human mind conceived of as an immaterial substance, so, too, does Nietzsche understand his dynamic, nonsubstantial, relational "monads" in terms of an analogy with what he holds are the reductive characteristics of human beings (Stack 2005, pp.96-97).

The philosophers have always discussed the problem of defining Being and finding the essence of the universe. Their answer to this phenomenon has varied; substance, God, *monad* or will to power... Even though, the naming has changed they all point the same place, which makes them meet in the center. This symbolic center is the center of the perfect circle. Therefore, it is not a surprise to find a common ground of *monad* and 'will to power'. Since the origin of the idea of 'will to power' is clarified, and the chronological evaluation of monism is understood, the concept of 'will to power' can be related to circle and its practice in architecture easier.

Continuing to the chapter, Circle in Philosophy, Nietzsche's 'will to power' is put in a nutshell in the following. According to Nietzsche, the smallest particle of matter is imbued with an expression of 'will to power'. From its smallest particle to the whole, people are in the will of becoming more powerful. It is the essence of all beings. The main purpose of living is to be more powerful. Denneson, T., (2014) in his article on internet called *Society and the Individual in Nietzsche's The Will to Power*, states that:

A psychological presupposition of Nietzsche's is that humans are always attempting to inflict their wills upon others. Every action toward another individual stems from a deep-down desire to bring that person under one's power in one way or another. (...) it is the underlying noumenal reality of the universe, which manifests itself in various ways in everything and everyone. Growth, self-preservation, domination, and upward mobility are some of the basic elements of this will, which everything in the world exhibits, according to Nietzsche.

In the quote it is stated that the power can be manifested in various ways, which in this thesis architecture will be our main subject among all those ways. In manifesting power there lie three main reasons, in other words, self-sustaining, independent psychological theory of will to power is comprised of three basic components, which push people to manifest this power in various ways. In the following section, those motivations are clarified.

(1) the postulation of an unconscious, primitive craving for power primarily rooted in our evolutionary development; (2) the related notion of an unconscious or sometimes conscious tendency to achieve power over others because of deeply rooted feelings of fear, insecurity, and weakness (...); and (3) the idea that we have a capacity to channel this primitive drive into constructive and creative expressions through a process of sublimation by which we satisfy this urge in indirect, "spiritual" ways in order to acquire an intense subjective "feeling of power (Stack 2005, pp.96-97).

The above-mentioned components are also the actors in forming architecture. For the first criteria, one might give the example of traditional circular dwellings where the houses are shaped according to instincts to create a microcosmic representation where the idea of becoming or imitating power lies. This activity is generally an unconscious activity. Second criteria can be given to edifices which are built upon a panoptic idea, where in the center the power stands, dominating its surrounding, can see everything but cannot be seen, proving the idea of achieving power over others because of deeply rooted feelings of fear and insecurity. For the last component, sacred edifices can be exemplified. They manifest power in a sublime and spiritual way.

In the very end of his famous book *Will to Power* by integrating power and circle, once again Nietzsche underlines the relation of these two concept in philosophical terms.

Nietzsche (1968, p. 550) states that:

And do you know what “the world” is to me? Shall I show it to you in my mirror? This world: a monster of energy, without beginning, without end; a firm, iron magnitude of force that does not grow bigger or smaller, that does not expend itself but only transforms itself; as a whole, of unalterable size, a household without expenses or losses, but likewise without increase or income; enclosed by “nothingness” as by a boundary; not something blurry or wasted, not something endlessly extended, but set in a definite space as a definite force, and not a space that might be “empty” here or there, but rather as force throughout, as a play of forces and waves of forces, at the same time one and many, increasing here and at the same time decreasing there; a sea of forces flowing and rushing together, eternally changing, eternally flooding back, with tremendous years of recurrence, with an ebb and a flood of its forms; out of the simplest forms striving toward the most complex, out of the stillest, most rigid, coldest forms striving toward the hottest, most turbulent, most self-contradictory, and then again returning home to the simple out of this abundance, out of the play of contradictions back to the joy of concord, still affirming itself in this uniformity of its courses and its years, blessing itself as that which must return eternally, as a becoming that knows no satiety, no disgust, no weariness: this, my Dionysian world of the eternally self-creating, the eternally self-destroying, this mystery world of the twofold voluptuous delight, my “beyond good and evil,” without goal, unless the joy of the circle is itself a goal; without will, unless a ring feels good will toward itself— do you want a name for this world? A solution for all of its riddles? A light for you, too, you best-concealed, strongest, most intrepid, most midnightly men?— This world is the will to power—and nothing besides! And you yourselves are also this will to power—and nothing besides!

Nietzsche by claiming ‘the joy of the circle is itself a goal’ is referring to the essence of the creation in this case it is the will to power. Acting like power centers, will to power is very similar to *monads*, which is previously discussed. According to my interpretation of Nietzsche’s work; circle, Being, and power are strongly related.

The goal of this chapter was to draw a frame, from *monad* to the ‘will to power’ to transfer the essential nature of existence by putting the circle in the center of the discussion. This chapter had a crucial place in this thesis since the practice of architecture is taking its form from our essence. What we form is what we are. As Nietzsche says, “This world is the will to power—and nothing besides! And you yourselves are also this will to power—and nothing besides!” (Nietzsche 1968, p. 550) so our edifices are expressions of ‘will to power’, and nothing besides!

4. CIRCLE IN ARCHITECTURE

Architecture is a concrete tool for manifesting ideas and transferring meaning to the user. Edifices being the production of people, coming from the genuine core of human beings, are an extension of thoughts, a way of expression of the understanding of the world, a part of people's inner selves. Human beings as a part of the world build structures not only to support our lives, but they also build them for expressing their social, cultural, economical, political and religious states. In architecture, being a visual practice, forms play a big role in expressing and idea.

Architecture by itself is acknowledged as a self referential object due to the basic generic elements such as volume, line, plane, surface, mass, material, and structure that constitute it. These fundamental elements become important in themselves - when combined, interacting and united they make up the physical and visual form that helps to define the existing context and space (Luecking 2002). (...) As Umberto Eco has noted, —we commonly do experience architecture as communication, even while recognizing its functionality (Ismail 2014, p.1).

In architecture by playing with forms and using specific geometric shapes, one can manifest many ideas and different world views. Shapes which are the crucial tools in presenting a work of architecture, being the medium of non-verbal communication, are the alphabet in transmitting messages and meanings. In this chapter from among all shapes, one unique shape is analyzed. Being encountered in the artifacts of all eras and geographies, the circle figure is examined in detail. From city plans to buildings and the ornaments – inseparable parts of the edifices – circle has been used as a design tool for manifesting various ideas. The ancient city of Firuzabad (300AD), Stockholm Public Library (1920-1928), Rose window of Notre Dame Cathedral (1163-1345) can be given as examples in different scales. Despite the fact that the instances belong to the various eras and different geographies, they share a similarity in a significant point, which is the inclusion of the shape circle, making it a universal symbol. Like the eras and geographies the edifices belong to, the meaning of the structures manifested through the circle shows an alteration. In case of Firuzabad, the circle symbolizes a new ideology of

divine and centralized kingship of Ardasir. The circular plan of the Stockholm library, locating all the books in the center, point out to the importance of knowledge. Showing Christ or Mary in the center, Rose windows tell the way to emancipation and light. It will not be wrong to claim that circle is used in various scales, in diverse building types, and they all do express an idea in their own way. This simple shape, the circle is loaded with symbolic meanings. One of the main concerns of writing this thesis is to analyze the meaning of built environment through the circle symbol. What does meaning of a building mean? By going one step further, we should be pondering on the previous stage before construction. That is where the main intention is sowed. An edifice is the architect's statement, architect's view. Fundamentally, it is our relationship to the Earth and to the cosmos. This relation can be detached or attached, weak or strong. This state is the source of meaning; it comes into being and is transferred by architectural artifacts, which will be further explained.

In order to clarify the meaning of circle in the practice of architecture a well-planned route should be followed. As it is strongly stressed in the previous chapter, the circle has many connotations and used as a symbol of numerous ideas, not to be lost in the realm of meanings, a classification is necessary. This chapter, Circle and Architecture, is constituted of two subtitles, namely, Constructing a Sacred Space, and, Constructing a Profane Space. As it is seen in the entitling, sacred and profane will be the keywords in the classification of edifices. The first question springing to mind is why sacred and profane? Deciding on the names of the groups was extremely compelling. Should the grouping be done according to their function, to the era that they belong to, to the geographies that they settle, to their style, to material types, etc... In this critical decision, I chose to group them according to the message that the architecture transfers to the user. So the signification was the main concern in determining the groups. In the end the edifices are classified according to the message they signify, they can transfer a sacred or a profane meaning. The definition of sacred and profane should be added in order to clarify the classification fields. According to Oxford Dictionary meaning of sacred is;

“Connected with God or a god or dedicated to a religious purpose and so deserving veneration” another meaning is, “Regarded with great respect and reverence by a particular religion, group, or individual”. Profane being the opposite of sacred means, “Not relating to that which is sacred or religious; secular” and profane also means, “(Of a person) not initiated into religious rites or any esoteric knowledge.”¹⁷

In this specific point, I want to stress that the word sacred, which is used for stating a building character in this thesis, does not mean religious. And the same situation is obtained by the word profane. In the context of the thesis, the word profane does not exactly define the opposite of religious. These terms are soon be clarified with quotes from Mircea Eliade. As it is aforementioned, architecture is a medium of manifesting the world view of people; their level of attachment to the cosmos is reflected to the architectural works. The relation to the world can be either sacred or profane. Eliade states that;

(...) sacred and profane are two modes of being in the world, two existential situations assumed by man in the course of his history. These two modes of being in the world are not of concern only to the history of religions or to sociology; they are not the object only of historical, sociology, or ethnological study. In the last analysis, the sacred and profane modes of being depend upon the different positions that man has conquered in the cosmos; hence they are of concern both to the philosopher and to anyone seeking to discover the possible dimensions of human existence (Eliade 1959, p.15).

Eliade in his book *The Significance of Religious Myth, Symbolism, and Ritual Within Life and Culture*, puts the relation of sacred and profane in a simple way; “The first definition of the sacred is that it is the opposite of the profane” (Eliade 1959, p.10). As Mircea Eliade points that there are two modes of being on Earth, one sacred and the other one is profane. With the light of this distinction, in the following chapters the architectural artifacts are grouped by means of the reflection of the idea of people’s existential states.

Another important term that should be discussed before starting the chapter, *Constructing A Sacred Space*, is space. Space is; “a continuous area or expanse which is free, available, or unoccupied”, “The dimensions of height, depth, and width within

¹⁷ Oxford University Press, [online]. <http://www.oxforddictionaries.com> [accessed 10 April 2015].

which all things exist and move.”¹⁸ The definition might seem to be contradicting with the practice of building since the definition states that the space is an unoccupied area. This dilemma is clarified by Heidegger’s definition. Heidegger in his famous essay *Building Dwelling Thinking* claims that;

Only things that are locations in this manner allow for spaces. What the word for space, Raum, Rum, designates is said by its ancient meaning. Raum means a place cleared or freed for settlement and lodging. A space is something that has been made room for, something that- namely within a boundary, Greek peras. A boundary is not that at which something stops but, as the Greeks recognized, the boundary is that from which something begins its presencing (Heidegger 1971, p.1).

Since the beginning of the history, humans shaped their environments by creating boundaries and constructing spaces. The meaning of those edifices will be the scope of research of the following chapters, *Constructing A Sacred Space*, and, *Constructing a Profane Space*.

4.1 CONSTRUCTING A SACRED SPACE

Sacred space, reflecting one’s strong bond with cosmos, represents architecture in an intimate, spiritual level. This bond is reflected in symbols, images and forms and the meaning they carry. In understanding their meaning one should be cautious, like Mircea Eliade states; “To translate an image into a concrete terminology by restricting it to any one of its frames of reference is to do worse than mutilate it –it is to annihilate, to annul it as instrument of cognition” (Eliade 1991, p. 15). In order not to annihilate the cognition it is crucial to contemplate and discuss what sacred space is.

Jan Patočka (1907- 1977), famous Czech phenomenological philosopher, states that the origin of architecture is religious and cultic. Patočka claims that, there are two modes in material architecture; sacred and secular and they both open up certain worlds having different status. He explains sacred buildings with the principle of “sacred transubstantiation” (Ševčík 2013, p. 54).

¹⁸ *Oxford University Press*, [online]. <http://www.oxforddictionaries.com/definition/english/space> [accessed 10 April 2015].

What exactly is this sacred transubstantiation? It is the movement of the world horizon to the centre of the world. Divine powers coming from the periphery of the world become the centre of the world from their own decision and initiative; the absolute reveals itself. Patočka suggests that the absolute thus enables orientation in the world; the place of epiphany becomes the centre of this orientation. Epiphany categorizes the entities of the world; this fundamental categorization differentiates in particular the sacred from the profane, that is, differentiates “true, really existing being” from “weakened and dying” being. From this moment, the tendency of building obtains the “overall plan and concept”; it stands on an overall scheme of relations (Ševčík 2013, pp. 54-55).

As it is seen in the previously mentioned quote, Jan Patočka draws a circle and places the sacred building in the center creating a harmonious relationship with the cosmos and the edifice. In this circle, the power notion is also explicit like it is defined in the text divine powers move from the periphery of the circle to the center to construct an architectural work. Although Patočka’s idea of divine powers resting in periphery and moving towards to a center is contradicting with the Buddhist thought shown in Mandala and the Sufi idea, in which the divine powers settle in the center and radiate the creative power towards the circumference, they both meet in a circle and constituting oneness within this form. This notion of oneness and the merging powers directs us to Martin Heidegger’s (1889- 1976) famous essay, “Building Dwelling Thinking”, where he explains the building practice with the fourfold. “Building puts up locations that mane space and a site for the fourfold. From the simple oneness in which earth and sky, divinities and mortals belong together, building *receives the directive* for its erecting of locations” (Heidegger 1971, p.1). This simple oneness and the harmony of genuine buildings with cosmos is further explained with these words; “In saving the earth, in receiving the sky, in awaiting the divinities, in initiating mortals, dwelling occurs as the fourfold preservation of the fourfold” (Heidegger 1971, p.1).

As it is recognized in the definitions of sacred space from various philosophers, sacred space connects different realms, gathers divine powers and creates a center for the edifice to settle. Even in the definition of sacred space we can see obstructed circle.

After the philosophical definitions of the sacred space the chapter, Constructing a Sacred Space, draws with the general criteria of sacred spaces. Two main features of the sacred edifices are discussed under the subheadings of, Microcosmic Representation, and, Spiritual Orientation. In the chapter, Microcosmic Representation, the act of

recreating the cosmos is analyzed, being a substantial pivot in sacred architecture. The following chapter, Spiritual Orientation, will handle the concept of *axis mundi* and importance of directions in locating an edifice. Followed by the next chapter naming, Morphology of Sacred Power, sacred edifices will be analyzed, bringing the aforementioned chapters, Microcosmic Representation, and, Spiritual Orientation, into the light. Morphology of Sacred Power, discusses the sacred circular buildings in relation to the power aspect with the aim of underlining the manifestation of power through circular buildings in sacred architecture with the help of examples.

4.1.1 Microcosmic Representation

This part is about the influence of the microcosmos on the edifices. People tried to understand and interpret the realm that they are living in. Cosmology, Cosmogony and astronomy were important fields in the process of explaining their being. In building edifices, they used the information that they retrieved from the nature. The influence of the known and imagined facts of the universe on architecture, the connection between the world as a structure. Symbolic expression played a big role in reflecting their bond to cosmos. The most often used symbol in this sense was the circle. Human beings worked with circles in imitating or recreating the cosmos that they are surrounded with and constructed their own human-made microcosmos under the name of temples, shrines, primitive homes. This part mainly focuses on the symbol of the circle but the notions like the cosmic tree, cosmic time and cosmic man will also be addressed since they all are down to earth depictions of cosmos.

As it is stated in the book *Architecture Mysticism and Myth*, “The main purpose and burthen of sacred architecture — and all architecture, temple, tomb, or palace, was sacred in the early days — is thus inextricably bound up with a people's thoughts about God and the universe.” (Lethaby 2005, p.2). This link of architecture and universe is grounded on several ideas.

One of the notable ideas is; people need an ordered space to live. Their tendency is to create a cosmos out of chaos.

An unknown, foreign, and unoccupied territory (which often means: “unoccupied by our people”) still shares in the fluid and larval modality of chaos. By occupying it and, above all, by settling in it, man symbolically transforms it into a cosmos through a ritual repetition of the cosmogony. (...) When the Scandinavian colonists took possession of Iceland (land-nama) and cleared it, they regarded the enterprise neither as an original undertaking nor as human and profane work. For them, their labor was only repetition of a primordial act, the transformation of chaos into cosmos by the divine act of creation. When they tilled the desert soil, they were in fact repeating the act of the gods who had organized chaos by giving it a structure, forms, and norms (Eliade 1959, p.31).

Eliade in his statement about the primordial act of building claims that in order to create a cosmos out of a chaos one needs to have a structure and form. In the scope of the thesis, the mentioned practice of consecration of a space is the repetition of the cosmogony that is done by using the primordial shape circle. In this scenario, the person himself crowns himself like a God because he is the source of creation and the beholder of the power. The edifice produced by man does also involve this power because it is dedicated to the order of the universe. Indian temples are good examples of microcosmic representation. “*Any Indian temple is, like a mandala, a microcosm and at the same time a pantheon*” (Eliade 1991, pp. 52-53). Mandalas as the symbol of microcosmos is not only used in Indian temples but also used in medieval Europe, Islam, Tibet, both in eastern and western culture.

Such diagrams are often based on the division of the circle into four quarters, and all the parts and elements involved are interrelated into a unified design. They are most often in some way cosmological; that is, they represent in symbol what is thought to be the essential structure of the universe: for example, the four spatial directions, the four elements, the four seasons, sometimes the twelve signs of the zodiac, various divinities and often man himself. But what is most consistently striking about this form of diagram is that it expresses the notion of cosmos, that is of reality conceived as an organized, unified whole.” (Lawlor 2001, p. 16)

A parallel example to the city planning of Scandinavian colonists, which is discussed in the previous quote, can be given as the foundation of Rome. According to Plutarch, while founding the city a round pit was dug, in which they threw symbolic offerings of

the fruits of the earth during this sacred ritual. “The pit was given the name mundus, (which also meant the cosmos). Round it Romulus drew the boundary of the city in a circle with a plow drawn by a bull and a cow” (Jung 1968, pp. 269-270). In order to found a city a circle, mundus, was drawn and the chaos was ordered by giving a form.

Other than mandalas there are other cosmic elements to be used in creating a microcosmic representation, exemplifying cosmic trees.

To the Teutonic nations trees were the first temples, as resembling the universe tree, the shelter of the gods: with them, according to Grimm, temple and tree were convertible words. (...) 'Certain it is that, among people who live in woody lands, we find long continuing the habit of using a tree trunk for the main pillar of the house, of building circular walls round that tree, and sloping the roof down to them from it. (Lethaby 2005, p. 35)

Like Lethaby elaborately explains cosmic trees are another way of depicting a world model. Just like cosmic mountains, by creating a sacred center, and constructing a circular periphery around it many primordial societies have created their microcosmos and called home. Cosmic trees and cosmic mountains are also handled under the topic of, Spiritual Orientation, in which the central aspect of trees are expressed.

The intimate connection between the cosmos and time is religious in nature: the cosmos is homologizable to cosmic time (= the Year) because they are both sacred realities, divine creations. Among some North American peoples this cosmic-temporal connection is revealed even in the structure of sacred buildings. (...) We find this, for example, among the Algonquins and the Sioux. As we saw, their sacred lodge represents the universe, but at the same time it symbolizes the year (Eliade 1959, pp.73-74).

The circular perception of time coheres with the form of cosmos. So when edifices were constructing in regard to cosmic time, they automatically symbolize cosmos and mostly have a circular shape. One of the most well known calendrical structure, Stonehenge does also reflect both of these characters that are having a circular plan and representing microcosmos. “Archeological and astronomical research has established that the large stone monuments which were built across Northern Europe about 3500 years ago served as giant compasses, calendars, and computers of seasonal patterns, as well as sacred precincts for religious rituals.” (Doczi 2002, p. 38) The astronomical accuracy of the Stonehenge proves it’s strong relation to the universe.

The microcosmic representation which is done through trees, time, mandala can also be done by human itself. The Hindu architectural sutra says, ‘The Universe is present in the Temple by means of proportion’ (Lawlor 2001, p. 92). Human beings by studying this divine proportion they came up with an idea called the cosmic man, sharing the ideal proportions like the universe itself. There are many sacred edifices that are built according to the orders of the cosmic man.

The human body contains in its proportions all of the important geometric and geodesic measures and functions. The ancient Egyptian cubit, which is a time-space commensurate measure (1/1000th of the distance that the earth rotates at the equator in one second of time), the foot, the fathom, the ancient Egyptian equivalent to the metre, all these measures are commensurate with the size or movements of the earth. The relationship of \square is given by the navel.(....) Thus the proportions of ideal man are at the centre of a circle of invariant cosmic relationships (Lawlor 2001, p. 92).

The relation of ideal human form, in other words, the cosmic man, to the primordial figure circle can be based upon the archetypal idea of holding the divinities and power. Leonardo da Vinci has also contemplated in this relation and illustrated his famous drawing Vitruvius Man, in which the man is circumscribed by a circle, where the center is on his navel. The correlation of navel and circle is very similar to the Egyptian cubit and navel. A cosmic man with his ideal human body creates a bond between his physiology and cosmos in the sense of essential universal proportions. These divine proportions are the tools to convert chaos to cosmos in constructing a microcosmic representation.

4.1.2 Spiritual Orientation

Another important feature in creating sacred spaces is the notion of spiritual orientation and the concept of creating centrality by using the symbol circle. This orientation is not like an ordinary orientation; an edifice needs a special orientation to manifest its sacredness. This topic discusses what spiritual orientation is and what makes the orientation spiritual. In this part, the concepts of centrality and *axis mundi* are the major elements of defining spiritual orientation. Again here, we encounter the primordial shape circle and quadrated circle, creating centrality and having a fixed center, which are the crucial necessities in defining a spiritual orientation for sacred architecture.

Of course, not all geometry is sacred. Geometry was seen as being useful to site and construct buildings beneficial to those who inhabited them. When it was pleasing to the gods, it became 'sacred'. A temple, for example, may be hallowed if it is constructed according to certain sacred proportions and orientated in a specific direction. Such concerns with proportion and direction are so universal across so many cultures that they must reflect a reality (Skinner 2009, p. 6).

As it is mentioned in the book *Sacred Geometry* not only the form itself is important in creating a sacred space but the orientation is also crucial. In this case, the primordial shape circle sets the ground, and the spiritual orientation helps to fill it with sacredness.

The aim of setting an origin in other words defining a center was the essential goal of all beliefs. All creation myths start with defining a place where the divine powers resurrect.

In Indian creation myth god Brahma, standing on a huge, thousand-petaled lotus, turned his eyes to the four points of the compass. This fourfold survey from the circle of the lotus was a kind of preliminary orientation, and indispensable taking of bearings, before he began his work of creation (Jung 1968, p. 266).

Similarly in Buddha's birth a lotus flower rose from the earth and Buddha stepped on the lotus flower. By orienting himself at the center he gazed into ten directions of space, creating an imprint of wholeness. This performance of defining a spatial orientation of Brahma and Buddha may be regarded as the human need for psychic orientation (Jung 1968, p. 267). The need for centering of the religious man is supported by Mircea Eliade too. According to his description of sacred space, a sacred edifice needs to contain a fixed point.

It is for this reason that religious man has always sought to fix his abode at the "center of the world". If the world is to be lived in, it must be founded – and no world can come to birth in the chaos of the homogeneity and relativity of profane space. The discovery or projection of a fixed point – the center – is equivalent to the creation of the world (...) (Eliade 1959, p.22).

Like it is previously illustrated in the chapter, *Microcosmic Representation*, in order to abide in this world, one needs to create an order, one needs to transfer chaos into cosmos. In this case, the seed of this order is defining a fixed point. This fixed point not only sets a ground for dwelling but also opens a gap for sacredness to unveil itself and

creates a bridge for linking the realms. Eliade itemizes the criterias of a sacred space in the following quote.

Here, then, we have a sequence of religious conceptions and cosmological images that are inseparably connected and form a system that may be called the "system of the world" prevalent in traditional societies: (a) a sacred place constitutes a break in the homogeneity of space; (b) this break is symbolized by an opening by which passage from one cosmic region to another is made possible (from heaven to earth and vice versa; from earth to underworld); (c) communication with heaven is expressed by one or another of certain images, all of which refer to the axis mundi: pillar (cf. the universalis columna), ladder (cf. Jacob's ladder), mountain, tree, vine, etc; (d) around this cosmic axis lies the world (= our world), hence the axis is located "in the middle," at the "navel of the earth"; it is the Center of the World (Eliade 1959, p.37).

When the criteria of orienting a fixed point is achieved one can construct a sacred edifice. Through this edifice one can break the homogeneity of space, creates a sacred territory, links cosmic regions and centers itself in the navel of the earth.

The above-referred fixed point is an abstract concept of founding the world in an ontological sense. The fixed point has a concrete reference in ancient Rome. *Mundus*, which refers to the center of the city, may be given as an example of fixed point where three worlds meet. Another concrete example for a center in creating spiritual orientation can be a sacred tree, which is briefly explained in the previous chapter, Microcosmic Representation. Sacred trees and sacred poles had the same function as *mundus* in primordial societies. In the early world, it was believed that this cosmic axis was the axis, connecting divine, terrestrial and subterranean realms. "Its trunk transfixes the earth, projecting upwards into heaven and below into the abyss, the heavens revolve on this axis, and may be reached by climbing the stem" (Lethaby 2005, p.11).

Just like cosmic trees, cosmic mountains define a spiritual orientation. Jebel Barkal in Sudan, Mount Meru in India, Mount Olympus in Greece or Mount Sinai in Egypt can be given examples of sacred mountains in founding an origin. "The earth is believed by the Arabs to be surrounded by the ocean, which is described as bounded by a chain of mountains called Kaf, which encircles the whole as a ring, and confines and strengthens the entire fabric; (...)" (Lethaby 2005, p.24). Another example of the cosmic mountain can be given as the famous mountain of Fuji, in Japan. "Visible from a dozen provinces, Fujisan is the "center of the world" in a country that is 85 percent mountainous-an

active volcano that is paradoxically the guardian of the nation” (Ronnberg 2010, p.108). “Yet India’s Mount Meru, 84,000 miles high, is the Himalayan prototype of Indian temple-domes and center of a quadrated universe. In the American Southwest, the Navajo homeland nestled within the Four Sacred Mountains of the Four Directions” (Ronnberg 2010, p.108). Composing a holy center, those cosmic mountains radiate, and manifest sacredness, constituting a circle. It is obvious that anywhere you place a center you can generate a circle, creating an ordered space, making a spiritual orientation.

What also draws the attention is all societies, in the early world or modern world, put their selves in the center of the earth and believe that this center has great importance. No one claims that the center is located in some other part of the earth; they hold that the very place that they are dwelling is the origin of power and the navel of the earth. The map of Mahmud al-Kashgari (1008-1105) was one of the concrete proofs of this aim. “Qarakhanid Uyghur scholar Mahmud al-Kashgari compiled a "Compendium of the languages of the Turks" in the 11th century. The manuscript is illustrated with a "Turkocentric" world map, (...).The world is shown as encircled by the ocean.”¹⁹

Kashgari in his world map, puts the Turkish-speaking areas in the center of the world, Balasaghun, the most important city during 11th Century in Central Asia was represented as a yellow dot in the center of the map. Again an important depiction of this map is its shape. Having a circular shape, Kashgari illustrates the wholeness of the world.

The aim of orienting oneself in the middle of the world is encountered in Iran believing that the city of Shiraz is the center of the earth or in Sicily, Italy “On an Arab fountain in Sicily was the inscription ‘I am the center of the garden, this garden is the center of Sicily, and Sicily of the whole world (Lethaby 2005, p.72).

These examples can be increased.

¹⁹ *Muhammad al-kashgari*, [online]. <http://environment-ecology.com/geographers-and-explorers/569-muhammad-al-kashgari.pdf> [accessed 10 March 2015].

Figure 4.1: The map of Mahmud al-Kashgari



Source: [online] http://en.wikipedia.org/wiki/Mahmud_al-Kashgari [accessed 15 January 2015].

Another important concept that should be mentioned under the topic of, Spiritual Orientation, would be the use of sacred circles in settlements. Not only these sacred circles draw a plan for the location of dwelling but also this circle organizes the community's life. Like the *templum* in ancient Roman cities, the Yezidi Circle in Yezidi people's life, Lakota circle in Native American tribes, circular planning of Bororo people in South America... the circle is an important element of defining their orientation in a spiritual sense and the tool for placing them in the navel of the earth. Circular city planning will be further explained in, Sacred Power in Morphology of Edifices. Throughout the history, in all over the world there has been many places like

trees, mountains, cities... which are attributed as the center of the earth. In spiritual sense, the aim of defining yourself is not ridiculous since,

God is an intelligible sphere – a sphere known to the mind, not to the senses – whose centers is everywhere and whose circumference is nowhere. And the center, Bill, is right where you're sitting. And the other one is right where I'm sitting. And each of us is a manifestation of that mystery (Campbell 1991, p. 111).

4.2 MORPHOLOGY OF SACRED POWER

Morphology of Sacred Power holds three main topics; Primitive Dwellings, Hagia Sophia and Borobudur Temple. In this part one of the goals is to prove that the sacred edifices are not only used for religious purposes. Sacred edifices can have a very basic function like providing a shelter. In the first part primitive dwellings are analyzed in sacred terms with the concepts of spiritual orientation and microcosmic representation. The second goal is to show the change of the power aspect throughout the history in sacred edifices. To see the historical evolution of sacred circular edifices, see the Appendix. In the second and the third part, religious buildings are analyzed with respect to power by underlining their importance in the history.

4.2.1 Primitive Dwellings

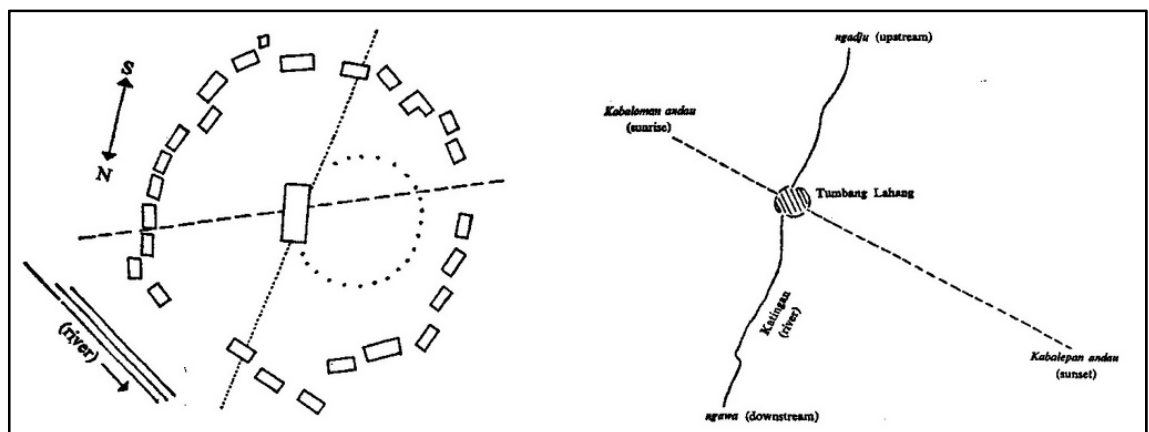
Primitive dwellings are analyzed as sacred edifices. As it is previously discussed in the chapter, Constructing A Sacred Space, in order an architectural piece to become sacred, they need to represent microcosmos and establish a spiritual orientation where the powers of three realms meet. Even though the idea of housing lacks a religious meaning, primitive dwellings are fulfilling these criterias and becoming sacred. Huts, tents or early houses they all visualize the perception of cosmos in their own style. Moreover they mark a fixed point on earth, determining an origin for their lives. In

Heideggerian terms, primitive dwellings can be named as ‘genuine buildings’ uniting the fourfold and reflecting the harmony of cosmos. According to Patočka material home which is only a consequence of primordial architecture is put as following; “The material home presents the creation of the inner space covered against the outer space; material architecture is the realization of the secure and friendly inside” (Ševčík 2013, p.57). A similar definition of home comes from Reimar Schefold with an anthropological approach, "After all, in most traditional societies the house is man's most important three-dimensional creation. It creates space within space, it places borders around a piece of the universe and, in so doing" (Egenter 2005, p.7), Schefold continues, the house "is the thing which obviously can serve as an expression of conceptions about the world in its entirety" (Egenter 2005, p.7). Like it is elaborately explained, traditional houses have a sacred character.

The relation of house planning and the perception of world is discussed in the book ‘Vernacular Architecture - Where Do The Symbolic Meanings Come From?’ in a clear way

Concepts of the adequate order and relations in the "social and cosmic universe" can play an important role in the construction of a house. Griaule and Dieterlen's report about the Dogon huts in Mali had shown how a "very complex cosmology" finds its expression in an "esoteric anthropomorphical symbolism" which influences the plan of the houses and settlements and also defines their form (Egenter 2005, p.6).

Figure 4.2: Circular organisation of primitive settlements



Source: Rykwert, J., 1988. *The idea of a town the anthropology of urban form in rome, italy and the ancient world*, New Jersey: Princeton University Press

Microcosmic representation of space with its relation to sacred power is soon analyzed with different types of vernacular architecture belonging to different cultures. Prior to this, there is an important feature of the circle which should be underlined. And that is, it's functionality in architectural terms. When it is thought about traditional housing the first thing comes to the mind is the lacking technology. With limited construction techniques, early civilizations formed their houses and created the most beneficial living model. Like it is previously discussed this living model was inspired by the cosmos that they were surrounded with. The forms of nature played a big role in shaping the space. But there is one more substantial thing that shouldn't be missed; primitive people had to use the best of their material, time and energy in a limited technological condition. Circular forms were the best solution in abiding where they consumed least material, time and energy and maintained the most functionality. Like in the primitive Greek houses, the circular form had a function. The hearth was in the center, and the smoke was getting out from the apex. Being an example of domestic architecture, Yurt has a round floor plan and "The whole inside space of the Yurt is focused on it as a "conditio sine qua non"" (Egenter 2005, p. 22), where everything is based on needs. This simple typology was often used in primitive houses. In order to prove this idea, a considerable amount of example is given to circular domestic architecture from different regions of the world. Pallazzo of Northwest Spain; Roundhouse of Whales; Roundhuts or hut circles of Bodrifty- England; Atlantic Roundhouse, Broch and Wheelhouse in Scotland; Clochan from Ireland; Igloo in Greenland, Canada and Alaska mainly in Arctic Region; Roun Haus in Papua New Guinea; Nuraghe of Sardinia, Italy; Trullo in Italy; Mitato from Greece; Beehive Houses in Harran, Turkey; Roundhouses in Choirokoitia, Cyprus; Musgum Huts of Cameroon; Tipi of Native Americans in America; Yurt from Central Asia; Fujian Tulou in China; Tradition Round House of Botswana; Dogon Huts in Mali; Round huts in Africa; Afriican's Rondavel and Zulu huts of South Africa... As it is seen, there are countless circular primitive house types. Beside of their functionality in a material sense, the morphology of these edifices is analyzed with respect to power.

"When a magician wants to work magic, he puts a circle around himself, and it is within his bounded circle, this hermetically sealed-off area, that powers can be brought into play that are lost outside the circle" (Campbell 1991, p. 268). Primitive houses with their special form, bring powers into play. Early people believed that living in a circular

order would bring them power. Bororo in Brazil, The Sioux of North America and Tiwi of Australia are some societies who grounded their lives, both social and spiritual, on circles. The round form of the village shapes the social life, putting men in the center who organize the rituals and perform the sacred dance. Their lives were so integrated to this form that after the threat of Salesian missionaries to their villages, the whole social system of Bororo people collapsed.

The Salesian missionaries who first dealt with this people found that the only way to approach them was to persuade them to leave their traditional village and settle in a new village of rectangular huts set out in parallel rows. This completely destroyed the complex Bororo social system which was so closely tied to the layout of the village that it could not survive transplantation into a different environment. What was more radical even was that the Bororo, in spite of their quasi-nomadic way of life, felt completely disoriented in the world, once they were divorced from the traditional cosmology demonstrated in the village plan. And so they accepted eagerly any other plausible explanation of the confusing universe which was offered them (Rykwert 1988, p.171).

Like in Bororo society, the Indian American Sioux, who was living in a circular order shared the same destiny. Their source of power, which is the circle, was threatened by Middle West settlers. The leader of Sioux, Black Elk puts this loss of power into words as following;

We made these little grey houses of logs that you see, and they are square. It is a bad way to live, for there can be no power in a square.(...) Our tepees were round like the nests of birds, and these were always set in a circle, the nation's hoop, a nest of many nests where the Great Spirit means for us to hatch our children. But the Wasichus have put us in these square boxes. Our power is gone and we are dying... (Rykwert 1988, p.172).

Black Elk's shamanic perception of cosmos was based on the circular harmony. His society's microcosmic representation and sacred power was destroyed by putting them in square houses. This example manifests the sacred power of the circle.

4.2.2 Hagia Sophia

Hagia Sophia being an architectural wonder is located in Istanbul, Turkey. Istanbul, connecting Asia with Europe considered as a valued city because of its specific location. Many empires ruled the city and Hagia Sophia was used as a power symbol, of the ruling body since the day it was constructed. Starting with the architectural characteristics, Hagia Sophia's sacred power will be discussed with the help of myths and legends.

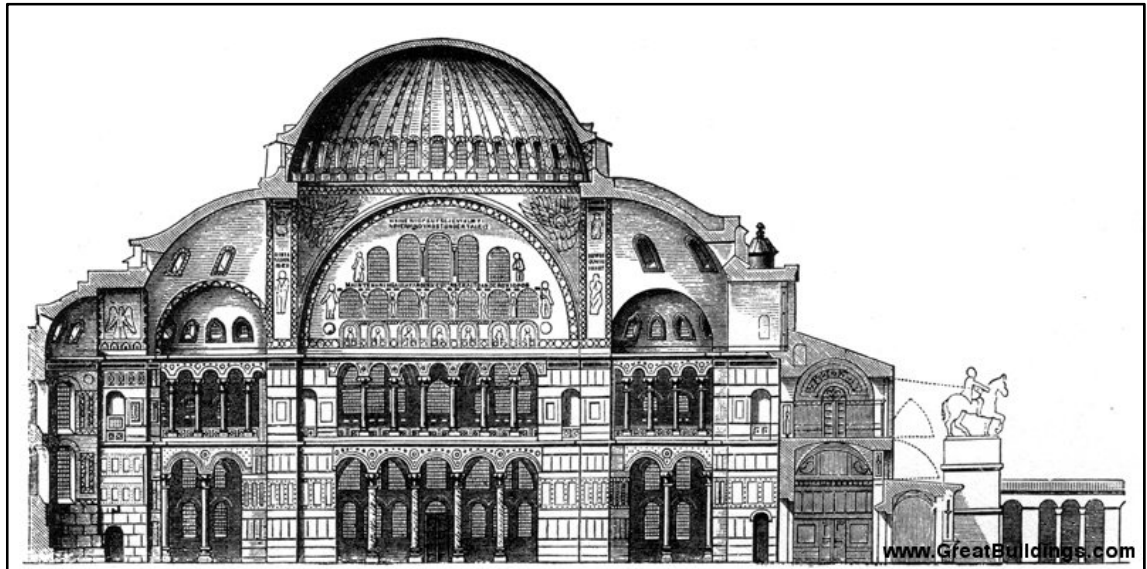
“Originally built by Constantine the Great, the first Christian Emperor, Hagia Sophia was a grand symbol of Christianity to the world. Constantine wanted to make Constantinople the New Rome with Hagia Sophia”²⁰ Hagia Sophia, meaning Wisdom or Word of God, was built in the years of 532-537 by physicist Isidore of Miletus and mathematician Anthemius of Tralles. The church experienced several disasters, its dome has collapsed and rebuilt many times.

Being used as a church for almost nine hundred years with the conquest of Constantinople by Sultan Mehmet II, Hagia Sophia Church became a Mosque. Mehmet II has converted the church to a mosque as a symbol of the conquest, removing “...the various decorations like the bells, altar, iconostasis, and sacrificial vessels, typical of Christian churches. Purely Islamic attributes such as the 'mihrab', 'minbar' and the four 'minarets' outside were added at various stages of the Ottoman rule.”²¹ Hagia Sophia stood as a monument and mosque in a religious state for five hundred years more until 1935. In 1935, in the time of Turkish Republic Hagia Sophia was turned into a museum.

²⁰ Freyhauf, M. S., 2011. Hagia sophia: political and religious symbolism in stones and spolia, *Popular archeology*, [online]. <http://popular-archaeology.com/issue/june-2011/article/hagia-sophia-political-and-religious-symbolism-in-stones-and-spolia> [accessed 15 April 2014].

²¹ *An architectural wonder*, [online]. <http://www.hagia-sophia.net/architecture.htm> [accessed 11 April 2014].

Figure 4.3: Engraving of hagia sophia



source: [online]. http://www.greatbuildings.com/cgi-bin/gbc-drawing.cgi/Hagia_Sophia.html/cid_1121733220_iwa_f352.1_001.gbd [accessed 7 January 2015].

Hagia Sophia being a revolutionary architectural masterpiece, what became prominent about this monument was its dome.

The magnificent part in the architecture of the Hagia Sophia was its impressive central dome, which had a diameter of 31.24 meters and a height of 55.6 meters. It was miraculously made weightless due to the continuous chain of 40 arched windows under it, which also served to flood the entire interior with sunlight. Moreover, four concave triangular piers at the corners of the base, carries the weight of the dome, and these were reinforced in later times with the help of buttresses.²²

Setting an important symbol Hagia Sophia's dome brought the sacredness of the building to another level. The crowning circular dome is the centerpiece of the edifice, setting off from pendentives by the closely spaced windows of the drum the architects created an effect as if the dome was weightless. The dome creates an illusion of ascending, standing on a ring of light. "Hovering almost magically on rings of light created by windows, earned the name *domes of heaven* and frequently contained an image of Jesus looking down upon and blessing the people" (Kilde 2008, p.56). The circular form of the dome was a new idea in Roman architecture. Early Christian

²² *An architectural wonder*, [online]. <http://www.hagia-sophia.net/architecture.htm> [accessed 11 April 2014].

churches were built in rectangular Basilica plan. Dome of Hagia Sophia suggested a new plan type, a unified whole within the building and a monumental look outside the building. Like the Pantheon, Hagia Sophia embraces a perfect sphere in it, increasing symbolic power and sacredness. This new plan type of churches “represented a new understanding of divine power, which focused on the transcendence of God and the heavenly location of salvation, even as they asserted the political power of the state, represented by the emperor” (Kilde 2008, p.58). Hagia Sophia’s revolutionary architecture, containing a complex system of domes, semi-domes, arches and vaults, was so powerful that it affected the typology of mosques in the Islamic world. The perfection in the architecture of Hagia Sophia is explained by art historian Ruth Dyer by numerology and sacred numbers in the following quote;

Ruth Dyer found numerous links in the church’s structure and finishing décor to Pythagorean symbols, Euclidean geometrical golden ratios, the symmetria, proportions of measures and numbers, with prominence of numbers 6 considered the Perfection and 10 the Divine, including the progressions of numbers 6, 10, and 16 (Woszczyk 2013, p. 1).

Construction materials that were used to form the architecture is another aspect of creating the discussed sacred power.

After demolishing the temple of the defeated idol worshippers on that site, the victorious emperor write to the “kings of the seven climes,” ordering them to contribute to the construction of Hagia Sophia by sending rare stones removed from the ancient pagan temples of India, Arabia, Yemen, Maghrib, Persia, China, Turkistan, Byzantium, and Europe. In this was Justinian’s versal rule that reflected a perfect concordance between divine will and imperial power (Mark, Çakmak, 1996 p.200).

Moreover, the story of the doors said to be constructed from the wood of Noah’s ark, sweating column of St. Gregory (Hızır) which also had curative powers. On one hand the construction elements, spolia, have increased the symbolic value of the edifice, on the other hand these elements have quickened the process of building, when the five years of construction time is considered, it will not be wrong to claim that spolia have helped in expediting the construction process. Rather than the functionality of these elements, the spirituality of them played a big role in its sacred power. “Spolia relates

meaning in the way the stones and artifacts are incorporated into the structure. It was a way of telling a visual story.”²³ Another extreme instance of using sacred materials in construction of Hagia Sophia lies in the following legend:

The Ottoman texts claim that the half-dome above the apse of Hagia Sophia had collapsed on the night of the Prophet Mohammad's birth, together with many other churches and Sassanian monuments including the Arch of Chosroes. Attempts to rebuild it were unsuccessful until a Byzantine embassy was sent to the Muslim Prophet, who sanctioned its reconstruction, knowing that it would someday serve Muslim congregations. Thus, the new dome was held in place by the Prophet's miracle and, according to one version of the legend, by a special mortar compounded of sand from Mecca, water from the holy well of Zemzem at the Ka'ba, and Prophet's saliva (Mark, Çakmak, 1996 p.200).

As it is seen in the legend, unconventional materials can be used for both functional and spiritual purposes in constructing power.

Not only Hagia Sophia is sacred in formal sense but also the orientation plays a big role in its sacredness. Constantinople – now Istanbul– was a valuable and sacred city, even the Prophet Mohammad is claimed to mention the city to be conquered by Muslims. “Mehmed II's victory fulfills the Prophet Mohammad's prophecy that the city would one day be conquered by Muslims” (Mark, Çakmak, 1996, p. 199). Also in written culture the city was put in a centric position in the cosmos. In the text named as “Diegesis peri tes Hagia Sofias (1479-1480) place the city's history in a cyclical scheme of universal cosmography” (Mark, Çakmak, 1996, p. 199). The approach to Istanbul is similarly seen in Hagia Sophia itself. Being the most dominant structure in Istanbul, Hagia Sophia not only stands in the center of this cyclical scheme, but also manifests a microcosmic representation. It will not be wrong to say that universe, Istanbul and Hagia Sophia are all encircling each other symbolically. On the very spot of where Hagia Sophia stands there used to be two more churches, they both were collapsed and Hagia Sophia is the third church being constructed in the same location. The insistency of rebuilding churches on the same land may be interpreted as people's bond to the spirituality of orientation in the early world. Another important instance about the spirituality of the orientation is the place called Omphalion in Hagia Sophia. Coming

²³ Freyhauf, M. S., 2011. Hagia sophia: political and religious symbolism in stones and spolia, *Popular archeology*, [online]. <http://popular-archaeology.com/issue/june-2011/article/hagia-sophia-political-and-religious-symbolism-in-stones-and-spolia> [accessed 15 April 2014].

from cosmic scale to building scale Omphalion may be regarded as the center of the centers where power is concentrated. Omphalion meaning the navel of the earth is the place of the coronation ceremony of the Eastern Roman Emperors. The ceremony being both sacred and secular was a performance of power in the center of the spiritual orientation.

Figure 4.4: Omphalion



Source: This image is taken by the author of the thesis.

Hagia Sophia being an important monument with its dome not only created a powerful look in the city but also was used as a medium of manifesting ideology and power. Starting from Byzantine times, “...when Justinian entered the Church for the first service, he exclaimed I have surpassed thee, O Solomon I” (Newman 1987, p. 318) the edifice was used as an arena of a power play. The provocative and daring words of Justinian support this idea. Continuing with the Ottoman period, directly by converting Hagia Sophia into a church made this edifice a symbol of conquest manifesting the power of the Islamic world. Finally in 1935 “when the first Turkish President and the founder of the Republic of Turkey, Mustafa Kemal Atatürk, secularized not only the

nation, but also the Hagia Sophia.”²⁴ The building became a museum stating the world view of the new republic.

4.2.3 Borobudur Temple

Figure 4.5: Aerial view of the borobudur temple



Source: [online]. <http://www.architectureartdesigns.com/world-most-famous-buddhist-temples/> [accessed 7 January 2015].

²⁴ Freyhauf, M. S., 2011. Hagia sophia: political and religious symbolism in stones and spolia, *Popular archeology*, [online]. <http://popular-archaeology.com/issue/june-2011/article/hagia-sophia-political-and-religious-symbolism-in-stones-and-spolia> [accessed 15 April 2014].

This chapter, Borobudur Temple, handles the power notion in the design of Borobudur Temple which is the biggest mandala on earth. Moreover, the concept of the squared circle will be briefly referred in relation to sacred rituals.

Borobudur was built in the theological tradition from 760 to 825. The monument, having a complex and unique design, is located in Borobudur District, South of Magelang, Central Java, Indonesia. Having 42 meters of overall height, the temple is built upon 123 x 123 m² land. Borobudur comprises a total of 10 floors, 6 square platforms and 3 circular platforms on top with a dome as the highest points. Borobudur having a mound-like and bell-shaped form is decorated with 2672 relief panels and 504 Buddha statues, narrating Buddhist mythologies.²⁵ “It is a solid building that cannot be entered because its ritual use was confined to external circumambulation – the journey tracing the path of the soul to Nirvana. Therefore, in its design, the Borobudur is an excellent example of the articulation of external rather than internal space.” (Cooler 2014, p. 8) The path rising to Nirvana is explained as following:

According to the Hindu tradition, the monument is conceived as the mythical Mount Meru. For the Buddhist cosmogony, the Borobudur is the cosmic mountain of the Universe subdivided in three levels: the square base with carved walls, Kamadhātu (early realm, passion and world of desires), the five terraces with niches containing 108 seated Buddha figures facing the four main directions, Rupadhātu (material form world, celestial realm) and three round terraces with 72 stupas with a single seated Buddha, Arupadhātu (realm of formlessness and ultimate enlightenment) with a single stupa the top. The worshipper begins a spiritual journey from the earthly world through the different consciousness levels to raise the karma (Messeri 2008, pp. 3-4).

The temple had two functions, being a shrine to Buddha and a stop for Buddhist pilgrimage. On the monument which is a symbol of Buddhist cosmogony, Buddhists have a journey that begins from the base of the monument and follows a path around the monument as if they are climbing a mountain. As it is explained in the previous chapters, cosmic mountains are considered as sacred and used in many cultures as a metaphor of microcosmic representation. The name of the temple also underlines this relation. “The name Borobudur or Barabudur is the simplification of

²⁵ Situngkir, H., 2010. Borobudur was built algorithmically, [online]. <http://cogprints.org/7019/1/2010h.pdf> [accessed 13 February 2014].

Bhumisambharabhudhara, place for the ancestors that indicate the “mountain of virtues” with the ten Bodhisattva’s phases” (Messeri 2008, p. 3).

The mountain-like temple tenders the most of its sacredness at its peak where the main dome rises. This hierarchical composition of the Borobudur tells us the symbolic importance of the circular forms. The largest Buddha statue stands on the round stupa, representing the highest attainment and being the most important spot where all powers are symbolically concentrated. If we draw an imaginary line centering the tip of the dome going up and down in both directions, we will get the *axis mundi*. In third dimension this point where all three levels meet, holds and radiates the sacred powers. This central spot is emphasized with concrete elements like the holy deposits. Thanks to the mandala plan of the temple, in second dimension “both the square and circular forms are centered on the same point, the central and tallest spire that also marks the point below ground level where the deposit box is located. This deposit box contains ashes or some other evidence of the Buddha’s physical body such as hair, teeth or bones” (Cooler 2014, p. 9). Like it is mentioned in Hagia Sophia case, holy deposits are often used in sacred buildings in order to increase the sacred power of the building. In this case, the specific location of the deposit underlines the importance of the center one more time.

Above- stressed the Borobudur is a stupa in elevation and an architectural mandala in the plan. Mandala plan is an important factor in Borobudur becoming a power symbol; therefore the term mandala will be discussed with the aspects of cosmology and squaring circle briefly with the intention of understanding the Borobudur temple clearly.

Mandala originally meaning ‘circle’ in Sanskrit it and includes the idea of ‘centre’ and ‘circumference’.The mandala is the division of the Unity circle into the comprehensible forms of square, hexagon, octagon, enneagon, etc., and these forms are considered to be the primary thoughts of God emerging out of the circular Unity (Lawlor 2001, p. 17).

In the definition of the mandala by Robert Lawlor, the effective relation of unity- circle- sacredness- power is seen, in which all those concepts are seen in Borobudur temple due to its mandala ground plan. “In a very elaborate Buddhist mandala, (...), you have the deity in the center as the power source, the illumination source” (Campbell 1991, p.

271). Previously discussed, in Borobudur temple the illumination source is located at the highest point of the stupa where the powers meet in the center.

On pilgrimage through the Borobudur, the devotee circumambulates each level by walking in a clockwise direction while viewing the bas-reliefs on the walls that depict how other humans have individually followed the path to salvation. After each complete circuit around the temple, the devotee climbs up one level and then makes another circumambulation (Cooler 2014, pp. 9-10).

Mandala represents a series of concentric circles, inscribed within a square, this primordial image not only encountered in Buddhist tradition but also in Christian and Islamic traditions. For instance during the circumambulation of Kaba in Mecca, a very similar pattern to Borobudur is created. The circumambulation ritual of Kaba, meaning cube, is related to the concept of the squaring circle.

(...) the Squaring of the Circle is of great importance to the geometer- cosmologist because for him the circle represents pure, unmanifest spirit-space, while the square represents the manifest and comprehensible world. When a near-equality is drawn between the circle and square, the infinite is able to express its dimensions or qualities through the finite (Lawlor 2001, p.74).

Labyrinths that are used for spiritual purposes are also a subset of the mandala idea. Labyrinths and mandalas are very similar in the formal sense since they are both circular and in a philosophical sense, they both are concerned with spiritual enlightenment which is claimed to be in the center. “The labyrinth is itself an astoundingly precise model of the spiritual understanding of the universe. Not only are the exact cosmic rhythms built into it, but as well, the other sacred measures that present our relationship to the “journey back” to our spiritual wholeness. – Keith Critchlow” (Artress 2006, p. ix). Based on the circle, the universal symbol of unity and wholeness, the labyrinths and mandalas create a spiritual connectedness in an architectural sense.

Like the mandala and labyrinth, the model of soul’s journey from the periphery to the center is handled in Dante’s *Divine Comedy*.

By using the same architectural elements, like the cosmic mountain which is the Mount Purgatory and mandala plan, Dante created a parallel scenario in the literature. The

Divine Comedy, written at the beginning of the thirteenth century by Dante Alighieri, presents a journey through the patterns of human destiny in accordance with the conceptions of medieval Christianity. The three parts of the poem, Hell, Purgatory, and Paradise, are each conceived in the shape of immense mandalas (Doczi 2005, pp. 134-136).

Borobudur temple having a mandala plan, symbolizing of Mount Meru, consisting *axis mundi* is a potent power symbol. Involving both the spiritual orientation and microcosmic representation, Borobudur is an efficient holy instrument in attaining the divine source of power.

4.3 CONSTRUCTING A PROFANE SPACE

Unlike the sacred space, to construct a profane space, one does not need any special criteria. The nature of building directly leads to a profane space. In the following chapter, Morphology of Profane Power, powerful profane edifices are held. To create a profane powerful space again there is no strict items to follow nevertheless some architectural features help to increase the powerful effect. These features can be listed as hierarchy of the building units, monumentality, scale, orientation, elevated entrance, material quality, centrality... In profane circular buildings to create a powerful effect orientation and centrality play a big role. These two features were held in the chapter, Constructing a Sacred Space, as spiritual orientation and microcosmic representation. Even though profane edifices do not have a spiritual bond with its surrounding or the form of the edifice does not reflect the microcosmos, they still manifest power in a secular manner. In the Appendix, the list of profane circular edifices, depict the variety of circular secular buildings and settlements throughout the time.

4.4 MORPHOLOGY OF PROFANE POWER

Morphology of Profane Power discusses three edifices; Rotonde De La Villette, Stockholm Public Library, and National Assembly Building. These three edifices come to the forefront in the architecture history with their powerful contexts. In the following parts the edifices are discussed with their historical and architectural context by mentioning the importance in the stage of history.

4.4.1 Rotonde De La Villette

Designed by Claude- Nicolas Ledoux (1736-1806), Rotonde de la Villette (Barrières Saint-Martin 1784-1788), one of the toll houses in Paris is discussed in relation to economic power with its historical background. Moreover by giving some instances about the profane, financial power in architecture, the importance of power-circle relation is underlined.

One of the reasons that triggered the French Revolution in 1789 was inequitable and excessive taxation system.

Among the institutions of the ancien régime that came under attack, the Ferme Générale or General Tax Farm, was one of the most vilified. Leasing the right to collect the highly unpopular indirect taxes for a profit, the fermiers-généraux or farmers-general was depicted as rapacious and tyrannical(White 2001, p. 1).

The reflection of the economical condition of 18th century Paris in architecture can be seen in a massive structure called Wall of the Ferme générale (1784 1791). 24 kilometers long, Wall of the Ferme générale encircling Paris was built as a convenience for the collection of aforementioned high taxes by the financiers called the Farmers-General. Nevertheless in 1782 Claude-Nicolas Ledoux, was chosen to design the wall and the tollhouses (barrières) that would accompany it, although the commission was

taken from him after two years, due to the high expenses of his design, the project was completed in.²⁶

Figure 4.6: Rotonde de la villette



Source: [online]. <http://www.pss-archi.eu/immeubles/FR-75056-4614.html> [accessed 21 February 2015].

Considered being a Visionary or Revolutionary architect with Etienne- Louis Boullée, Claude- Nicolas Ledoux was mostly famous for his eccentric character. His utopist designs, panoptic plans made him a prominent architect in the Age of Enlightenment.

²⁶ *Paris in the 18th century*,. [online]. <http://web.uncg.edu/dcl/courses/paris/pdf/unit8.pdf> [accessed 11 March 2015].

But in this chapter Ledoux is handled with his modernist designs which reflect the profane power of economy. “But Ledoux’s modernism is found in his relationship with the world as well as with what was not yet known in the 17th century as the economy” (Gruson 2012, p. 300). Fifty Barriers or tollhouses of Paris which Ledoux was commissioned for signifies this economical power.

The world view of the architect Ledoux plays a big role in understanding his work. Prior to the architectural character of Rotonde de la Villette, the personality of Ledoux is briefly transferred. Ledoux being a true representative of his century, he was a fanatic fighter of his thoughts. Carrying an idealistic character he was involved in many political events that later made him placed in jail. Ledoux’s strong character’s reflection can be seen in this letter which he had written on August 24, 1775 to governor Lacore. In the mentioned letter, Ledoux compares himself with a founder of a new faith. (Kaufmann 1952, p. 477) This metaphor of him being like a founder of a new faith, being holy and powerful, gives us an idea about how he sees himself. “To him, the architect is a "rival of the Creator." In ecstatic moments, he had dreams of moving mountains, of drying swamps, of transforming the face of the earth” (Kaufmann 1952, p. 478). Ledoux’s God-like image is encountered in the character of his architectural works.

Claude- Nicolas Ledoux aiming to create magnificent propylea, meaning monumental gateway, has designed various plans, all having massive, symmetric and classical features in common. As in Rotonde de la Villette, Ledoux used archetypal elements like rotunda, columns, pendentives in most of his edifices. Even though, Ledoux has designed fifty toll houses, only four of them are still extant due to the demolishing in the mid-nineteenth century. Rotonde de la Villette, being one of the still remaining toll houses, consists of a cubic block with a cylindrical drum, borrowing its Serliana motifs from Palladian architecture. On the ground level of the facades of Rotonde de la Villette, symmetrical pillars are located. On the facade, one can read three obvious levels that are rising on top of each other. The first one is the ground level or portico, where the structure is elevated from the ground and the Doric columns rise. The pediment having a dominant visuality, carried by the columns compose the second

level. Lastly the highest, the third level is formed by the rotunda that is comprised of twenty pillars. The power aspect of the edifice is increased by elevating the building from the ground; this technique is often seen in both sacred and profane instances to create monumentality. Another architectural element enriching the power aspect is the constitution of a circular form, which in this case is the rotunda. The most dominant element in the edifice is the rotunda surmounted from the center. As it is discussed in the previous sacred monuments, the location of the circular form is placed with a hierarchical aspect. The edifice with its symmetrical order and hierarchic composition creates a totality. “To Ledoux the Palladian motif no longer meant what it had meant to Renaissance and Baroque architects; the expression of perfect gradation and concatenation; the symbol of the integral whole formed by the ruling central part and the subservient sides” (Kaufmann 1952, p. 504). By being loyal to the archetypal forms like circle, the architect by changing the scale and composition of the traditional forms, showed that the morphology and the quality of power can be adapted to the time.

As the form of the building, the material also tells much about the character of the Rotonde de la Villette. The ashlar walls are strongly emphasized in the building, which is later claimed to the Masonic imagery. “One who faces the Barrieres Saint-Martin (...) must be impressed by the vigorous treatment of the stone” (Kaufmann 1952, p. 509). By emphasizing the material, Ledoux exhibited the beauty and purity of stone.

The roughly designed circle of the Farmers General Wall bordering Paris, and Rotonde de la Villette being a part of this wall, again having a circular character represents power and economic control over people. Not only in these two instances but also in Saltworks, the Ideal City, of Ledoux the ideology of power shows itself in circles. In all those examples, the most important elements are the circle as the periphery and the center as the observer, panopticon.

... The power supervises and commands, but in a symmetric way everybody sees the centre of the circle, sees his own place and understands the whole. It is what we would call nowadays a “transparent organization”, whose efficiency is the result of the fact that everybody has understood the role he’s playing in a larger entity (Gruson 2012, p. 303).

Rotonde de la Villette with its specific morphology can be named as a temple of economical power.

4.4.2 Stockholm Public Library

Stockholm Public Library (1924-1928) located in Stockholm, Sweden is designed by Swedish architect Erik Gunnar Asplund (1885-1940). Being one of the most notable structures in the city, Stockholm Public Library is a valuable instance in understanding the power aspect in a profane edifice. Stockholm Public Library is analyzed with the important changes of the libraries in the history of architecture and will be compared to the Thomas Jefferson's University of Virginia Rotunda in America. Architectural characteristics of Stockholm Public Library will be discussed from the viewpoint of the power of knowledge.

Being an iconic building in Sweden, Stockholm Public Library architectural-wise presents a perfect whole. Erik Gunnar Asplund was inspired by modern American libraries and the classical order, the architect by blending classicism and modernism in the same pot he attained a refined monumentality. The library having four identical facades is grounded in a simple geometric ground plan. The plan consisted of a circle inscribed in a quadrangle corresponding to the central cylindrical building that rises above the four wings. Starting with its specific orientation and later discussing its form question of how Stockholm Public Library manifests the idea of power will be answered. "The site of the library rests beside a steep hill, which influenced the designs of Asplund from the beginning as he did not want the library to be overpowered by its environment; thus he decided on a compact, orange-colored mass."²⁷ Like it is quoted, the library is aimed to be the only attraction point in the area. The will of being a dominant figure in comparison to its surrounding has pushed the designer to choose a specific orientation for the building. The steep hill being a solid background, the library

²⁷ Megan, S., 2010. AD classics: stockholm public library / gunnar asplund, [online]. <http://www.archdaily.com/?p=92320> [accessed 12 February 2015].

with its vivid color stands out creating a powerful image in the city. Not only the location but also relation with the very orientation plays a big role in manifesting the power. “The only points of accessibility to the central area of the library are found at the four tangent points.”²⁸

Figure 4.7: Stockholm public library



Source: Megan, S., 2010. AD classics: stockholm public library / gunnar asplund, [online]. <http://www.archdaily.com/?p=92320> [accessed 12 February 2015].

The accesses from four tangent points lead the visitor to the core of the building where the cylinder is surmounted. Like in sacred edifices, Stockholm Public Library with its four referencing point and a central, circular cylinder is rooting itself to that area by creating a special orientation and setting a profane *axis mundi*.

²⁸ Megan, S., 2010. AD classics: stockholm public library / gunnar asplund, [online]. <http://www.archdaily.com/?p=92320> [accessed 12 February 2015].

Like its specific orientation, the form of the Stockholm Public Library plays a big role in its monumentality. Featuring a cylindrical central tower, might be called as rotunda, and surrounded by three story high wings; the library has a unique form. The ground plan is basically a squared circle, like the Borobudur temple. The functions in the building are distributed as following; the cylindrical volume contains the central book hall, the other four wings containing different rooms are specialized for children's literature, study-hall, specialized literature, and offices. This type of plan organization is a typical classical library arrangement. Stated in the essay named, in the Nordic Library Architecture in the Twentieth Century, puts the characteristics of classical, temple- like libraries clearly.

Figure 4.8: Interior of the stockholm public library



Source: Megan, S., 2010. AD classics: stockholm public library / gunnar asplund, [online]. <http://www.archdaily.com/?p=92320> [accessed 12 February 2015].

The ideal form of the classical “temple of knowledge”, “temple of enlightenment” or “temple of books” involved a symmetrical ground plan, shaped like a “butterfly” with the entrance and the adult lending library representing the body in the middle axis, and the adult reading room and children’s library forming the “wings”. The form could be compact like a basilica with a central nave, with the wings folded into the body, or the wings could be spread out to form a T-shape (Dahlkild 2009, p.7).

The “trinity” formed by the division into adult lending library, reading room and children’s library became the archetypal plan of the temple of knowledge. From the outside the ground plan and the building itself could be read as forming a secularized temple of enlightenment and the interior a secularized basilica(...). Thus the temple of knowledge was at the same time sacred and secular, both in terms of architecture and interior design (Dahlkild 2009, p.7).

Following the classical library orders with a similar plan, composition of volumes and organization scheme of functions, Stockholm Public Library becomes a temple of knowledge.

It is not hard to recognize the similarities of Stockholm Public Library and Rotonde de la Villette, which is previously discussed. The squared circle plans, centralized organizations, the hierarchical order of volumes are common in both buildings. What more is common in both of these edifices is the concept of the panopticon. Like it is encountered in Rotonde de la Villette and Salt Works project, the reflection panopticon idea of Ledoux is encountered in classical libraries too. Stockholm Public Library, which used the classical order as a heritage, does show the panopticon architectural scheme. In classical libraries what typical was the panoptic view of the central desk. Due to the circular design of the adult lending library, the librarian’s desk located in the center, can view the whole room, creating a powerful and dominant effect on the visitors.

Another important architectural element of increasing power through monumentality is the stairs. Like in the previously discussed edifices by elevating the structure or a part in the building, by separating that place from its surrounding, the architect expresses the importance and uniqueness of that place. The same approach is seen in Stockholm Public Library. “From the entrance hall one ascends a long, narrow “scala regia” which leads like a dark passage to the great, light lending room, formed as a rotunda with two circular book galleries” (Dahlkild 2009, p. 9). The steps of *scala regia* lead the visitors

to the solemn book –hall. In the entrance way to the main reading hall, polished black stucco was used creating a dark corridor. The contrast between light and dark, emphasized by the material use, and the gradation of levels created by stairs, enhance the importance of the center.

Figure 4.9: The steps of *scala regia* in the stockholm public library



Source: Megan, S., 2010. AD classics: stockholm public library / gunnar asplund, [online]. <http://www.archdaily.com/?p=92320> [accessed 12 February 2015].

Since the building is the temple of knowledge, the most important place in the buildings should manifest the power of knowledge. Due to its symmetrical organization, the center of the building is the most dominant place that is emphasized by a high cylindrical volume. By locating all the books, the tools to knowing, in the cylindrical core of the library, the circle again manifests the power. “Architects and authors have

studied the library over the past few decades, some finding the library to be a symbol of the human mind. Whether or not it was designed with the human brain in mind, the beauty captured in incorporating the bookshelves as a design strategy is remarkable.”²⁹ Stockholm Public Library is indeed a symbol of the human mind. With the beginning of Enlightenment, the knowledge was placed in the center of life. Like Immanuel Kant (1724-1804), in his essay *Answering the Question: What Is Enlightenment?* (1784) has stated; “the motto of enlightenment is “Sapere Aude”! – Dare to be wise”³⁰ In the plan organization of Stockholm Public Library the traces of this idea can be seen. Not only Stockholm Public Library but also the idea of the temple of knowledge idea occur in British Library, Library of Congress in Washington and also University of Virginia Rotunda (1822-1826) by Thomas Jefferson (1743-1826). University of Virginia Rotunda was “Inspired by Rome’s Pantheon, Jefferson had designed the structure in his own hand to represent “... authority of nature and power of reason”” (Eckelman 2006, p.238). Having a dome, a magnificent circular space encircled by Doric columns, like Stockholm Public Library, University of Virginia Rotunda manifests the power of knowledge through the archetypal symbol circle.

4.4.3 National Assembly Building

In this chapter the National Assembly Building (1959-1982), also known as Jatio Sansgсад Bhaban (JTB) located in Dhaka, Bangladesh is analyzed with respect to political power. Designed by the Estonia – born, American architect Louis Isadore Kahn (1901-1974), JTB is a symbol of democratic power. The architectural character of the assembly building is discussed taking the historical background of Bangladesh into consideration.

²⁹ Megan, S., 2010. AD classics: stockholm public library / gunnar asplund, [online]. <http://www.archdaily.com/?p=92320> [accessed 12 February 2015].

³⁰ *What is enlightenment? immanuel kant*, Mary C. Smith (Tra.). [online]. <http://www.columbia.edu/acis/ets/CCREAD/etscc/kant.html> [accessed 15 January 2015].

History of Bangladesh plays a major role in the design of the National Assembly Building, which is known for being the symbol of democratic power and will of modernizing the country. While Bangladesh was forming a new social structure, they also formed a new architectural structure as a concrete symbol of a new country.

Figure 4.10: Aerial view of the national assembly building

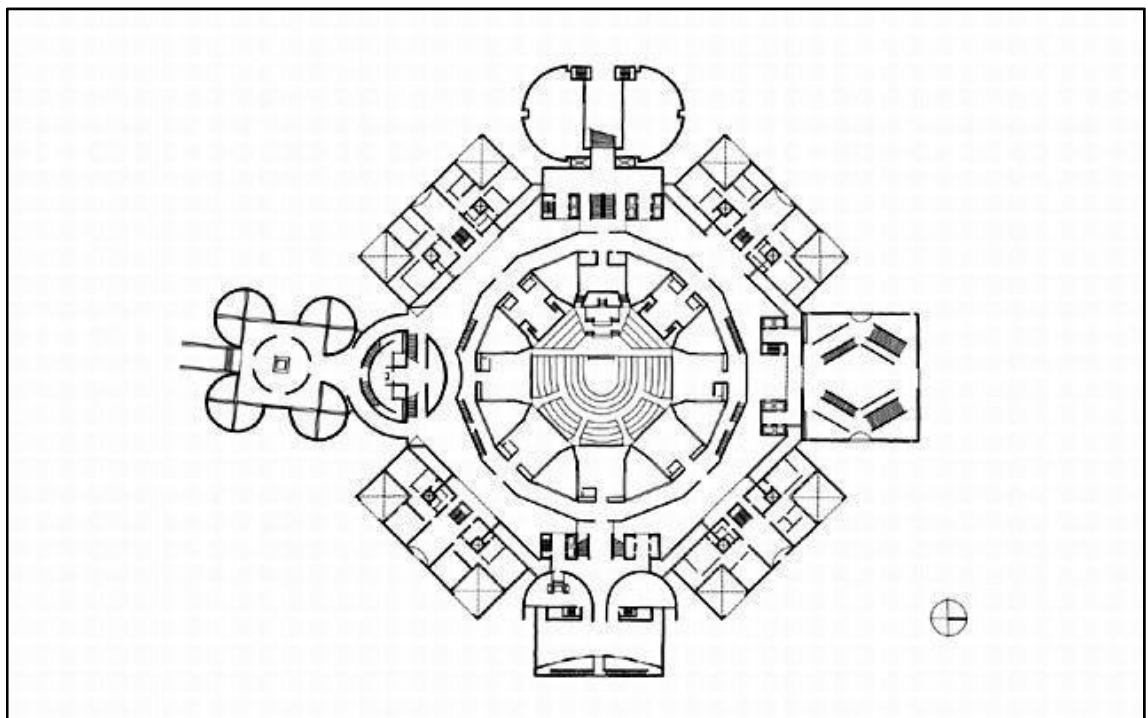


Source: [online]. <https://www.studyblue.com/notes/n/test-ii/deck/7528337> [accessed 15 January 2015].

The history of Bangladesh is briefly transferred in order to comprehend the meaning of this symbolic structure. “In 1947, British rule over India came to an end. As a result of the ensuing partition, two independent countries were born: India and Pakistan, the latter made up two territorial entities, namely West and East Pakistan. East Pakistan soon became a hotbed for autonomist movement” (Diba 1989 p.1). After twenty-three years, in 1970, East Pakistan due to social, economic factors and natural disasters like floods, the movement seeking independence for East Pakistan gained momentum. “Thanks to Indian support, East Pakistan achieved independence, adopting the name of Bangladesh, and Dhaka became its capital. In 1971, the assembly building designed for East Pakistan

became the main Assembly Hall of the new nation of Bangladesh” (Diba 1989 p.1). In 1971, after Bangladesh officially broke from Pakistani rule, National Assembly Building in Dhaka has become the image of the ideals of the new country. The building became a symbol of freedom and pride for the Bengali people.

Figure 4.11: Plan of the national assembly building



Source: [online]. http://www.archdaily.com/83071/ad-classics-national-assembly-building-of-bangladesh-louis-kahn/national_assembly_plano_1/ [accessed 15 January 2015].

The National Assembly Building housing all parliamentary activities sits as a massive structure in Bengali desert creating an iconic and dominant image. The assembly having a centralized, geometric spatial organization has eight halls that are concentrically aligned around the parliamentary grand chamber. The parliamentary chamber being the center of the design can be interpreted as the concentration of power and the core of the nation. This central volume is supported by other encircling volumes that are hosting offices, hotels, restaurants, and offices. “Khan planned the design in five major components that were to be placed in a ‘necklace formation.’ These comprise the

National Assembly block, the centre-piece of the entire project.”³¹ “The core of the composition is the assembly chamber, a 300-seat, 30-meters high, domed amphitheater and the library.”³² The complex is oriented in north-south axis, centering the Assembly Chamber and creating a focal point attention. As it is previously discussed orientation and location of the edifice plays a crucial role in manifesting the message. In this case by centering the parliament, the architect emphasized the political power and the ruling body in an architectural manner. The parliament, which is placed in the central volume, is higher than the other eight volumes and being the most illuminated column, getting efficient daylight from the ceiling, it also differentiates itself from the rest of the complex. This hierarchic composition slightly differentiates the main area from its surrounding. Nevertheless, the edifice can be read as a single building from façade. “The entire structure is designed to blend into one single, non-differentiable unit, that appears from the exterior to be a single story.”³³

Despite the fact that the National Assembly Building owns a plain and unadorned image, it was influenced by many architectural styles in history. Kahn has blended and sharply filtered these styles and created a modern, iconic landmark in the urban landscape of Dhaka. “The design process was influenced by local architectural styles, and especially by Islamic pre-Mughal and Mughal architecture, especially the Mausoleum of Humayun in Delhi, the Red Fort at Agra and the Lal-Bagh Fort at Baharpur. Roman baths and pantheons were also studied, and the effects of the beaux-arts are also represented in the complex. In all, the design embodies a synthesis and interpretation of many cultures, endeavoring to be a symbol of universalism.”³⁴ In the process of refinement of all those styles, geometric forms have an important place. Although the main parliament volume is not exactly a round form because it sits on an octagonal ground plan, the shape is very close to the circle. Moreover, other eight

³¹ National assembly building, *Architecture for islamic societies*, [online]. http://www.akdn.org/publications/akaa/1989_126.pdf [accessed 12 February 2015].

³² *National assembly building of bangladesh*, [online]. <http://architectuul.com/architecture/national-assembly-building-of-bangladesh> [accessed 12 February 2015].

³³ *National assembly building of bangladesh*, [online]. <http://architectuul.com/architecture/national-assembly-building-of-bangladesh> [accessed 12 February 2015].

³⁴ National assembly building, *Architecture for islamic societies*, [online]. http://www.akdn.org/publications/akaa/1989_126.pdf [accessed 12 February 2015].

volumes that are circumscribing the parliament building, give the perception of the idea of the circle. This plan organization speaks both a local and a universal language since the circle is the primordial, universal symbol of all humans. With this architectural composition, having a circle in the middle as the most dominant element, power can be manifested excessively. Thus, “Arising from the desire of establishing government power, it has become the image of the ideals of development and democratization” (Diba 1989, p. 3).

Choice of material and the application is a substantial element in the design. In the previous chapter, it is discussed how the material quality helps in increasing the concept of power. “The entire complex is fabricated out of poured in place concrete with inlaid white marble, which is not only a modernist statement of power and presence, but is more of a testament to the local materials and values”.³⁵ Built of rough-shuttered and concrete walls and bands of white marble create a solid look. Not only the structural elements but the elements used in landscape design effect the given message. “Kahn successfully used water in his landscaping design for the Assembly grounds. In a country that sees too much of water in the form of floods and rains, he managed to overcome the prejudice felt by many, and demonstrated that the control of water is what is important.”³⁶ Contradictorily to the concrete, a fluid element, water can also become a symbol of power in relation to local connotations.

Like National Assembly Building, which is regarded as a national emblem of Bangladesh, most of the assembly buildings all over the world have similar morphology. They are generally designed in a similar manner, which is to show the ruling power through a circular form. “The literature suggests that, after the Capitol Complex of Chandigarh, designed by Le Corbusier, it is the most significant work of modern architecture in Asia (Ashraf, 1994)” (Chouldhury, Armstrong, Jones, 2013, p.294). Like in one of the most iconic work of Le Corbusier, which is the Capitol Complex in Chandigarh, the assembly hall is designed as a circular chamber, protruding

³⁵ Kroll, A., 2010. *AD classics: national assembly building of bangladesh/ louis kahn*, [online]. <http://www.archdaily.com/83071/ad-classics-national-assembly-building-of-bangladesh-louis-kahn/> [accessed 07 November 2014].

³⁶ National assembly building, *Architecture for islamic societies*, [online]. http://www.akdn.org/publications/akaa/1989_126.pdf [accessed 12 February 2015].

from the rectangular volume. Vidhan Sabha (1980-1996) in Bhopal, India designed by Charles Correa having a mandala ground plan again manifests the power through the circle. Similarly Headquarters of the United Nations (1948-1952), London City Hall (2002), Reichstag with its new dome designed by Norman Foster in 1993, these instances can be increased, are all symbolizing political power with circular forms.

5. ALTERNATING AND REMAINING MEANINGS OF CIRCLE

*Are there symbols which may be called
constant; proper to all races, all societies,
and all countries?
CÉSAR DALY
(Lethaby 2004, p.2).*

The fifth chapter, Altering and Remaining Meaning of Circle, is the heart of the thesis, where all information is intertwined in a systematic way. In this chapter the reason of using the circle in architecture is questioned. Moreover the altering and remaining meanings of this symbol is discussed with numerous examples from architecture history.

Circle, which is defined by many philosophers and psychologist as the mirror of self, it affects directly our deepest being by skipping our conscious phase. As it is discussed in the second and the third chapters, regarding the context, Being and circle can be used as synonyms. When one asks the essence of Being, from a Nietzschean point of view one can answer it is the 'will to power'. Thus, this is another interpretation or definition of the symbol circle. Circle has always represented the true nature of human, this doesn't change. 'Will to power', being the essence of Being doesn't change. So what is changing, why do we comprehend the circle differently than it used to be? What has changed is the quality of power. The power which was aimed to be achieved used to have a sacred character and turned out to be profane. This shift in the quality of power reflected to the meaning of circle and obviously to architecture. The meaning of circle representing power has changed during the time and this transition of meaning has reflected to architecture in a concrete way. Edifices from different centuries may have a similar typology but the message they give varies. Exemplifying, Temple of Vesta (300BC), having a round ground plan, was symbolizing the civic hearth of the city. "Hers was the fire which warmed and nourished a benign and fertilizing power. But Vesta was an earth-bound power, who tied the household to the house, the people of a city its soil" (Rykwert 1988, p. 99-100). Temple of Vesta was a symbol of divine

fertilizing power, setting a connection to other realms by the cosmic fire held in the center of the temple. Another example can be given as Fang Yuan Building (2013) which is situated in Shenyang, China. Fang Yuan Building has a shape of an ancient coin. The office building located in the heart of Shenyang Financial Development area, is an iconic building, symbolizing financial power. Those two edifices belong to different times, different geographies, having varied functions. The reason why I can discuss them in the same sentence is the manifestation of power through the circle. Like it is perceived, the circle never left meaningless, the meaning of circle has never annihilated or has never become less important. Circle has always kept its prominence by updating its meaning according to the time. The shift in the meaning of circle lies in the history. In the following, the altering meaning of circle – the shift from sacred to profane, and remaining meaning of circle – power – is simultaneously analyzed through the history.

The idea why people used circle or sphere in architecture can be reasoned with their ‘will to power’. By using architecture as a tool people either aimed to reach the powerful one or manifest their own power. To prove this statement, one needs to clarify what architecture is.

The assumption that architecture is invested with meaning and is a means of conveying meaning is not a new one. Throughout history, architects and writers in the architectural field have argued and discussed this subject. Many contend that architecture is more than utilitarian since architecture is the evidence of social life. Architecture is capable of conveying social and intellectual meaning including expressing the religious belief and political practice of society through its physical and visual form. (Rappoport 1990; Vitruvius 1991; Morris 1998) (Ismail 2014, p.2).

Architecture is a strong medium for giving a message to the user; it is a form of mass communication, in which symbols play a big role in transferring this message. Another important word which should be clarified before analysis is power. The term power is used in many disciplines in various ways. “The term derives from the Latin *potere*, ‘to be able’ – the capacity to achieve some end” (Dovey 1999, p.9). In the scope of this thesis, what is meant by power is defined in the following quote; “Power is ability... to define and control circumstances and events so that one can influence things to go in the

direction of one's interests'. The 'capacity' to imagine, construct and inhabit a better-built environment is what we mostly mean by empowerment here" (Dovey 1999, p.9). Power in this sense is used in terms of one's essential ability in forming an environment.

Starting with the primitive settlements, by observing and imitating nature, early man wanted to create a bond with this cosmic power. They built their own microcosms and created their power centers. The prehistoric site Göbeklitepe (10000-8000) being the oldest temple in the earth is set constituted of multiple circular structures which are set on top of the hill. Having both a spiritual orientation and microcosmic representation, Göbeklitepe is a good example of the manifestation of sacred power through circle. Chirokotiya (7000-4000 BC) in Cyprus, Zincirli also named as Sam'al (3000 BC) in Turkey, Smyrna (3000 BC) also in Turkey are all circular prehistoric settlements. More examples can be added to this list. The center of the circle was a symbolic gate to divinities and higher powers. Plutarch's statement about the foundation of Rome (800 BC) is a good example in underlining the relation of circular city and divine powers. The city of Rome, which is mentioned in the chapter, Microcosmic Representation, was founded by drawing a circular boundary of the city with a bull.

This is further emphasized by the fact that the city has a center, the mundus, which established the city's relationship to the "other" realm the abode of the ancestral spirits. (The mundus was covered by a great stone, called the "soul stone". On certain days the stone was removed, and then, it was said, the spirits of the dead rose from the shaft) (Jung 1968, p. 272).

That is why it is said that Rome is the navel of the earth, and all roads lead to Rome. Rome is not the only city to be founded on a circle plan. Following the Lakota philosophy, Native American settlements were circular, meeting divine powers in the middle. Jerusalem does not form a perfect circle, but its center is important in the sense of divine powers. "Jerusalem had no temple at its center, for God's immediate presence was the center of it" (Jung 1968, p. 272). Just like Jerusalem, in Tokyo City (c. 18th century) the center has an important symbolic value, irradiating the sacred imperial power.

(...) it does possess a center, but this center is empty. The entire city turns around a site both forbidden and indifferent, a residence concealed beneath foliage, protected by moats, inhabited by an emperor who is never seen, which is to say, literally, by no one knows who. Daily, in their rapid, energetic, bullet-like trajectories, the taxis avoids this circle, whose low crest, the visible form of invisibility, hides the sacred "nothing." (Barthes 1982, pp. 40-42).

Darabgerd also called the Round City of Darius (c. 500 BC) in Iran, City of Firuzabad (300 AD) also situated in Iran should be touched on, under sacred circular cities. Platon's ideal city Magnesia (300 BC) also dates back to this period. His utopia Magnesia is described as following: "The city as a circle represents the heavenly ideal or archetype. That is the model which the rulers of the state are required to study, thus refining their mentalities and imbuing them with the sense of proportion that enables them to govern justly" (Michell 2008, p. 131). The perfect shape circle is further used in Medicine Wheels in Native American culture and in the Yezidi traditions where the circle creates a ground for the individuals for meditative purposes, where they meet with divine powers.

When we come to the modern times, the number of circular settlements having a sacred message decreases. The circle in modern times mostly hosts the profane idea, but we cannot say the sacredness in the circle has totally lost. From one of the few contemporary sacred examples, Auroville (1968) in India has started as a utopia. In Auroville, having a circular plan, a temple rests in the center which is called Matrimandir. Matrimandir is a large golden spherical building. Auroville is designed in the shape of a spiral galaxy symbolizing the evolution and life of humankind's. Matrimandir is the center and is the symbol of the town, "one's attention is greatly drawn by this important and powerful feature at the heart of the city which was seen by the Mother as the "symbol of the Divine's answer to man's aspiration for perfection" and as "the central cohesive force" for the growth of Auroville."³⁷

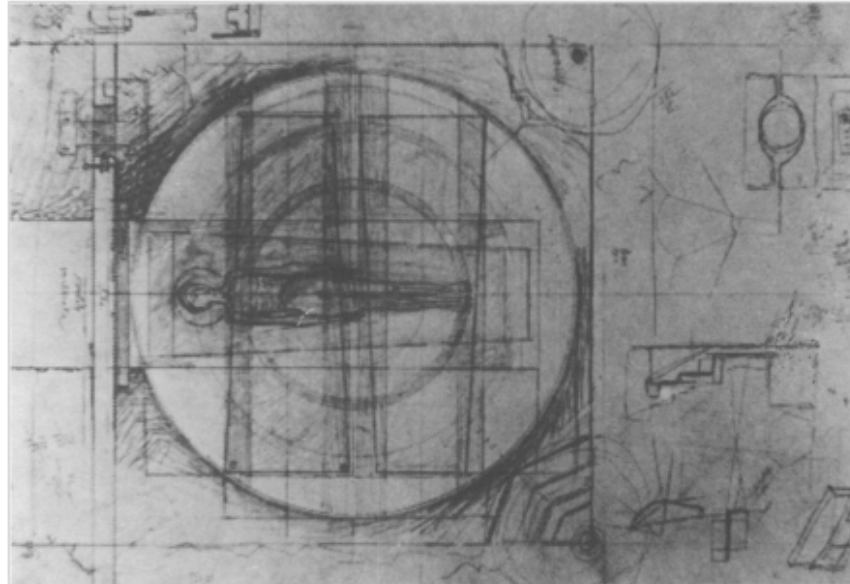
Since architecture relates to the way we understand the world and reflects the perception of our reality, the lack of sacred circular settlements in the modern era does mean

³⁷Auroville the city of dawn, [online]. <http://www.auroville.org/contents/678> [accessed 7 December 2014].

something. As it is soon being discussed, the circular typology of the edifices has continued but the sacredness has almost vanished. This situation tells us that the understanding of the world has changed because they are not in need of sacredness as much as they used to be. This scenario is not only seen in city scale edifices but also encountered in building scale too.

Circular sacred buildings are elaborately discussed in the previous chapter. In this chapter in order not to fall into repetition just the most substantial points are discussed. Beginning with primitive houses, they generally constitute a hearth, which is the very center of their being. This center is where they are connected to higher powers. In these edifices we can both see microcosmic representation and spiritual orientation. Similar to early houses, temples, monuments and tombs are also built in the same manner. Sacred circular edifices can be classified into three groups according to their function; temples, tombs, and monuments. In the process of seeking for sacred circular buildings, I recognized that most of the edifices which were fitting to this qualification were temples, monuments, and tombs. Those three types of buildings manifest power in various ways. Temples like Stonehenge (3000-2000 BC) in England, Tower of Babel (c. 2242 BC) claimed to be in Iran, Temple of Vesta (300 BC), Sanchi Stupa (300 BC) in India, Temple of Heaven (1406- 1420) in China, Tempietto of San Pietro (1502) in Italy, Wheels of Heaven Church (1966) in Amsterdam, and many others are creating a common space in order to unite people in the center where the access to other realms thought to be located. The aim of constructing these edifices is to reach to the holy one. The purpose of those edifices is to create a connection with the divinities and be a part of this power and blend in it. Especially in Tower of Babel the main goal was to reach the source of power which is the God. The tower was sitting on a round ground plan and rising from its center to the sky. The demonstration of ‘will to power’ was grounded and manifested through the circle. The second type of circular edifices is the monuments. Jefferson Memorial (1939-1943) in America, Monument of Unknown Soldier (1982) and Al- Shaheed Monument (1986) in Iraq can be given as examples. These edifices create concrete epic stories willing to carry these stories to eternity. Through the ideas of infinity, sacredness and eternity of circle, those monuments declare power, glory and determination.

Figure 5.1: Drawing of carlo scarpa



Source: Frascari, M., 1987. The body and architecture in the drawings of carlo scarpa, *Anthropology and aesthetics*. (14) The President and Fellows of Harvard College

The last group is the tombs. Tombs can be named as gates to other realms. They are strongly related to divine powers. It relates to the cycle of life and death. “Who bringeth all things to birth, reareth them, and receiveth again into her womb” (Eliade 1959, p. 139). A dying man desires to return to Mother Earth, to the beginning, to the center of the power, to be born again. Examples to tombs can be given as; Cenotaph for Newton (1784) which is not constructed, Mouseleum at Majdanek (1969) in Poland, Brion Monumental Tomb (1978) in Italy. Brion Monumental Tomb designed by architect Carlo Scarpa is described as;

The generating figures of the plan are the stretched-out bodies of the parents and the dead son. (...) The circle and the square of the composition of the plan became the absolute motif of the reality of death expressed in an architectural artifact. (...) Scarpa has regenerated and reinterpreted the proportional process of the so-called Vitruvian man. The outstretched body of the youth becomes the origin of the geometry of the square and the circle, and the localization of the center is extremely significant (Frascari 1987, p. 138).

Figure 5.2: Brion monumental tomb



Source: [online]. <http://www.arcspace.com/the-camera/gerald-zugmann/> [accessed 22 January 2015].

Carlo Scarpa explains his design with these words; "I wanted to show some ways in which you could approach death in a social and civic way, and further what meaning there is in death, in the ephemerality of life - other than these shoe-boxes."³⁸ In the design of the tombs like Scarpa points out the rather than box –like coffins, circles fit the nature of life and death, symbolizing the ephemerality and also the eternity of life.

³⁸ Smith, P., 2015. Carlo scarpa essays, brion monumental tomb, *O2 landscapes*, [online]. <http://www.o2landscapes.com/pages/essay-2b.php> [accessed 17 December 2014].

As is seen, the power of the circle in sacred manner finds a body in architecture in various building types. The 'will to power' unconsciously pushes people to circles to express their will to be the part of this divine power. Tombs, monuments, temples and primitive dwellings are architectural expressions of this idea. In those mentioned building types, we can encounter the third component of Nietzsche's self-sustaining, independent psychological theory of 'will to power'. Previously mentioned in the chapter, Circle in Philosophy, "the idea that we have a capacity to channel this primitive drive into constructive and creative expressions through a process of sublimation by which we satisfy this urge in indirect, "spiritual" ways in order to acquire an intense subjective "feeling of power"" (Stack 2005, p. 194) lies as the essential thought behind sacred circular edifices. In this sublimation process there isn't a confrontation, in contrary there is fear. The weakness of the man who is in fear of the unknown is endeavoring to be a part of it this great power. While the fear of unknown started to be solved, as people begin reasoning the nature with science and intellect, the quality of power started changing. If we look at the chronologic sacred circular buildings chart, one can see that the number of edifices reflecting this idea decreases as we come to our time. This breaking point in history, reflecting architecture is discussed with examples.

Declaration of sacred power through the circle is rarely encountered in the modern era. By dominating the nature, and by reasoning the cosmos with science instead of sacred powers, people estimated that mind and intellect are omnipotent. Thus, they raised their role in the cosmos in another dimension. The power of intellect subrogated the power of the sacred unknown. The change has forthrightly become evident in the architecture. The way of manifesting the power hasn't changed, but the quality of power has shifted from sacred to profane. In this case, unlike the sacred buildings, the main aim is not to reach the powerful one, but to point to their own power.

Joseph Campbell in his book *The Power of Myth* clearly explains the transition of world perspective with his example.

When you approach a medieval town, the cathedral is the tallest thing in the place. When you approach an eighteenth-century town, it is the political palace that's the tallest thing in the place. And when you approach a modern city, the tallest places are the office buildings, the centers of economic life. If you go to Salt Lake City, you

see the whole thing illustrated right in front of your face. First the temple was built, right in the center of the city. This is the proper organization because the temple is the spiritual center from which everything flows in all directions. Then the political building, the Capitol, was built beside it, and it's taller than the temple. And now the tallest thing is the office building that takes care of the affairs of both the temple and the political building. That's the history of Western civilization from the Gothic through the princely periods of the sixteenth, seventeenth, eighteenth centuries, to this economic world that we're in now (Campbell 1991, pp. 118-119).

In this quote, the reader should reconcile the evaluation of meaning in cities with the evaluation of the meaning of circle. The quality of manifested power through circle has a parallel change to this situation.

What triggers this change in the worldview and the architecture takes us to the Enlightenment. Starting with Enlightenment and gaining momentum in the Industrial Revolution radical changes in interpretation of the cosmos has happened. The power has changed its form. Following a chronological path it is easy to say that sacred forms of power have lasted until the Enlightenment. Until Middle Ages, sacred edifices were the symbols of power in cities, with the Enlightenment the power started to be symbolized by the political authority and the buildings which are hosting this authority. These types of organizations are encountered in Renaissance and Baroque cities. With the Industrial Revolution, power has transferred from the central authority to the private sectors, creating multiple centers of power. The transformation of profane power through circular cities will be briefly addressed.

Starting with Palma Nova City (1593) in Italy, having a central organization, it is easy to say that it reflects the ideals Renaissance. Renaissance (14th-17th century), meaning rebirth, symbolizes the social and political upheaval as well as the intellectual and artistic progress.

Centering the ruling authority, Palma Nova is one of the crucial examples of city planning in the shift from sacred to profane.

Following Renaissance, with the Enlightenment (1650- 1780) intellect has risen more, giving another name to this era which is Age of Reason. Causing a scientific revolution effect of the Enlightenment has spread to all disciplines. The motto of this era was "Sapere Aude!" meaning dare to know. Even the word 'dare' alone is a manifestation of power. Rene Descartes' (1596 -1650) famous saying "Cogito, ergo sum," 'meaning I

think, therefore I am' has a similar idea with the dare to know. With the Enlightenment, Being is reasoned by intellect, the power of knowledge was the center point of this era. Mentioned earlier University of Virginia Rotunda (1822-1826) by Thomas Jefferson is a late reflection of this idea. According to Foucault, "Knowledge, as human or social sciences, and power relations constitute each other by rendering the social world into a form that is both knowable and governable, each being dependent on the other" (Simons 2002, p. 27). His theory is clearly seen in the organizations of settlements.

Foucault analyzes the simultaneous emergence in the early nineteenth century of the modern human sciences and of certain new 'technologies' for the governance of people. 'Power and knowledge directly imply one another. (...) As a general formula, Foucault's power/ knowledge thesis argues that power relations and scientific discourses mutually constitute one another. Foucault does not attempt to break down the elements of that mutual constitution systematically, deliberately entangling power and truth (Simons 2002, p. 27).

With the Enlightenment religious constitutions lost their power leaving its place to political power. Political power was sitting in the center of profane circular cities and profane circular buildings were hosting the ruling body. Royal Saltworks at Arc-Et-Senans was designed in this period. This circular city by locating the house of the Director, in the in the center aims to give the message of empowerment and control. The organization scheme of Royal Saltworks can be grounded on the second component of the 'will to power' theory, where the director in the center is creating power over others because of his fear of chaos. "(2) he related notion of an unconscious or sometimes conscious tendency to achieve power over others because of deeply rooted feelings of fear, insecurity, and weakness" (Stack, 2005, p. 194). A very similar organization is seen in Circleville (1810) in Ohio where the government building rests in the center of the circular city.

When we come to the Industrial Revolution (c. 1760-1840) the main power became the economy. Finance played a big role in developing cities seizing and creating new centers. From industrial revolution until now economy is the key force of creating power over people. The Great Globe (1851) designed by H.R. Abraham for the Expo in

England is one of the early examples of constituting economic power- attraction relationship. By creating attraction points in the city financial power was manifested through circular buildings exemplifying; Market Hall (1955) in Algeria, Guggenheim Museum (1959) in America, Montreal Biosphere (1967) in Canada, Disney Epcot (1982) in America, Ericsson Globe (1986) in Sweden, Core Pacific City Mall (2001) in Taiwan, Ring of China (2010)...examples can be increased.

Yet for Nietzsche much of what we call civilized life is really a cover for an all-consuming 'will to power.' From this view, which is also rather Machiavellian, all forms of legitimating are masks for the individual 'will'. Because the naked 'will to power' cannot be legitimized as an end in itself, either self-deceit or hypocrisy is necessary to the effective pursuit of power (Dovey 1999, p. 13).

Other types buildings belonging to this civilized world like the headquarter buildings and financial buildings relating to the economy are all having circular forms, with the idea of the 'will to power'. Also the headquarters buildings and financial buildings relating to economy are all having circular forms like 30 St Mary Axe (2001-2004) in England, Doha Tower (2005- 2010) in Qatar, Aldar Headquarters Building (2010), in United Arab Emirates, Fang Yuan Building (2013) in China... The everlasting motivation of using circles in imposing the idea of power continues in the architecture of today too. The reflections can be seen in the office, industrial and governmental buildings, manifesting a profane power. This motivation can be explained by the first criteria of self-sustaining, independent psychological theory of 'will to power'; "(1) the postulation of an unconscious, primitive craving for power primarily rooted in our evolutionary development" (Stack 2005, p. 194).

This chronologic order shows how the circle has changed its meaning over time. With one edifice, the whole evolution scenario can be summarized. Hagia Sophia, first being a church, then a mosque always being a significant symbol of religious authorities and the ruling body has turned into a museum in the end. This transition shows the changing ideology of people and the journey from sacred to secularized cosmos. Circle has always been important, being an envelope of both sacred and profane world view. We can read the history of civilization from circle. Through circle people declared their innermost truth, their 'will to power', like Black Elk (1863 -1950) states; "the power

of the world always works in circles, and everything tries to be round” (Dudgeon 2008, p. 23). This is why the circle is attributed as the mirror of psyche, origin of Being.

6. CONCLUSION

*Like a geometer wholly dedicated
to squaring the circle, but who cannot find,
think as he may, the principle indicated -*

*so did I study the supernal face.
I yearned to know just how our image merges
into that circle, and how it there finds place;*

*but mine were not the wings for such a flight.
Yet, as I wished, the truth I wished for came
cleaving my mind in a great flash of light.*

*Here my powers rest from their high fantasy,
but already I could feel my being turned-
instinct and intellect balanced equally*

*as in a wheel whose motion nothing jars-
by the Love that moves the Sun and the other stars.*

(Alighieri 2003, p. 893)

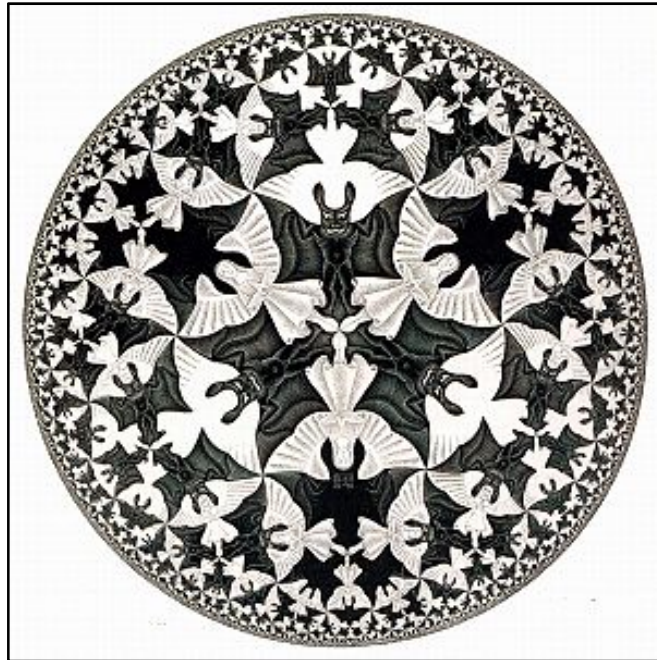
Circle has always been an important symbol in expressing ideas. The indefinable and incomprehensible intangible concepts were defined with the circle symbol. Circle has been used consciously or unconsciously in many dimensions of life, like myths, rituals, art, architecture, overall in all fields in culture of civilization. Carl Gustav Jung states that:

Every building, sacred or secular, that has a mandala ground plan is the projection of an archetypal image from within the human unconscious onto the outer world. (...) It need hardly be emphasized that even in architecture the projection of the psychic content was a purely unconscious process. Such things cannot be thought up (Jung 1968, p. 273).

In the practice of architecture as Jung claimed, the circles are built unconsciously, which come from deepest insights and representing our spirit. Not only been used in architecture, circular forms were used in arts as the tools of expressing our depths. Swiss-German painter Paul Klee (1879-1940) has painted pure abstract forms by putting circles in dominant positions. Dutch graphic artist Maurits Cornelis Escher (1898-1972) was also known for using circles. Especially in his 'Circle Limits' series his main concern was exploring the limits of the circle. In this series, the boundary of the circle

was symbolizing infinity. Like in arts and architecture, in literature the circle has the utmost importance.

Figure 6.1: Escher's circle limit iv



Source: [online].

<http://www.mcescher.com/gallery/mathematical/circle-limit-iv/> [accessed 28 April 2015].

In the novel *Flatland: A Romance of Many Dimensions* (1884) written by the theologian Edwin Abbott (1838- 1926), describes a two-dimensional world where the geometric shapes live. In this book, where social classes are criticized, as the number of the sides of the shape increase, the shape gets more status, in this context circles are put in the highest social class and attributed as the most powerful group. “Finally when the number of the sides becomes so numerous, and the sides themselves so small, that the figure cannot be distinguished from a circle, he is included in the Circular or Priestly order; and this is the highest class of all” (Abbott 1992, p. 7). Abbott while drawing the relation of circle and power also underlines the importance of circle. Examples about the circle in various disciplines in expressing ideas can be increased, but the substantial thing that should arouse our attention should be the reason of using

this symbol so often and all the time. As Jung has claimed it is not a thought up thing, so how can everyone is aware of this symbol. The explanation of Dr. Mr. L. von Franz can give an answer to this phenomenon. “Dr. Mr.-L. Von Franz has explained the circle (or sphere) as a symbol of self” (Jung 1968, p. 266). Circle pointing the single most vital aspect of life is the ultimate common symbol of people. Even though it is not imposed from outside, we know what circle is from inside.

Instead of turning our back to the unstoppable expressions of circle bursting from our primitive side, what should be done is to understand the reasons. The journey through this primitive channel will make one reconnect to himself and rescue him from the tension of the modern world. Unfortunately in today’s world we are in a repulse like in the myth, Tower of Babel. The will to dominate the nature, the production of exploitive ideologies has put people in a big dilemma. As a result of the change in world view, the Modern world, serving inhuman conditions, has mostly lost its connection to sacredness. According to Schlemmer’s opinion who is sjdhakjsdh the world is driven into two different channels. First one is the mechanized impulse, where the man is as machine and the body as a mechanism. The second channel is the primordial impulse linked to the urges (Causey 2006, p. 82). People became mechanized, housed turned to a machine to live in. As a result of wrongly directed power, a restless world has born. The wholeness of being is given harm. Wholeness and unity are the keywords in this context. Wholeness is a balanced, neutralized condition, unlike the mind and soul disintegration of our time. Wholeness has been put into words through circle in literature as following:

In the short story Aleph (1945) written by the Argentine writer Jorge Luis Borges (1899- 1996), Aleph, which relates to the origin of the universe a sphere is depicted. This sphere is the window to the existence, shows the wholeness of the entire universe.

On the back part of the step, toward the right, I saw a small iridescent sphere of almost unbearable brilliance. At first I thought it was revolving; then I realized that this movement was an illusion created by the dizzying world it bounded. The Aleph’s diameter was probably little more than an inch, but all space was there, actual and undiminished (....) I distinctly saw it from every angle of the universe (Borges 1945, p. 9).

A very similar example is also used by Abbott in his novel *Flatland: A Romance of Many Dimensions*. When the main character, which is a square, perceives the third dimension he sees the entire universe as a harmonious sphere.

“I looked, and, behold, a new world! There stood before me, visibly incorporate, all that I had before inferred, conjectured, dreamed, of perfect Circular beauty. What seemed the centre of the Stranger’s form lay open to my view: yet I could see no heart, nor lungs, nor arteries, only a beautiful harmonious Something—for which I had no words; but you, my Readers in Spaceland, would call it the surface of the Sphere.” (Abbott 1992, p. 64)

In the beginning of this chapter, a section from *The Divine Comedy* is given which points out to the beauty, perfection and wholeness with the same form; circle. In the end of the *Divine Comedy* where the mystery of the existence is solved, where the unification takes place, Dante explains how circle fits to the principle of oneness with awe.

This essential principle of wholeness can be further analyzed by its etymology.

The etymology of the word whole comes from the Indo-European root kailo, from which also come hale, health, hallowed, and holy. The word hell, though of similar sound, is of quite different origin, coming from the root kel. From this root comes calamity, clamor, concealment, and calumny. Whole, hale, and holy on one side and hell on the other express the ultimate potentialities in human life: good and evil (Doczi 2005, p. 133).

As it previously mentioned wholeness indicates to contrarities and unifies them in a perfect manner. Nyden-Bullock, T., (1998, p. 24) states that:

Instead, Nietzsche and Spinoza understand morality in terms of power. Since everything has the drive to increase its power, every individual seeks what is to her advantage. If a person perceives something as advantageous, she calls it good. If she perceives something as harmful, she calls it evil. In this way, nothing is good or evil in itself. The universe as a whole is devoid of moral content.

From a Nietzschean perspective, like wholeness, power does also constitute contrarities. Good and evil are constituent members of the harmony. Like in the Yin Yang symbol, the perfect balance can be seen in a circle. When the circle is deeply comprehended, then the concepts of wholeness can be understood, and power can be sustained in a positive way. Like it is mentioned earlier, modern era depicts a badly controlled power. The essential 'will to power' can be directed to the good in a moral sense to achieve wholeness and balance.

Architecture shouldn't be perceived as a solely production activity. History, ideology, politics, philosophy and more are interrelated to architecture. There is a direct relation between the architectural designs and structuring of our spiritual function. Circle, reflecting our Being, the expression of our archtypology finds a body in architecture.

The reader may wonder why this topic has chosen for a thesis study, here is my answer: As an architect understanding the language of architecture depicted by symbols is important to understand the cultures and the spiritual needs of people. Today, under the power of intellect, spirituality has vanished to a large extent. Yet the subconscious of the individual is brim with symbols, myths and stories. Refusing this existing reality in us and running towards to another reality creates tension. This tension alienates modern man to his milieu and creates a crisis of inadaptability to his time. As a person who is living in this era and as an architect who is to create spaces for living, this dilemma of the modern man should be the main concern. To deal with this problem one should question and search the production of men, the symbols that they use and the evaluation of world-view. This method connects the modern man to its origins and balances his own life. Furthermore, it is claimed that the study of archetypal symbols can heal people from modern times disease. "We can also see that the arrangement of archetypal symbols follows a pattern of wholeness in the individual, and that an appropriate understanding of the symbols can have a healing effect" (Jung 1968, p. 377). Therefore it is crucial to analyze the meaning of the artifacts and their symbolic values in order to offer an insight into to the existential problems and needs of the modern man.

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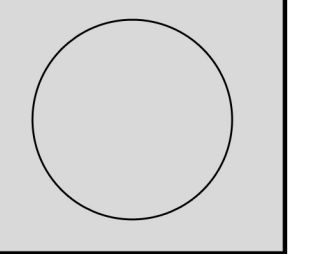
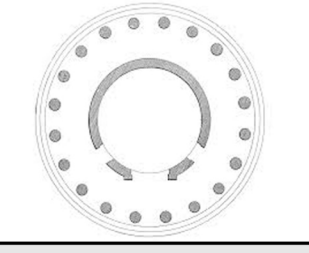

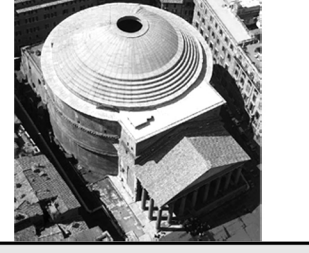
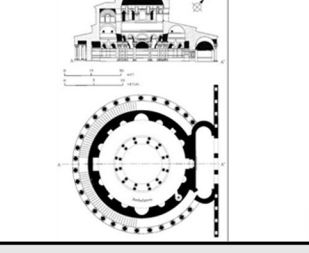




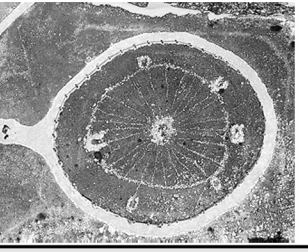
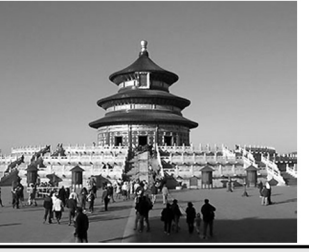

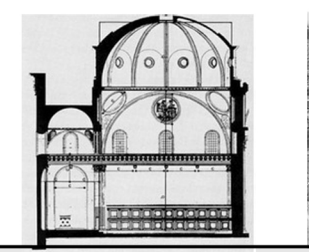

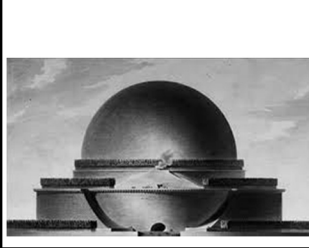



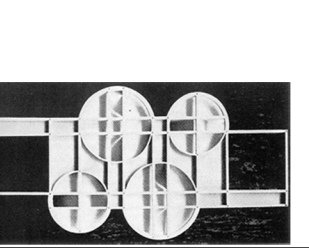
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APPENDIX

APPENDIX 1: Table of Sacred Circular Edifices

APPENDIX 2: Table of Profane Circular Edifices

SACRED CIRCULAR EDIFICES

<p>GÖBEKLİTEPE Turkey 10000-8000 BC</p> 	<p>CHOIROKOTIA Cyprus 7000-4000 BC</p> 	<p>ZİNCİRLİ (SAM'AL) Turkey 3000 BC</p> 	<p>STONEHENGE England 3000-2000 BC</p> 	<p>TOWER OF BABEL Iraq? c.2242 B.C.</p> 	<p>FOUNDATION OF THE CITY ROME Italy 800 BC</p> 	<p>DARABGERD (ROUND CITY OF DARIUS) Iran c.500 BC</p> 	<p>PLATON'S IDEAL CITY MAGNESIA Utopia 300BC</p> 
<p>TEMPLE OF DELPHI GREECE 300BC</p> 	<p>SANCHI STUPA India 300BC</p> 	<p>TEMPLE OF VESTA Italy 300 BC</p> 	<p>TOMB OF CAECILIA METELLA Italy C25 BC</p> 	<p>PANTHEON Italy 118-128 AD</p> 	<p>ST. COSTANZA Italy c.350</p> 	<p>HAGIA SOPHIA Isidore, Anthemius 532-537</p> 	<p>DOME OF ROCK Israel 691</p> 
<p>BOROBUDUR TEMPLE Indonesia c.800</p> 	<p>EL CARACOL CHICHEN ITZA Mexico 906</p> 	<p>TORRE DI PISA Guglielmo, Bonanno Pisano Italy 1173-1372</p> 	<p>BIGHORN MEDICINE WHEEL America c.1300</p> 	<p>TEMPLE OF HEAVEN China 1406-1420</p> 	<p>TEMPIETTO OF SAN PIETRO Donato Bramante Italy 1502</p> 	<p>NEW SACRIFICITY OF SAN LORENZO Michelangelo Italy 1520-1534</p> 	<p>ST. PETER'S SQUARE Gianlorenzo Bernini Italy 1656-1667</p> 
<p>CENOTAPH FOR NEWTON Utopia Etienne- Louis Boullée 1784</p> 	<p>TOKYO CITY Japan c.1800</p> 	<p>DANTE'S INFERNO DIVINE COMEDY Utopia 1861-1868</p> 	<p>JEFFERSON MEMORIAL John Russell Pope America 1939-1943</p> 	<p>KRESGE CHAPEL Eero Saarinen America 1955</p> 	<p>WHEELS OF HEAVEN CHURCH Amsterdam Aldo Van Eyck 1966</p> 	<p style="text-align: center;"><i>more examples can be added...</i></p>	

PROFANE CIRCULAR EDIFICES

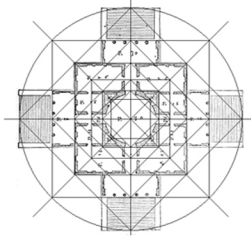
VIKING RING FORTRESS
Denmark
1000AD



PALACE OF CHARLES V
Pedro Machua
Spain
1527



LA ROTONDA
Andrea Palladio
Italy
1566-1571



PALMA NOVA CITY
Giulio Savorgnano
Italy
1593



THE CITY OF THE SUN
Tommaso Campanella
Utopia
1602



ROYAL CRESCENT
John Wood the Younger
England
1767-1774



ROTUNDE DE LA VILLETTE
Claude Nicolas Ledoux
France
1770



IDEAL CITY OF CHAUX
Claude Nicolas Ledoux
Utopia
1775



ROYAL SALTWORKS
Claude Nicolas Ledoux
France
1775



WASHINGTON DC
Pierre Charles L'Enfant
America
1790



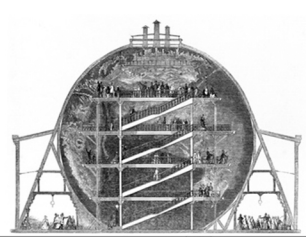
CIRCLEVILLE
America
1810



UNIVERSITY OF VIRGINIA
ROTUNDA
Thomas Jefferson
America
1826



WYLD'S GREAT GLOBE
James Wyld
England
1851-1862



PLACE DE L'ÉTOILE
Georges Eugene Haussmann
France
1853-1870



GENBAKU DOMU
Jan Letzel
Japan
1915



STOCKHOLM PUBLIC
LIBRARY
Erik Gunnar Asplund
Sweden
1920-1928



ATÇA CITY PLAN
Abdi Bey
Turkey
1924



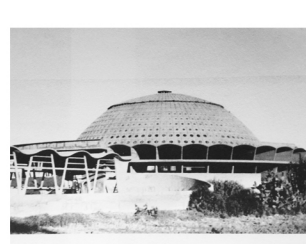
MELNIKOV HOUSE
Konstantin Melnikov
Russia
1927



UNITED NATIONS GENERAL
ASSEMBLY
Oscar Niemayer, Le Corbusier
America
1949-1952



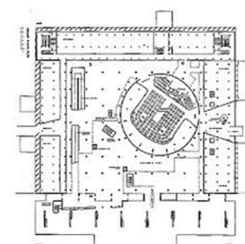
SIDI BEL ABBES MARKET
HALL
Marcel J. Mauri
Algeria
1955



GUGGENHEIM MUSEUM
Frank Lloyd Wright
America
1959



THE PALACE OF THE
CONGRESS
Le Corbusier
India
1953-1963



NATIONAL ASSEMBLY
Louis I. Kahn
Bangladesh
1962-1974



SONSBEEK PAVILLION
Aldo Van Eyck
Netherlands
1965-1966



MONTREAL BIOSPHERE
Buckminster Fuller
Canada
1967



VIDHAN SABHA
Charles Correa
India
1980-1996



DISNEY EPCOT
America
1982



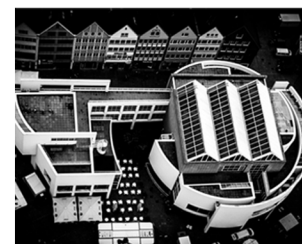
ERICSSON GLOBE
Svante Berg, Lars Vretblad
Sweden
1986



LES ARÈNES DE PICASSO
Ricardo Bofill Levi
France
1986



ULM EXHIBITION AND
ASSEMBLY BUILDING
Richard Meier
Germany
1986-1992



more examples can be added...