

Sense of Place in Belowground Levels

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ABSTRACT

This dissertation examines inferentially the sense of place in belowground levels. Compatibility between human and nature led to earth covered dwellings in ancient history. Therefore physical compatibility is recognized as a wealthy motive in earth covered dwelling. For permanent dwelling, both human soul need to be in calm and proper situations. Therefore, in permanent dwelling soul and place compatibility has significance as much as physical compatibility. Nowadays in contemporary architecture again nature is manifested. Deliberation to relations between senses and lived space causes establish appropriate schemes in constructing a place for human live.

Belowground levels, as places which are permanent as dwellings during history and even today, can be qualified to be considered from a physical and a phenomenological approach. The aim of this dissertation is to examine the specific position of belowground levels according to sense of place. Through the examples of various types of belowground level places with various functions and properties, who consequently illuminate the “sense of place” in belowground levels. Examples analyze the desire for “sense of place” in belowground levels. The aim of this research is to determine the quality of place in belowground levels, and also the significance of quality of place in creating appropriate places for human beings.

ÖZET

Bu çalışma mekânların yer altında kalmış hislerini inceleyip ortaya koymaktadır. Eski çağlarda doğal hayatta insanın yaşamına en elverişli yerler doğanın sunduğu mağaralardı. Dolayısıyla doğal şartlar insanın mağarayı seçmesi için güçlü bir etken oldu. İnsanların kalıcı meskenlerde yaşayabilmeleri için doğal şartlarla birlikte ruhen de sakin ve uygun şartların varlığı gerekiyordu. Dolayısıyla kalıcı mekânlarda yaşamak için ruh ve mekân uyumsallığı doğal şartlar kadar önemliydi. Mekân ve hisler arasındaki ilişkinin gelişimi daha uygun mekânların ortaya çıkmasını sağlamıştır. Günümüzde modern mimarinin de doğallığa doğru bir eğilim göstermeye başladığı söylenebilir.

Tarihte ve hatta günümüzde modern mimaride dahi insanlar yer altındaki mekanlarda yaşadılar. İnsanların yer altı mekanlarına ilgi duymalarının fiziksel ve fenomenojikal sebepleri bu tezde ortaya konmaktadır. Aynı zamanda bu araştırma hedef olarak yer altındaki mekanların hislerini destekleyerek özel pozisyonlarını da belirlemektedir. Bu mekanların hislerine dair örnekler de tespit edilerek ayrı ayrı analiz edilmekte ve her mekanın kendine has hisleri belirlenmiş olmaktadır. Sonuç olarak insanların uygun mekanlarda yaşayabilmeleri için o mekanın hislerinin önemi ortaya konmaktadır.

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CHAPTER 1

INTRODUCTION

1.1 Research Areas in General

Underground shelter or “within the earth” covering is one of humankind’s earliest shelter selections, in the form of natural caves. In early human built settlements, in a manner adapted to the climate with the help of materials and resources provided were by nature. In many communities, shelter was made by the use of the ground and also many humans found accommodation in homes hewn from rock. Some underground dwellings continued till nowadays even, such as Yao Dong in china. (Rob Roy, 2008)

As Ernest Von Meijenfeldt (Ernest Von Meijenfeldt, 2004) summarized, in spite of some long continued earth sheltering settlements which located human in the nature, Since Greek architecture moving from nature was apparent. From that time till 18th century man placed himself above nature. In that period architecture was, in a sense, a reflection of the ascendancy of man over nature. In the age of enlightenment in the 18th century, by the Romantic Movement, change in the relationship with nature, manifested in human settlements. That attempt to create associations with nature by using natural forms and motif continued in 19th century. In the beginning, effort for a rehabilitated association with nature was nostalgic. In modernism there are no clearly visible links with the landscape and nature, however cases of intuitive relation with nature exist in Le Corbusier and Frank Lloyd Wright works. In contemporary sustainable architecture evidently, for many architects such as Emilio Ambasz, Renzo Piano and Norman Foster, the architecture’s task is working with

nature, with landscape, in the context. Through history, man referring back to nature has been a tangible matter, and belowground level means seeking an association with the environment and landscape, as well as belowground levels sheltering and looking for relationship between buildings and nature and giving them form. The increasing interest in referring back to nature and making relations between body and landscape has heightened the need for search about agents related to the relationship between human and nature, On the other hand, people look for new associations between earth as nature's mother and buildings as a space to shelter the human body and soul.(Von Meijenfeldt, 2003)

Loretta Hall mentioned significant being below ground levels instances, of vernacular as well as modern developments existing in China, Japan, Asia, America, throughout Europe, Australia and Russia. In spite of dissimilar quantities of within the earth in each case, all of them achieve some of the qualities of being within the ground. (Hall, 2004)

The continuation of settlement in below ground levels illustrates logical interpretations on the subject of below ground level settlement. Firstly, physical sustainability gives the buildings the ability to exist, and secondly metaphysical sustainability allows humans to still to live in them.

Consistently, with long term dwelling in earth sheltered and also referring back to the belowground level design, contemporary sustainable architecture emphasizes the existence of sense of place in belowground levels.

The spatial position of belowground levels has become a topic for analysis in sustainable contemporary architecture. Earth sheltered and underground locations for contemporary sustainable architecture on one hand the study of location of human

being on the other hand the location for human performance has become an important aspect of studying the levels positioned below the ground.

Although considerable research has been devoted to building and nature relation, less attention has been paid to nature and human relation in the field of building.

Yet, in spite of all searches on physical agents of body and ground relations in late 20th century, there is a lack of investigation of human soul location in space, in other words, human sense of place. It is well related to satisfaction of specific location and creating desirable places for human beings. Sense of place is one of the reasons to make humans reside in locations in the other words humans desire the sense of place to reside in certain locations. Sense of place inspires people to continue for living in a certain location or to leave the place.

The geography of the buildings in belowground levels has been studied in recent years. But still the study of the relationship between human senses and its location in belowground levels can be very wide. To study about sense and location, the word which come after sense, and describe the position of location, concept of place should be studies. In this search, because of these thoughts about belowground levels as spaces that humans experienced, place is a more obvious word to define the situation in comparison to space, because there is sense in it and experiences happen in it (according to the definition of place).

Recently there has been growing interest in the phenomenological meaning of the concept of place. Phenomenology considers the essence of things. Attention to the sense is another issue in phenomenological consideration. Meaning of place from metaphysical position, ideological considerations and experience in the everyday life of home and city, was under study in the 20th century by philosophers and architects

after Bauhaus School (Lefebvre, 1991). Simultaneity with that revolution in defining perception and familiar notions as space, place, territory, city, region, location, and environmental experiment of place with the stimulation of time also was another focus by recent philosophers such as Merleau-Ponty, Martin Heidegger and others.

Investigation about sense of place and phenomenology of perception in 20th century by synchronism philosophers led to initiate new generation of ideas about the perception of place. In other words, the philosophers attempt initiated a revolution for defining place, sense and perception. (Lefebvre, 1991)

There is a conscious and a subconscious awareness of place by perceivers and users. The awareness of place has effects on users. Whether conscious or not, they make things real, tangible, and secure. Comfort is one of the basic desires of human beings. Architecture is a main focal point of such desires and also the metaphysical idea of comfort. If the body and soul desires for comfort, shelter and security senses are achieved in a place, and subsequently the person will be motivated to continue or terminate the dwelling in that place (Eisenman, 2003).

1.2 Purpose of Research

The aim of this study is to examine the sense of place in belowground levels according to characters and spatial organization of place, through the study of the history of underground settlements and belowground buildings as case studies. It is therefore thought that, it is possible to have a comparative study which comparing the position of aboveground places and belowground levels places. Also catch the critical position about sense of place in belowground levels.

The character of place and spatial organization of the place is revealed in essence. Sense of place is the consequence of perception and experience of place.

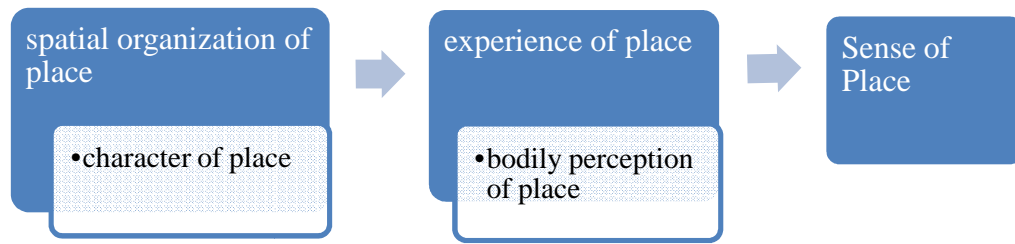


Figure 1.1: Connection between sense of place experience and spatial organization of place

Human beings desire a comfortable experience of place .From the spiritual point of view and bodily perception, creating a place in a pure and unique space is able to make a closer relationship with the human soul. Characterizing the place through the examples illustrate the purity of belowground places according to defining the pure place, and also considers the quality of place in belowground levels.

1.3 Methodology of Research

Collecting and gathering the data in this research is a phenomenological approach. Analysis and a comparative of theoretician ideas and human experiences are used to provide the necessary data to support these ideas. The dissertation data examination is qualitative analysis. Archival, historical and ethnographic records are used to locate the data. Other variables such as interpretations are also made.

The method used to achieve the aim of this study is by gathering the examples of below ground level places and analyzing them through the similarities and differences between them in the same notions. Results of belowground levels examples emphasize on sense of place which has compatibility with the human soul. Therefore, belowground levels can be one of the solutions to create suitable places

for human life. Through the search and data collection, analysis and interpretation of designers and human beings as users, fundamentally requires to be familiar with some notions and definitions in relation to the environment as a human field; the field of performing as the user or designer. Those necessary notions involved the place in use to define sense of place, the design of the space by designers for human beings to use in below ground levels, the perception and experience of those places by the human beings as users, and also the perception by designers.

CHAPTER 2

FROM SPACE TO BELOWGROUND LEVEL

PLACES

This study is interested in the senses, perceptions and experiences of people in belowground levels. Since there is a gap about the identification of below ground levels as space or place, it is necessary to describe the notions of space and place, and then the sense of space and place basically. Senses involve the human perception and experiences; therefore it is something related to the space which people live in. Thus, human senses occur in human lived space and human lived space is called place. Due to the subject who considers the human senses, place is the field for exploration and converting space to place, which will be mentioned.

Investigation of space and place notions, conducts interpretations to the research field. In other words, credibility to classify belowground levels as place is the major focus of this chapter. In dealing with the intended theme, sense of space and sense of place is analyzed and then procedure of converting space to place is revised in order to illuminate the motive to mention the belowground levels as place, for studying the senses.

2.1 Lived Space Equivalent with Place

There are different definitions for space from ancient times today. They are different from Platonist and Aristotle concepts in ancient period. These concepts are changed by Newton's definitions later Kant's and continued with Fredric Gaus's and Gorge Riman's, and finally Einstein's with his relativity theory. Taking one step further, the unity of space, time, energy and mass was the result of relativity theory.

Space is seen as open, spread and abstract, subsequently place is part of space which is occupied by people or things and it contains meaning and value weight. (Norberg-Schulz. 1986). As it is recognizable in figure 2.1 which is a part of Getty center by Richard Rogers people gathering between the columns define their location as place.



Figure 2.1: Getty center. (www.Arch space.com, 2007)

Each space gives a place occurs a thing and is specialized to that thing; consequently the space existence exists in limitation and boundary. Thus place is also defined by limitation and boundaries.

In the belowground levels space is defined by the earth boundaries. Hence earth creates boundaries with levels to nominate that space as below ground levels. Then there is place which is essentially the product of space. For more intelligibility of converting space to place position in the “sense of place in below ground levels”, need to be examined for the awareness of space, then a shift to place connotation as

the major theme in research area can be realized. Figure 2.2 is a vernacular village in Tunisia. Boundaries of this village are created by buildings in the earth.



Figure 2.2: Village in Tunisia. (Von Meijenfeldt. 2003)

Space may be defined as a form of external experience, rather than as a physical setting. Space is not over human, but when there is a human therefore there is a thought of existence. Thus human are extended in being by the reason of existence through the things and places in space. (Heidegger, 1971)

Space does not exist mentally nor take part directly in world, but it is a part of everyday experience of the world. Human existence, fundamentally, is spatial and this spatiality contains some properties. Those properties are closeness, dwelling, distance and directions as ways of existence (Relph, E.1970).

Space means anything, perceptual or experimental. The concept of a sensory field implies that all senses are spatial, and that all sensory objects must occupy space. Every object, which is perceived by people, belongs to a field of other objects which are not perceived. Every perceived sensation belongs to a field of other sensations which are not simultaneously perceived by the subject. From phenomenological point of view, the most important agents to define the space are

insiderness and outsiderness dialectic, boundary and enclosure and centralization. Lived space is equivalent with place. Lived space has a close relationship to the lived world. (Seamon 1982)

Place is a part of natural space or made space which mentally and bodily contains limited properties and usually it is the result of a mutual relationship and a reaction between three agents; human behaviors, mental and physical properties.

The main responsibility of architects and urban designers is the visualization of the existential space; in a meaning which changes invisible into visual, and gives it a locality. This is rather an attempt to make human soul cognitive. (Norberg Schulz 1975)

Therefore, the levels which exist under the earth, and contain human settlements, are defined by the concept of place. Human behaviors, human experiences and human sense give meaning to the space and convert it to lived space, and in other words convert it into a place.

2.2 Place from Conceptual, Perceptual, Experimental points of view

2.2.1 Notion of Place

Place in the ordinary language has a wider meaning in comparison to its geographical realm. In the Webster English dictionary (1989:1099) there are fifty two definitions for place, definitions which are about the relinquishment of geographical meaning, which indicate person relations in a society or in other situations. In the Oxford dictionary (Mayhew), its concept of place is explained as a special point on earth which is, definable and recognizable with location, and its positions within the saturation of the values of human beings. Therefore place merely is not location, rather it is a special location and what makes it special is it's

combination with human values. Natural environment is base on place. (Norbeg,Schultz 1975).

As it is evident in Figure 2.3 which shows the people's fishing place in Istanbul, there is no noticeable facilities or construction which locates them for fishing but what they are doing creates their performance location and their performance create their place. And it is a fishing place.



Figure 2.3: Fishing place in Istanbul, Turkey. (Author, 2008)

Thus, used place is not just used as an indication to spatial location and situations, rather it is used for locating people in the society.

Each place contains various direction and some openings. Any matter of existence gives the meaning of place to a space. For any imagination there will be a place for it to happen. Place is signified as something more than location. Place contains properties such as structure and boundaries. .(Norbeg,schultz 1975)

Places combine natural regularity and human regularity, and they are counted as significant centers of human experience in the world. In answering why and how places for people become meaningful; there is an investigation about the connection between space and place. The main quality of place is hidden in the ability of place in regulating and focusing on aims, human experiments and behaviors (Edward

Relph 1976). Therefore human senses occur in place and existence of sensory perception convert space into place. As it appears in a Figure 2.4 which is the Abyane village in Iran, being under an arch on the road gives a sense of insideness in outsideness and consequently the space under the arch is a container of a break, inert feeling and sense of territorialization for people. Therefore, the spaces under the arch through the characters of place which affect the human sense are converted in to a place.



Figure 2.4: Abyane village, Iran, (Author.2008)

20th century concept of, changed to a place which is expanded from every direction fluid and intervened from its previous meaning of location which contained limited, distinct, and rehabilitated and contained less boundaries (Arefi, 1999).

Space is a manner of organizing three dimensional elements which make place. (Norberg, scholtz 1975)

Place is not just a geographical location; rather it includes the main characteristics of site, which specially distinguishes the site from others. Therefore, in place varies dimensions of landscape gathering to establishing the distinct environment and special sense of locality. Place exists because of the existential essence of quality in the physical environment and location. (Seamon 1982)

Assimilation of place without people is impossible. Place establishing process depends on human existence. Places have existence independent of human existence. (Fritz steel 1981)

Reaction of the setting: the walls of the room, its dimensions, the public square,...the expanses or the slopes of landscape even to the bare horizons of the plain or the sharp outlines of the mountains- the whole environment bring its weight to bear on the place.

2.2.2 Perception of Place

Perception is the process of attaining awareness or understanding of sensory information. What one perceives is a result of interactions between past experiences, one's culture and the interpretation of the perceived. Perception gives rise to two types of consciousness; phenomenal and psychological. Phenomenal consciousness is full of rich sensations. (URL 2)

Human is an embodied subject and perceive the world through bodies, involved in existence. Due to spatiality of place and human movement in place, bodily perception is proper perception to perceive the place.

Perception is the background of experience which guides every conscious action. The world is a field for perception, and human consciousness assigns meaning to the world. It is impossible to separate human from perception. The body stands between this fundamental distinction between subject and object, ambiguously

existing as both. Perception may be structured by associative forces, and may be focused by attention. Attention itself does not create any perceptions, but may be directed toward any aspect of a perceptual field. Attention can enable conscious perceptions to be structured by reflecting upon them. (Merleau-Ponty.1962)

National library building in Paris has storage buildings which contain two vertical parts which stand beside each other and each corner of central patio (Figure 2.5). The function of the complex as a library is the reason to perceive books storages as open book around the underground patio. On the other hand, function is the motive for conceptual perception.



Figure 2.5: National library, Paris. (www.Arch space.com. 2006)

Psychological and physiological aspects of perception may overlap and influence each other. The spatiality and timeline is of the human body, or the 'body image,' is an example of how both psychological and physiological factors may influence perception. Consciousness is a projective activity, which develops sensory data beyond their own specific significance and uses them for the expression of spontaneous action. The human body is an expressive space which contributes to the significance of personal actions. The body is also the origin of expressive movement, and is a medium for perception of the world. Bodily experience gives perception a

meaning beyond the established simply by thought which combines mental activities with emotions.

Existence and substance presuppose each other. Substance expresses existence, and existence realizes itself through substance. However, substance is not merely a form of signification or expression of existence, and existence is not merely what is expressed as substance. Existence and substance explain each other. Bodily experience is an ambiguous mode of existence, because the idea of the body cannot be separated from the experience of the body, because mind and body cannot be separated as subject and object. The mind and body each have their own being, and the perceptions of the body influence what is perceived by the mind. Every sensation belongs to a sensory field. (Merleau-Ponty.1962)

2.2.3 Sense of Place

The term "place" when used in the context of "sense of place" has wider meaning than geographic location. Place in this context refers to location and also many other factors which give that location its unique character (Lutts, 1985).

Qualities or factors of an environment that contribute to a "sense of place" experience include opportunities for seclusion and quietness (such as are offered by nest like refuges), opportunities for exploring, and opportunities to effect change. Other factors contributing to a "sense of place" experience include complexity, diversity, opportunities for immersion or immediate encounters with the natural world, and opportunities for the experience of magic or memorable moments.

Sense of place and place soul show the place's essence. Sense of place is related to the position. (Nor berg- Schulz, 1980)

Character and light mention holistic atmosphere of views. Time contains constancy and change in the views of especially daily and seasonal periods, whether

district, covering greenery and zoology life rhythms'. These qualities are based on the cognitive sense of place. Sense of place is based on cognition, because in traditional vernacular architecture and urban design, human being usually built the human made environment in harmony and concord with natural places subconsciously. (Nor berg, Schulz,1980)

Atmosphere, water, earth and sky are connects with each other in place; their conjunction introduces a special type of physical environment, natural place and region. Place to be deep and multilayered; it is both location and site for meaning. Sense of place is tied to the human experience. For those who have developed a sense of place, it has some similarities to thought. There is an unseen layer of usage, memory, and significance, as well as an invisible landscape of imaginative landmarks, superimposed upon the geographical surface and the two-dimensional map. To passing observers, however, that landscape will remain invisible unless it is somehow called to their attention" (Ryden 1974)

To illustrate the distinction between places and space Norberg-Schulz mentioned places as environmentally holistic; such as countries, locations, territory, landscapes, settlements, and buildings. Therefore to nominate them terminologies such as island, cape, harbor, forest, thicket, square, street, yard, floor, wall, ceiling, windows, etc...are used, or in other words employment of names to recognize places. Categorizing places by name illuminate the reality of the existence of a place, but space as arrangements of relations, usually are mentioned with proposition. In everyday life people talk very little about space. Rather, they talk about things up and down and before and after each other and because of this, proposition like in, on, beside, up, under, over, etc..., are used. All these propositions illustrate the topological connections. (Norberg-Schulz. 2000)

2.2.4 Phenomenology of Place

Merleau-Ponty defines phenomenology as the study of essences, including the essence of perception and of consciousness. To perceive the sense of place, experience and perception of place deal with perception context in this field. Perception is a system of meanings by which a phenomenal object is recognized. Phenomenology is a method of describing the nature of perceptual contact with the world. Phenomenology is concerned with providing a direct description of human experience. Definitions about space and place illustrate that these notions are the notions relevant to essences of existence (Merleau-Ponty.1962).

Therefore for an investigation about any type of place that is a lived space, it is necessary to deal with place from a phenomenological point of view.

Phenomenology became a significant subject for philosophy during the 20th century and had deep effects on philosophical ideas during this era. Most important representative of this contemporary procedure is Edmond Husserl (1859-1938). The meaning of phenomenon is aspect cognition by senses not via thought. Phenomenon is usually in opposition with mental activities and concepts of thought (what perceive by thought). (Lutts, 1985)

Phenomenology as the study of essences let it possible for thought to find definition for all problems through their essence. The main aim of phenomenology is direct and immediate search, study and cognition of any phenomena. In this way effort to pure conjunction with phenomena, encounter with phenomena is done freely from previous sight and previous taint. (Merleo Ponty 1962)

To understand the sense of place, it is important to accomplish a conjunction between the concepts of phenomenology and place.

2.3 Essence of Place in Belowground Levels

The place which is related to a space between ground and sky is above ground levels and it contains horizontal extensions. That place is the object and focal point that accomplishes significant existence of events and occurrence of experiment in it. Also, place is a departure point, people via place attain to orientation in the environment. Place is the inside field which is in conjunction with the surrounded outside field.

Apart from places, landscapes have names. In the same manner that people have names but don't put the names on their body, landscapes haven't names, also. Consequently; body and landscape are the place boundaries. The body is the inner boundary and landscape is the outside boundary. Place is something that happen between body and landscape. (S. Casey 1993)

2.3.1 Visible and Hidden Places

All objects and focal points are part of spaces on the ground and all that events and experiences happen on the ground. The interior and exterior are defined on the horizontal extensions. There is an outside movement to the interior which may have the same properties and boundary phase as the walls which divide them.

Existential lived place	Above ground level
	Below ground level

Table 3.1: Dividing the existential lived place

Below Ground Level is the place in which part of, or the whole of its space exists in the ground. The definition of below ground levels cannot be made quantitatively, but qualitatively. They are levels under the ground anywhere on the

world. Sometimes below ground levels are as a result of digging. (Loretta Hall, 2004)

In spiritual house, by Emilio Embasz (Figure 3.1), most parts of the building are positioned belowground level. There are only two walls above the earth to emphasize the existence of a building.



Figure 3.1: Spiritual house, Spain, (Ernest von Mijenfildt. 2004)

In Cappadocia in Turkey, there are examples of houses completely underground, and part of them inside the tofu rocks, look as it appears in Figure 3.2.



Figure 3.2: Cappadocia, Turkey, (Tunusoglu. Zorlu. 2008)

A space which contains prominent spatial physical signs has more ability to be transformed to a lived space. In other words, as demonstrated in lived space definition, the space container's of prominent physical signs has more capability to become places.

Valleys, slopes, mountains, side rivers or lakes, are the spaces having a potential for change from space to place and usually ancient dwellings and settlements exist in such environments. (Norberg.Schulz, 1974) Therefore, below ground level, according to its significance, particularly its unique position in the ground has more ability to transform from space to place.

If place phenomenon is a complete and truthful part of existence, place is therefore something more than an abstract location. It is wholeness made of objects and real things and containing materials, shapes, textures and colors. All these elements collected together defining the environmental character and something that is in fact be counted as the essence of place. If the objects and things that make place

are parts of existential environment, they have real meaning of essence for human beings. Below ground level places are made up of real parts of the environment, like walls that is formed by the earth. Also, relationship with the environment is direct connection.(Ernest Von , 2004)

Major features which exist in all underground places are; the main shape of the building is not visible and sections illustrate the position of buildings and the ground; there are emphases in interior than exterior. Being below ground can evoke feelings of romanticism, security, safety and protection. (Hall, Loretta, 2004) Such as garden of fine art, which is designed by Tadao Ando (Figure 3.3) shows part of the building below ground level illustrated in section and also the position of the building towards the ground is evident in section.

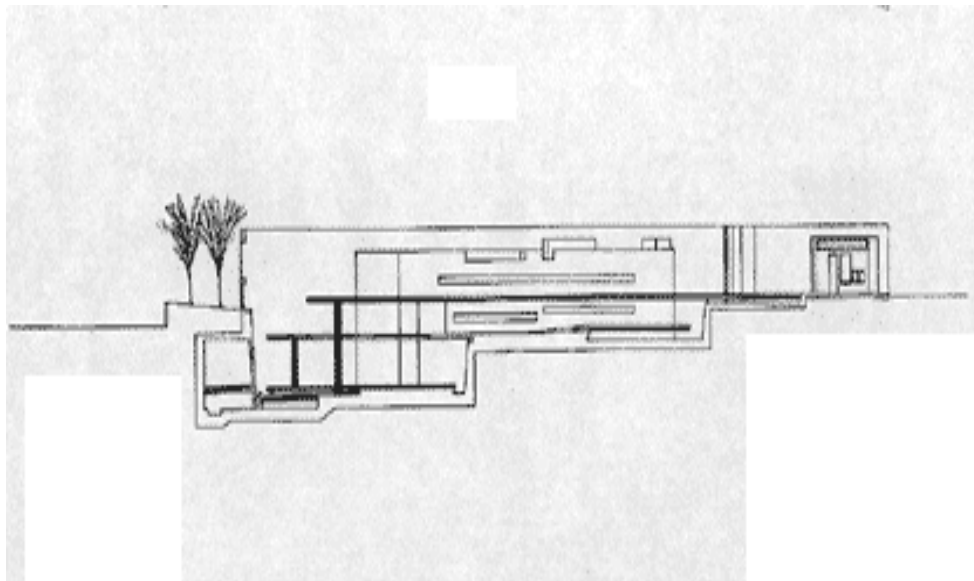


Figure 3.3: Garden of fine art, Architect: Tadao Ando, (www.Arch Space.com. 2002)

The organizing of spatiality in below ground levels is in an introverted manner rather than extroverted. (Hall.Loretta. 2000)

From the various points of its organization, it's possible to classify below ground level in categories such as:

Hollow in the rock

Hollow in the ground

Semi underground

Underground

Design organized

Anonymous without architect

Vernacular architecture

Contemporary architecture

However the arrangement that has the most effects to change the place behaviors in undergrounds and explain direct and indirect relation between inside and outside places can be arranged in two categories:

1. Below ground level in direct contact with outside
2. Below ground level in indirect contact with outside

In the first classification, there are openings that exist in boundaries between inside and outside then bring the view of outside to inside. In that way instead of horizontal contact with environment, there is a vertical relationship. People subconsciously seek information concerning the time of day, the seasons and the weather, reflecting a natural need for contact with the outside world. Place is in direct relation with the sky, because of the view of the sky as landscape. Therefore, time is felt able. Changes in the condition of sky in different seasons and also during the day, give a subconscious sense of time in the place. Thus, in above ground for the reason of horizontal movements and importance of the horizontal direction, sense of time is felt from the earth but not from the sky. Light directions, quality, colors,

quantity and time have a significant effect to perceive and interpret the place. It can also create a place. In this category of below ground level spaces, light enters into the interior from above and place there is in immediate unity with sky. This has important characteristics for humans in experiencing places. As it seen in the below example of Yao Dong houses, in a village in China (Figure 3.4) places are organized around a patio and all places around it catch the natural light from it. Also, air circulation, movement and relation with outside is achieved through this central patio.

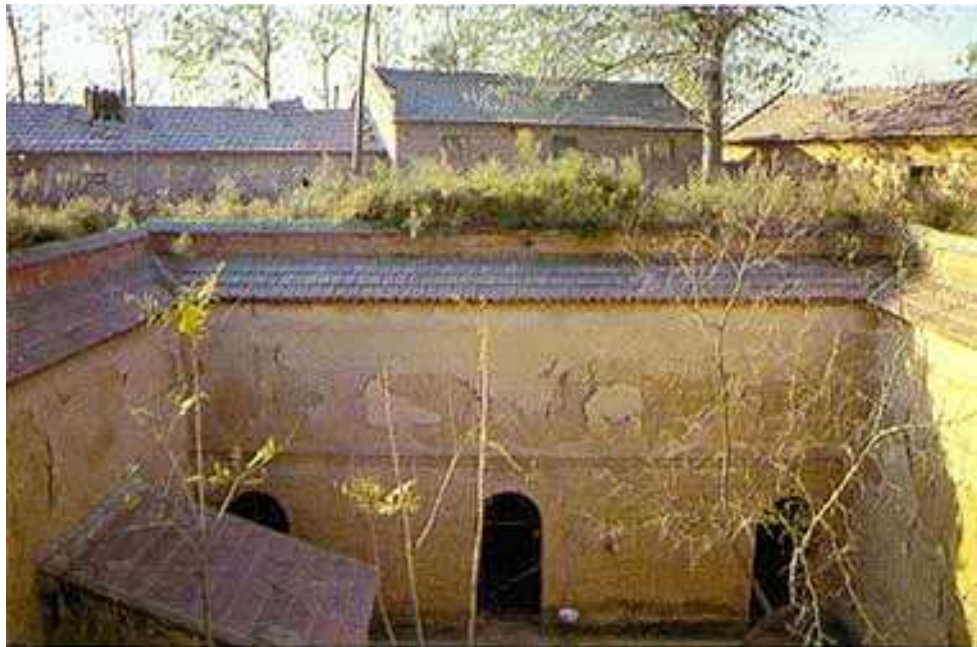


Figure 3.4: Yao Dong village, China, (Ernest Von Mejenfeldt. 2004)

In the second category, connectivity between inside and outside belongs to an intermediary agent. This intermediary is agent the semi-inside/ semi-outside space, which is also a circulation element. One of the characteristics of being underground is the lack of views of a dynamic environment. In this classification sense of place, that is the result of place concepts, is different. The very evident examples of this type are metro stations. Like Cannery Warf metro station in London (Figure 10) which has an emphasis on its entrance.



Figure 3.5: Canary Wharf metro station, London (Ernest Von Mejenfeldt. 2004)

2.3.2 Sensation of being in Belowground Levels

From various places and positions people, see, hear, smell, taste and touch in different ways. Seeing, hearing, smelling, tasting and touching are the sensory courses and by them place is defined for humans. Therefore, mainstream explanations of sensory perception at any given place and position does influence the experience of the world at that place. Since experiences occur by human body, define the sense of place in specific belowground levels position, it is necessary to explain the bodily perception of place in that position. Then realization of the experience of place position into move to the sense of place can be discussed.

Bodily Perception of Place in Belowground Levels

Being in place and feeling it through the body illuminate the bodily perception. Perception of place is purely as a result of the dependence of experience upon bodily functions. Hence, experiences depend upon physiological functioning of the body, while nature is perceived through the senses and is depended also on

physiological attitude. Thus, there is an intervention of the body even in visual perception.

Bodily perception constitutes one of the agents in sense of place. The external and the internal environments are the intriguing aspects to distinguish bodily perception. Specific position of belowground places defines external and internal evidently because of earth separating the interior and exterior. Therefore distinction between outside and inside is an apparent experience for human body.

Perception of the internal environment must have unique relations with the myriad neural control systems which regulate bodily organs. For example, the constant opportunity for feedback regulation within the body suggests peculiar links between imagery and perception whereby imagined warmth or relaxation can lead to physical changes in blood circulation or muscle tension. These physical changes can lead to changes in perceived temperature or muscle stiffness. Place sense is an evidence for place essence and is found in a place that has distinctive characteristics. Place sense is a holistic phenomenon with atmospheric and structural values, spatial and personal values which perceive via perception of orientation and cognition agent. (Person gain it via perception, orientation and recognition) (Norberg, Schultz 1997)

Quality of place has various effects on human experience. The procedure of understanding the relation of experience to the nature requires examination of the dependence of experiences to the bodies.

Steel Fritz says that sense of place means person's might have special experiences in the place, physical properties which effected the place perception and place sense are; place dimension, closure degree, contrast, scale, proportion, human scale, distance, texture, color, smell, sound and visual variety. Also the properties like identity, history, illusion, fantasy, mystery, joy, surprise, security,

vitality/livability and memory make connection with the concept of place. (Fritz Steal 1981)

Experience of Place in Belowground Levels

Place experiences contribute significantly to human's cognitive development and understandings of the world (Proshansky & Gottlieb, 1989).

Positive place experiences provide opportunities for human being to explore, to manipulate, and to be involved. "The motivation to interact with the environment exists in all humans as an intrinsic property of life, but the quality of such interactions is dependent upon the possibilities for engagement that the environment provides". (Olds, 1979)

It is therefore important for designers and those who create places, to create "habitats" that nourish human's awareness and actively support their sense of place as well as promoting all other aspects of meaning (Olds, 1979).

Human's physical environments are capable to "communicate important messages to them about who they are and what they may aspire to be" (Cohen & Trostle, 1990). In any case a warm, nurturing, stimulating environment tells people that they are valued.

Feelings of competence and sense of rootedness are the consequences of positive experiences of place.

Experience of place is capable to contain events that make a place important and worth remembering, whilst contributing to who people are, not just the place itself. Many people have memories and feel attachment to a place, which they believe contained events which have contributed to who they are.

The sense of personal identity depends too much upon evoking memory of the key places in which one's everyday have taken place and the events which took part in these places.

Place gives a situation to an event or experience. Place emphasis on how a person remembers parts of his/her own life.

Every event happens somewhere. A place has a name and a history if it contained an event. It is an account of an experience located in that position'.

When a memory is evoked, usually the first item which is evoked is where the particular experience occurred. Experience is what gives this place a meaning. Without a place an event cannot be remembered later. Remembrance is a matter of time, more than space.

Place is a centre of meaning constructed by unique experiences. A place changes from being a space to a place because the individual assigns meaning to it. By giving a place meaning, people are therefore giving the place a reason to be remembered. From this perspective it is not the place that is shaping who people are but the experiences and events that have occurred.

Even for those who have dwelled in a place for so long, and have a connectedness to a particular area that helped to form their identity, there exists much emphasis again put on place. Experience of place is the sounds, smells, and feeling of places which are remembered through the events. But if a certain event or experience had not occurred in a place it doesn't hold that significance.

Experience of place by people and its effect on human perception of place is to encourage the development of different way of thinking about space and the many associated concepts that compose, comprise, and infuse the inherent spatiality of human being.

From the essential position of Belowground level places examples; it's evident that design issues fall into two broad categories: those related to human perceptions and emotions, and those are imposed by nature. Psychological aspects and the natural forces, which are grouped into their traditional categories of earth, air, fire and water had significant role in design.

Place should have capacity for various interpretations, unless after a while it will be out of work. Place contains of properties that have alternative degrees of change and stability.

In roots, connection with a place has a meaning of subconscious, not-thinking, secure and a comfortable position of being in a locality. In this position, people that have much comfort of place do not have the awareness of the passing time of the world outside their environment. Harmony and intimacy with place becomes so deep that it passes the cultural consent and become agreeable and lead to the biologically agreeable; like the people of Kongo who are short and have colly skin in evolutionary response to the weather of that place. (Tuan 1980)

Place sense, has lack of firmness and dependency of rooting sense. Place sense is a conscious position of creating meaning via relevance with a physical place.

The method in which any person exists in the earth is known as dwelling (Heidegger1994). Dwelling is the main property of existence. Settlement entails the whole relationship between people and place. Being permanent in place is identity, sense of continuity, sense of community and sense of being at home at a place. In relation with settlement, sparing and preserving occurs; dwelling means a kind of attention to things in the earth and to the people in the way that they exist, or they can exist. (Heidegger)

Heidegger says that dwelling is a collection of four elements; earth, sky, (body), human mortality, lords respect sense and spirit venerating (remembrance) divinities.

Properties of space which are influenced by perception make two possible existences of place. Each agent of the table illustrates some aspect of places which have been submerged by the earth and also shows the procedures in underground spaces. Earth covered places from ancient times to present days had various functions for human beings. They were used for dwelling and from time to time as holly places.

Sense of Place in Belowground Levels

Sense of place involves all human's associations and relations with their environment. (Arefi 1999) Different psychological and bodily effects come from the existence of inside and outside. The body makes connection with the environment subconsciously. Also there is a sense of place and it gains an agent used to design the environment. (Gorden kalen 1996)

Sense of place is a collection of agents. Those agents are perception and experience of place or visual and haptic. Therefore to realize the sense of place belowground levels, the perception of place in belowground levels and experience of place in belowground levels are used.

Sense of place means a person's specific experience in a specific place. Physical properties which are effective in sense of place and perception of place are: dimension of place, enclosure degree, contrast, human scale, proportion, distance, texture, color, smell, sound and visual variety. Also there are properties which connect people with a place include; Identity, history, fantasy, mystery, joy, surprise, safety, vitality and livability and memory. (Alexander, 1977)

The environment as a whole reaches a sense of place when the environment is accurately a whole institute, and that sense of place is the sense which gives the people vitality and livability in life.

Nornberg Schulz (1996) from a phenomenological point of view demonstrates the importance of belongingness to a place, and its existential meaning for people. He also mentions that when God deport Adam from heaven, across him to human fundamental problems, which are passes from territory, and attains the lost place once more. He shows that people are entirely part of the environment and believes that forgetting that point leads to alienation and separation of human beings from their environment and their soul as well. (Nornberg Schulz 1996)

Sense of place examines the essence of places and finds the places which have distinctive and specific characters. From the phenomenological point of view, sense of place is a holistic phenomenon with structural, spatial and characteristic values. Phenomenology and ontology relation with holistic issues is to divide them. Two important agents' as orientation and cognition, receipt sense of place. Human permanence is dependent on a proper association of physical and spiritual senses with place.

Cultural identity is related to sense of place and there is a meaningful connection between them. Sense of place is known as sense of dependence to the environment and sense of nomadic. Therefore, the fundamental agent which has an important character in built places is based on the ability of architects to answer the human existential condition in a sensitive manner.

Places have meaning, including human existence and behavioral characteristics. Human being needs to live with a sense of place.

2.4 Conclusion of Chapter2:

Places shape memory and the stories of human lives. These stories become ongoing "ecological conversations" expressions of dialogues between human and the environment (Lutts, 1985). When this conversation ends, so will our future. The development of a healthy environmental awareness and concern starts with a feeling of response to nature. Such a response comes primarily by way of firsthand positive experiences in the out-of-doors, especially in environments fostering a "sense of place" experience.

Human relation with places, via places, and with spaces is the essence of his/her existence. Human relation with space is the meaning of his/her existence and his/her essence.

Through architecture space change to place, the architectural process causes design of places. Norberg. Schulz mentioned that architecture is an area for changing space to place. Architecture would necessary complement to the surrounding context. Main duty of architecture is to create places as containers with a special container meaning.

The concept of architecture is the comprised space, rather than built elements like walls and columns. (Vidler, 2004)

Basic definition of the concept which the human environment contains is an initial field to examine human relations as a special part of environment. Human relationship with environment means, human activities and behaviors and their effect on the environment and conscious and unconscious reactions to the effects which are established in lived spaces for human being. Particularly, part of lived environment contains special types of place. From the essence point of view, the holistic place can be divided into two arrangements; one is the place

which is part of space between ground and sky, on one hand, under the sky and on the ground, and another type of place is the part of space under the sky and in the ground. For awareness about the effect of “ underground places” on people, that have close relevance to human essence, it is necessary to clarify the types, then to describe the concept of place agents and to explain each place agent in relation to underground position.

For cognition and to study about the concept of essence, it is necessary to have a phenomenological glance to the concepts. Therefore this thesis considers the place agents from a phenomenological point of view.

Place is qualitative phenomenon whose real nature decreases if it is limited to any of its personalities like spatial relations. (Norberg. Schulz).

All emphasis in this chapter is how the concepts of space evoke into the concepts of place, in order to be able to identify belowground levels as places.

Sense of place is the result of experience of place and bodily perception of place. Therefore spatiality of place is evident, because bodily perception and experiences are spatial procedures. If are investigates the bodily perception and experience of place, then it is necessary to notice and characterize the spatiality properties of a place to illustrate the sense of place. In the next chapter the spatiality and characters of a place in belowground levels are studied.

CHAPTER3

PLACE CHARACTERISTICS OF BELOWGROUND LEVELS

3.1 Belowground Levels in the Course of History

Recognition and making use of the architectonic qualities of the place under the surface of the earth was parallel with the evolution of human dwelling. Cave was the first type of dwelling in history. Human started living in nature and using the earth. Sheltering efforts by using earth covering are as old as humanity. Human communities have lived and sheltered in natural caves for at least 100,000 years.

Norman Foster names “the cave as one of architecture’s two archetypes, the other being the tent and all later forms are derived from these two. Typological classification makes evident that there are two forms of underground dwelling: the carved in space (hollow in rocks) and the carved in the ground. The variation is not very wide, and it depends on landscape, soil type and type of stone. Some combinations lead to different forms.”(Ernest Von Meijenfeldt, 2003)

As Ernest Von Meijenfeldt summarized, the process of moving away from nature started with Greek architecture. In that time human placed above earth. The original Greek view was that man is the measure of all things. God and goddesses had been imaged in human physics even, which is evident in the sculptures and the paintings which are decorations of places in those periods. Later this continued in Roman architecture until the Renaissance. Architecture was, in sense, in reflection of the supremacy of man over nature. During Renaissance period there was a distinction between building and architecture. Architecture was used for military and political

leaders and as a representative of god on earth. This generated an architecture which dominated land, space and nature. However, ordinary people, built in a manner adapted to the climate, materials and resources provided by nature and according to the techniques available. That meant building with wood, peat, clay, reeds, turf and stone and making use of the ground. Many people also found accommodation in homes hewn from rock. Change in relationship between human and nature became evident in 18th century. At the beginning of Romantic Movement, the cottages and grottoes are seen in Europe, like those in England's Stourhead, are a representation of the dwellings of primitive people. Beginning in the late 19th century, trends that attempt to create associations with nature by using natural forms and motifs drawn from plants, mineral and crystals emerged. The arts and crafts movement, Art Nouveau, the Wiener Secession, the Amsterdam school and the organic method of building, stemming from the anthroposophy of Rudolf Steiner, are evident about the architectural interest in nature in 19th century. (Ernest Von Meijenfeldt, 2003)

Modernism can be accused of a strong focus on nature, its link with landscape and natures are clearly visible in a personal manner in the works of two representatives of the international style, Le Corbusier and Frank Loyd Right.

In modern style integrated with nature was appeared in famous architectural works in that period. As Ernest Von Meijenfeldt mentioned, nature is the central theme in L ecrbusier's works, and these approaches are known more intuitive and spiritual. L ecrbusier's earlier buildings are literally above the ground. It is almost as though Le corbusier's buildings are not allowed to touch the ground, as with his Villa Savoye of 1931. But in his early works, architectonic structures were clearly related to environments, and a building was a place from which people contemplate the surrounding. The relationship to nature is visual integration of building into the

environment in his recent works. A relationship with nature becomes tangible, more colorful. Le Corbusier combines natural and geometric forms, as can be seen in his piece de resistance, the Notre Dame du Haut in Ronchamp, from 1955 (Figure 4.1). Part of the structure lies underground, as the adjacent residences for the clergy are submerged in the hill. (Ernest Von Meijenfeldt, 2003)



Figure 3.1: Notre Dame du Haut in Ronchamp, (URL 2, 2003)

The chapel of the Sainte-Marie de la Tourette monastery by Le Corbusier (Figure 4.2) is submerged in the earth, its introverted location is emphasized by the mystical fall of light from above. Le Corbusier was already seeking that meditative introspective quality in his design for an underground basilica dedicated to Maria Magdalena, to be hewn entirely from rock. (Ernest Von Meijenfeldt, 2003)



Figure 3.2: Sainte-Marie de la Tourette monastery (Xenakis, Iannis, 1987)

Frank Lloyd Wright attempted an architecture which develops from the inside towards outwards, and is in harmony with its exterior. His architecture comes from the heart, and because he incorporates time, growth and development into his designs, it is often referred as organic. Inspired by the traditional architecture of Japan and of the pueblo Indians, he achieves external harmony by making his buildings part of their surroundings. Their affinity with the landscape becomes stronger with the passing time. Taliesin west, Wright's own house and studio, appears to grow out of the ground. It is a symbiosis, Wright's personal, intuitive, and above all, a poetic response to the surrounding countryside. Some of his buildings are literally integrated into the landscape, part of them dug in or embankments built up against them. His Herbert Jacobs house in Wisconsin is embedded in the landscape in the way which has an outward form appearing to rise from a hill, the bottom floor submerged. The ground embraces the house, offering protection to the north and

opening to the south, where the house faces the sun. Below ground level buildings were submerged in earth at the beginning for purposes of aesthetic expression. But after an alarming report by the Club of Rome, and the energy crisis of the 1970s submerged buildings in the earth became more popular. The pioneer of the earth-covered revival is John Carmody. As Birkhasuer summarized, John Carmody and Sterling Ray in America focused attention on the systematic development of belowground levels. John Carmody doesn't believe to manipulate the environment by his own design. John Carmody attempts to use of underground levels bases on "perception and well-being of the inhabitants and the relationship of a building with the surrounding buildings". For John Carmody, ground is one of the architectural tools for designing sustainable. Contemporary sustainable architecture, by intelligent technologies, geared to processes of nature and this is a constant theme in works by architects such as Foster, Piano and Ambasz. Relationship with the environment is the essential theme of Ambasz work. Since the early 1970s, he has been constructing buildings that seek connections with earth at every level – aesthetic, ecological, philosophical, and poetic. (Von Meijenfeldt, 2003)

Emilio Ambasz believes that it doesn't need to produce architecture according to norms. It is possible to invoke the presence and essence of architecture without elements such as windows or columns. Ambasz says that "when you visit one of my buildings, you experience it in the same way as any other building. You don't realise there are worms above your head. But when you go outside and turn around, you don't see the building anymore". In this way he emphasizes the secret and hidden place, which he created his buildings in that manner. Emilio Ambasz believes that the real task of architecture starts once functional and behavioral needs have been satisfied. He believes architects, create because of love and fears, and sometimes

wonders but it is not hunger. The architecture gives sensitive form to pragmatic needs. While the architect's cultural and social context changes, his task of remains always the same. Ambasz's buildings are often wholly or partially covered by parks and gardens with free access to the public. And it is his way of returning space to society. (Von Meijenfeldt, 2003)

Nature has always been society's expectation and concern. So what make human satisfy from living places, has a direct relationship with elements to create nature and landscape, while the earth is the basement of nature and the essence of landscape itself. Therefore creating places, which give a pleasing sense to humans, is possible with the use of earth and ground.

3.2 Corner Stone of Examples

Corner stone examples are the most important examples of belowground levels buildings. These examples are like the starter of underground type. Bury dead underground start with pyramids. Cave dwellings in systematic way existed in china and Cappadocia. In contemporary architecture Emilio Ambasz buildings have the most characteristics of being in the earth. Also Tadao Ando's works has integration with nature consequently with earth.

Bury essence, (temples)/Home of corner stone examples:

Below ground level has a calm quality against the sense of restlessness. Underground crypts and temples give an opportunity for meditation, introspection, reflection and rest. Underground places are where human beings place loved ones for final rest. Depending upon the culture and religion, this is done in different cultures and periods of the history.

The monumental tombs in Petra in Jordan, 2000 years old, are the burial places of the elite.

The Egyptians approach was in a grand scale. Initially they were buried in Pyramids (Figure 4.3) and later, from 1500 BC onwards, in tombs, which are cut from the rock. In the Valley of the Kings in Thebes, where the tomb of Tutankhamen was discovered, more than 60 temples of the dead were hollowed out. (Alberto, Siliotti, 1997)

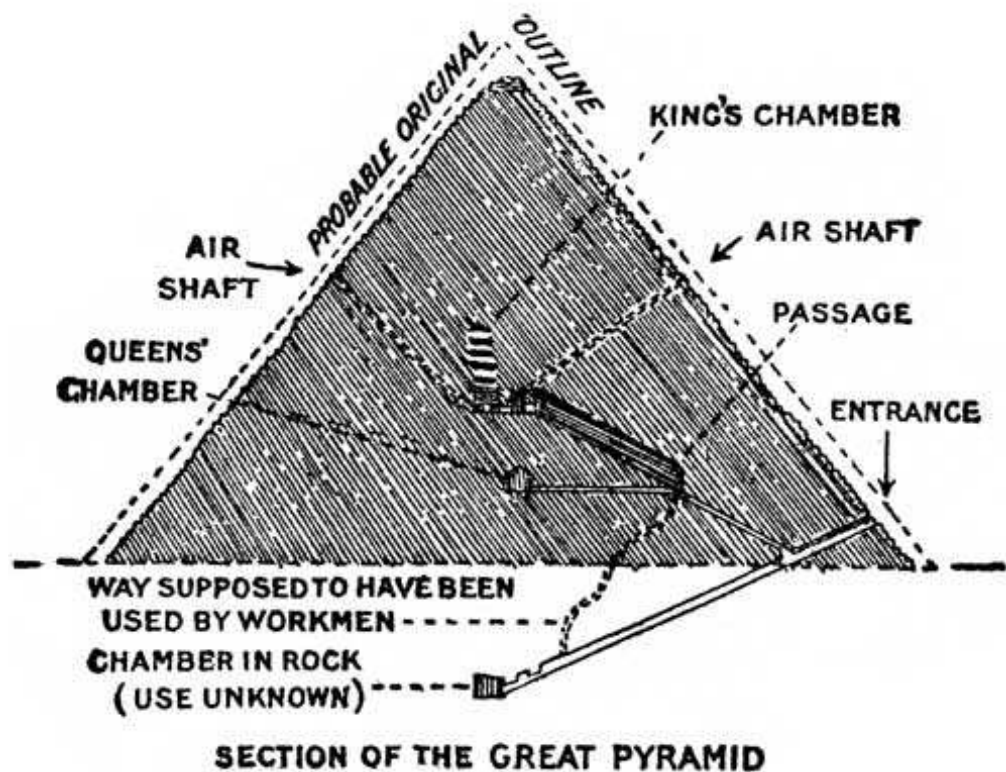


Figure 3.3: Pyramid, Egypt (Alberto, Siliotti, 1997)

Cave dwelling/ Cappadocia:

Mountains and caves are often specialized as holy places. In elevated places, they are released from the earthy environment, which allows contact with the celestial. In places deep in earth, people are in touch with origins of life, and with mother earth herself. Cappadocia in turkey is one of that types of dwelling, which are still being used as settlement.

Landscape of Cappadocia is formed from tufa rock which is easy to work but which dries to a hard surface, and becomes resistant enough to allow the excavation of wide rooms with horizontal ceilings. Some authorities suggest that the underground cities were created during the earlier periods, as storage areas, by the Hittites. These cities were extended much later and brought into the use of refuges of Christians, who were persecuted by the Romans. Others maintain that these cities were created somewhat later, by the Phrygians, as a line of defense against the Assyrians. The most commonly held view is that the cities were excavated during Roman and Byzantine times (Buyuksarac, 2005).

The urban organization was very complex, and there was probably always work in progress. Extensive networks of passages, tunnels, stepped pits and inclined corridors link family rooms and communal spaces where people would meet, work and worship. The cities were complete with wells, chimneys for air circulation, niches for oil lamps, stores, water tanks, stables and areas where the dead could be placed until the time, at which the conditions on the surface would allow their proper disposal. Most importantly, carefully balanced and moving stone doors, which resemble to mill stones, were devised to quickly block the corridors in the case of an attack. Doors can be operated from one side only. (Figure 4.4) There are about 600 outside doors to the city, which are hidden in the courtyards of surface dwellings (Tunusluoglu, Zorlu 2008). These doors show the connectivity between inside-outside in cave Cappadocia cave dwelling.



Figure 3.4: Cappadocia, Turkey, example of cave dwelling, (URL 1)

Cave dwelling/ In China Yao Dong:

Yao dong in china is a kind of submerged patio house. The patio is rectangular. And the rooms positioned in a way to surrounded the patio. Usually, one family unit consists of three arched openings, and the units are interconnected to each other inside. The center cave can be termed the "living room," which includes a stovetop cooking area. The two side caves are sleeping quarters. There is a gadget on the roof which is a solar water heater.



Figure 4.5: Cave dwellings in Chinese are called Yao Dong, which means arched tunnels (Wang, 2003)

Between 300 and 1300 AD, the Anasazii Indians built their pueblos around a four cornered area (Arizona Florida, New Mexico). The remains are strikingly well preserved. Indian tradition is marked by a deep rooted respect for ancestors which avoided disturbance of their former dwelling places. In famous pueblos of Chaco Canyon and Mesa Verde, there is a remarkable number of round holes made in the ground. These are called Kivas, and they are religious chambers of the Anasazi symbolizing the earth mother. Initially the Anasazi also lived in round whole sin the ground, but after the Pueblos were built, they started living aboveground. The ritual chambers, however, remained underground. Modern day pueblo Indians, such as the Hopi, still uses subterranean kivas for religious ceremonies. . (Ernest Von Meijenfeldt, 2003)

Holly places:

In India, enormous temple complexes (Figure 4.6)have been cut from solid rock. The space freed from the solid mass has deep spiritual significance in both Buddhism and Hinduism. In a place made in this way, monks can bring themselves into harmony with the life-creating energy and essence of the earth itself. A room excavated from the earth also has a sexual connotation.



Figure 3.6: The Buddhist Carpenter's Cave at Erolla, India (Nagaraju, 1981)

In the 13th century, near Lalibella in Ethiopia, Christians created the famous churches (Figure 4.7) hewn from rock. Only the roofs are noticeable, for the rest of the buildings are underground. The churches and the spaces around them are entirely hewn from the rocks which humans were lived in them, of the substratum. Once the exterior was formed, a monolithic church was hollowed out to form an interior.



Figure 3.7: One of churches at the site of Lalibela, Ethiopia (Ching, 2006)

Throughout history, sacred chambers have been made in and under the ground, even by modern architects.

Suomalainen's Tempeliaukio church, Yamaguchi's glass temple and Niemeyer's catedral metropolitana all use underground spaces to manifest the architectural contrast between worldly and divine dimensions. (Von Meijenfeldt, 2003)

Casa de Retiro Espiritual in Cordoba, Spain is inspired by a traditional Andalusian concept, it has a central submerged patio, onto which all the rooms open. The house is extremely light, because the architect used a lot of glass. The light is reflected by two large, white, stuccoed walls, which protrude above the ground.

Rooms are always in the shadows, as the house has a northern aspect, the strong reflections compensate for this. The casa de Retiro Espiritual blends into its surrounding that it is as if the building has always been there. Peter Buchanan mention that spiritual house resumes in Ambasz' search for an architectural vocabulary stand outside the canonical tradition of architecture. Expanding on his intents, he stated "It is an architecture that is both here and not here. With it I hope to place the user in a new state of existence, a celebration of human majesty, thought, and sensation. Though apparently quite new, there are devices—both primitive and ancient—permeating this design." The result is a building that seems to stand for the essence of architecture. (Michel Sorkin, 2004)



Figure 3.8: Spiritual House designed by Emilio Ambasz (Michele Alassio, 2005)

Tadao ando's integration of architecture and landscape is strongly evocative of the traditional Japanese Zen garden. All Tadao ando's works show a calm and meditative. Water temple in Hyogo is the epitome of eloquent simplicity. In the

Buddhist story of creation, water was the first element to come to the world. From water was born the lotus, symbol of Buddha's spiritual awakening. The roof of the oval temple is a lotus pool. By means of a narrow staircase cut into the pool, the visitor descends to the serene temple underground. The path taken by a visitor through the water frees him from daily preoccupations and prepares him for the transcendental. There is a sense of peace in this underground room. The inward, enclosed quality led person to retreat inside himself. (Von Meijenfeldt, 2003)

Underground passages:

There are connectors' belowground levels, which they work as a bridge between the places. In the Spanish city of Toledo, Lapena and Torres built a route (Figure 4.8) sunk into the ground. A cleft in the mountainside links the city high up in the mountains with the valley. People can ascend directly from the car park via a cascade of escalators.



Figure 3.9: Linker route in Toledo city, Spain (Von Meijenfeldt, 2003)

3.3A Comparative Analysis of Belowground Levels in the Course of

In the previous part most important examples of belowground levels introduced and explained. In this part those examples and some other important examples analyzing. The examples analyzing according to the aspects of place which define the sense of place. properties of place which characterizing the place is referring. To analyze the examples, at first they are introduced, and then the details of their properties and specifications are mentioned. Therefore it will be possible to understand the spatial organization of place and the characters of place to get a result about sense of place in belowground levels.

Table 4.1 shows the characteristics of some below ground level examples. With the help of the table, it becomes possible to follow the emerging theories on subsurface places to establish a conclusion about them. In the table;

Date: in the first column the date of completion is mentioned, consequently, existences of this type of places are shown in time period. Historical overview on examples show that number of underground or earth covered or subterranean buildings increase in time. In table give number of it. It is show that for every long time period human have been settling below the ground level. These settlements consist of ancient dwellings such as Cappadocia. Also places to bury the elites. Therefore, belowground levels devote a calm meaning for human beings.

Site Specifications: in this column, name, country, function, architect (if it is available) and amount of building in sub surface (determine quantity of it as belowground level) are mentioned.

Spatial organization: refers to the plans of the building and reveals organization of spaces in the building, and also orientation and part of identity of place which depends on design and space organizing.

Sectional relations: shows the section of building, to illustrate the relationship of the building to the ground and also light and air circulations which are relevant to openings and level differences. The relationship between the building and earth demonstrate the position of place.



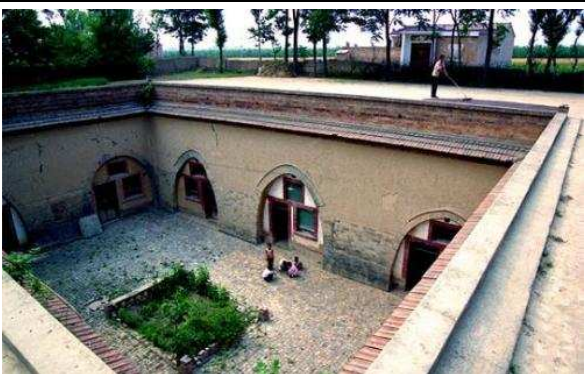
Place characteristics: place characters refer to previous data in this study. Each building may have some properties which do not exist in others, and may give specific character is this to that place and its effectiveness in achieving a place sense.

Spatial organization of place and characteristics of place illuminate the quality of place. Quality of place is the agent which gives a varying sense of place to human beings. Qualities of place contain properties of place. Below ground level has a tranquility quality against the sense of restlessness. Underground crypts and temples give an opportunity for meditation, introspection, reflection and rest. Underground places are where human beings place loved ones for final rest.

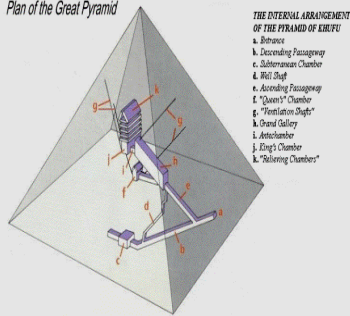
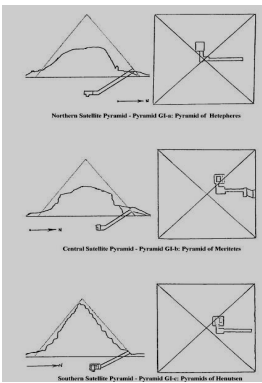
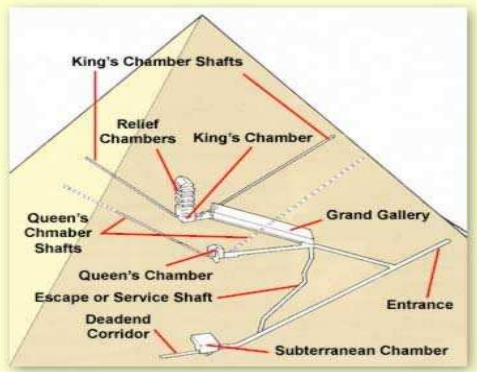
Space characteristics: are those which have specific characters in the building, such as division between inside-outside, or are connectors between spaces. The architectural elements here identify the components such as; entrances, corridors, stairs, openings, floors, walls and the roof.

Table 3.1: Belowground level examples


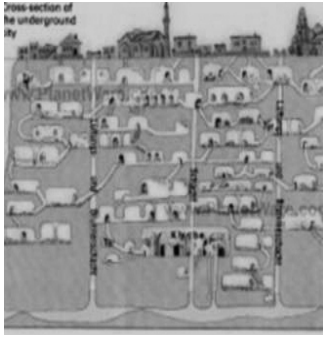

Example 1

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristics	Essential quality
5000 B.C	The Yao Dong china Residential dwelling Under ground	Figure 3.10: Center organization in vertical direction. (Von Mejenfeldt. 2004)	Figure 3.11: Direct vertical connectivity with outside (Von Mejenfeldt. 2004)	Hollow in the ground Patio walls remind standing, inside	Rectangular hole in the ground Arranged around courtyard entirely closed off from the outside world, Private oriented	climatically conditioned introvert characteristic focused on family Culture
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	The rooms of house locating inside the earth. The patio is the semi private place and connect the rooms which are private part then organization of places emphasize the insiderness.	Caching the light is from patio and from above and in vertical direction. Then the building has verticality.	Being in the ground is the special quality which leads to cognition by environment and human. Because it is like being part of nature and environment.	Organization of places occurs around the patio and it is the central organization.	Ground bounded the building.	
						
Figure 3.10		Figure 3.11		Figure 3.12: Yao Dong China (Von Mejenfeldt. 2004)		

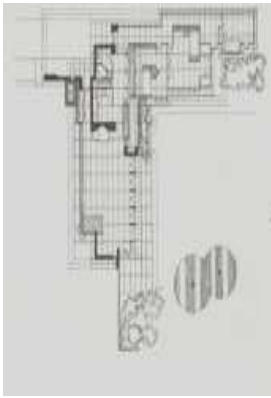
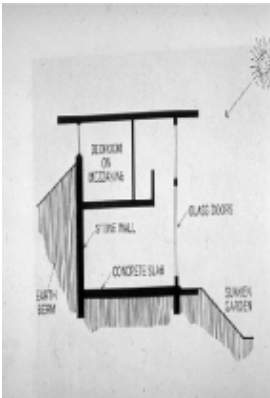
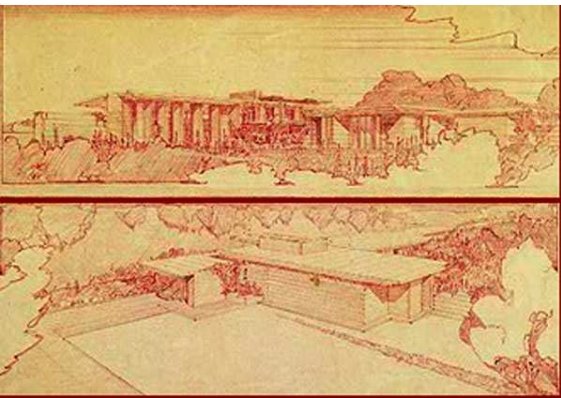
Example 2

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relations	Place Specific characteristics	Space characteristic	Essential quality
1550 B.C	The Great Pyramid of Khufu Egypt Temple underground	Figure 3.13: Structure of places inside the pyramids (Alberto, Siliotti, 1997)	Figure 3.14: section of pyramid (Alberto, Siliotti, 1997)	Mysteries room covered with mountain of stone Somberness, closure, narrowness circulation tunnels Narrow ramp to the below ground	Made of stone in geometric shape	Calm senses sheltering sense comfort sense
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	The part which under the ground has no exterior and just contain of interior. Then insiderness emphasized.	Places connect to each other with vertical accessibilities.	Cognition occurs with symbols. It is the creation place of symbols in the history. Also the exterior which is above ground, look like mountain and part of nature.	Placing the important places in the center.	Close the building with the boundary lines in center.	
<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Plan of the Great Pyramid</p> <p>THE INTERNAL ARRANGEMENT OF THE PYRAMID OF KHUFU</p> <ul style="list-style-type: none"> a. Entrance b. Descending Passage c. Subterranean Chamber d. WGT Shaft e. Ascending Passage f. "Queen's" Chamber g. "Foundation Shaft" h. Grand Gallery i. Antechamber j. King's Chamber k. "Relieving Chambers" </div> <div style="text-align: center;">  <p>Figure 3.14</p> </div> <div style="text-align: center;">  <p>Figure 3.15</p> </div> </div>						




Example 3

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
400 B.C	Cappadocia Turkey Residential dwelling Underground	Figure 3.16: city plan, (URL 1)	Figure 3.17: City section (URL 1)	Hierarchy orientation in vertical direction Sustainability	Extensive networks of passages, tunnels, stepped pits inclined corridors	Landscape Climate Sense of being hidden Sense of security
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Some parts because of completely being underground have more insiderness and some parts because of the increasing the openings to the outside have less insiderness.	Vertical orientation.	Locating in the earth and according to the circulation cognition occur.	Vertical passages are as center of place organization.	Earth defines all the boundaries.	
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>Figure 3.16 Cappadocia. (URL 1)</p> </div> <div style="text-align: center;">  <p>Figure 3.17</p> </div> <div style="text-align: center;">  <p>Figure 3.18: Openings of cave dwelling in</p> </div> </div>						

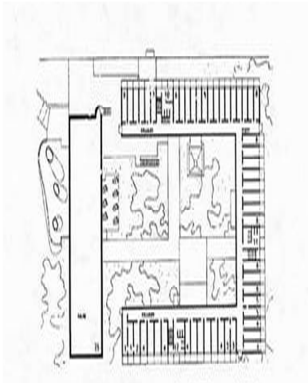
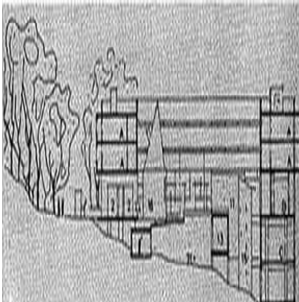

Example 4

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1936	Herbert Jacobs house in Wisconsin Architect: Frank Lloyd Wright Residential Semi underground	Figure 3.19: Plan of Herbert house (URL 4)	Figure 3.20: Section of Herbert house (URL 4)	The house is on outward form appearing to rise from a hill embedded in the landscape and in this way integrated into the landscape, part of it dug in or embankments built up against them	Bottom floor submerged The ground embraces.	The house, offers protection to the north Opening to the south, where the house faces the sun.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Connection between inside and outside is blurring. Then less insiderness.	It has horizontal extension in organizing the places.	That part of building which contain of earth has character to cognition the building.	The house has horizontal extensions from the center.	Boundary integrated with nature. And it is like part of open environment.	
  						
Figure 3.19		Figure 3.20		Figure 3.21: Herbert House (URL 4)		

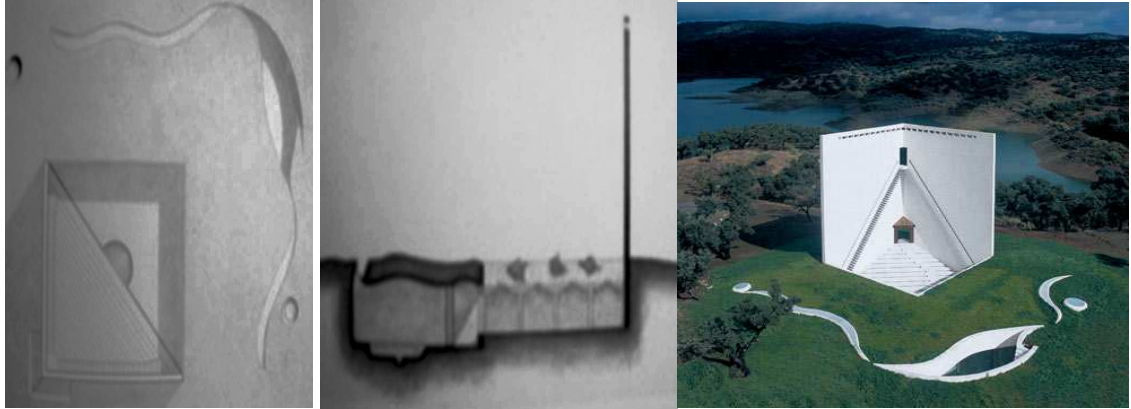
Example 5

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1960	Tempeliaukio Church Helsinki, Finland Architects: Timo and Tuomo Suomalainen Church Underground	Figure 3.22: plan of Tempeliaukio Church (Von Mejenfeldt. 2004)	Figure 3.23: section of Tempeliaukio Church (Von Mejenfeldt. 2004)	Hole in the rock roof for sign of building	Hewn from rock using elementary tools and roofed with copper dome	Emphasize the poles of Heaven and earth. Convert the light from above religious idea
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Enter the light rows from ceiling blurring the insideness of interior.	Light entrance define the verticality of building extentions.	The condition of environment and position of building in the environment create the cognition value.	Central organization in the ceiling which refer to the ground.	Opening around the ceiling define the boundary and the territory of interior.	
  						
Figure 3.21 Mejenfeldt. 2004)		Figure 3.22		Figure3.23: Tempeliaukio Church (Von		

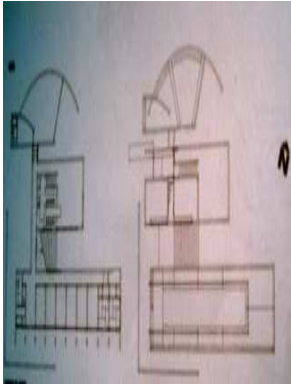


Example 6

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1960	<p>chapel of the Sainte-Marie de la Tourette</p> <p>architect: Le Corbusier</p> <p>Chapel</p> <p>Semi underground</p>	Figure 3.24: plan (Anton, 1966)	Figure 3.25: section (Anton, 1966)	Monastery is submerged in the earth, its introverted location emphasized by the mystical fall of light from above	Strong natural environment.	Seeking meditative introspective quality in design dedicated to be hewn entirely from rock.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Underground part has insiderness.	Vertical and horizontal extensions.	Place integration with nature give the cognition to the building.	Central organization.	Horizontal extensions define the boundary.	
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>Figure 3.24 Tourette (Anton, 1966)</p> </div> <div style="text-align: center;">  <p>Figure 3.25</p> </div> <div style="text-align: center;">  <p>Figure 3.26: chapel of the Sainte-Marie de la</p> </div> </div>						

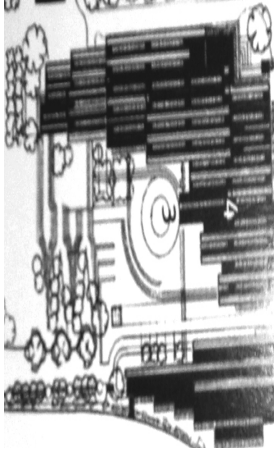


Example 7

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1975	Casa de Retiro Espiritual Spain Architect: Emilio Ambasz Museum Underground	Figure 3.27: plan of Spiritual House (Alassio, 2005)	Figure 3.28: section of Spiritual House (Alassio, 2005)	Extremely light Blends into its surrounding Artificial hill Integral part of the cultural landscape	Artificial hill partly covering facades, often entire roof, with earth. Central submerged patio, onto which all the rooms open.	Invoke the presence essence of architecture without traditional architectural elements such as window and columns.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Openings lead to light and air circulations and less insiderness.	Stairs define the verticality.	Nature integration leads to cognition.	There is entrance and two wall in the center to introduce the building to the nature.	Openings bounding the building.	
						
Figure 3.29: Spiritual House (Alassio, 2005)						




Example 8

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1981	Koshino House Japan Architect: Tadao Ando Residential Semi underground	Figure 3.30: Plan (Jodidi, 2007)	Figure 3.31: Section (Jodidi, 2007)	Large openings bring natural light inside and emphasize the solidity of the structure Integrated with nature Enlarge and modify the structure	Contains Two parallel rectangular concert boxes Added part	I Desire the presence of nature in ephemeral forms
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Insiderness of house define with semi private entrance.	Vertical and horizontal extentions.	The place organization leads to cognition.	Not central organization.	Nature defines the boundaries.	
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Example 9

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1986	Kolner philharmonie Germany Architects: Peter Brusmann, Godfrid Concert hall	Figure 3.33: (Hall, 2004)	Figure 3.34: (Hall, 2004)	Impression of being separated from the outside by the roof by bright overhead lighting of route into the hall Wide open space at surface level that slops down from the cathedral to the Rhine promenade. Decorated complex of passages surrounding the hall	The road along the banks was moved to a tunnel, with two three-lane roads	Upgrade existing ones while condense and add new functions
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Ceiling create the integration between inside and outside.	Verticality because of strong accessibility from ceiling and staircase existence.	Connection with outside from ceiling gives the cognition.	Central organization of place.	Buildings above define the boundaries.	
<div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;">  <p>3.33</p> </div> <div style="text-align: center;">  <p>3.34</p> </div> <div style="text-align: center;">  <p>Figure 3.35: Kolner philharmonie (Hall, 2004)</p> </div> </div>						




Example 10

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1988	Underground house Canada Architect: Bill Lishman Resident	Figure 3.36:	Figure 3.37:	affected by light created from above a square home under the earth	interconnected igloo like domes	Solved Climatic problems
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	The interior is made but exterior has less importance.	Verticality because of the light entrance from above.	Cognition is because of the design.	Central organizing in each part of system.	Buildings walls bounded the building.	
  						
		3.36	3.37	Figure 3.38:		

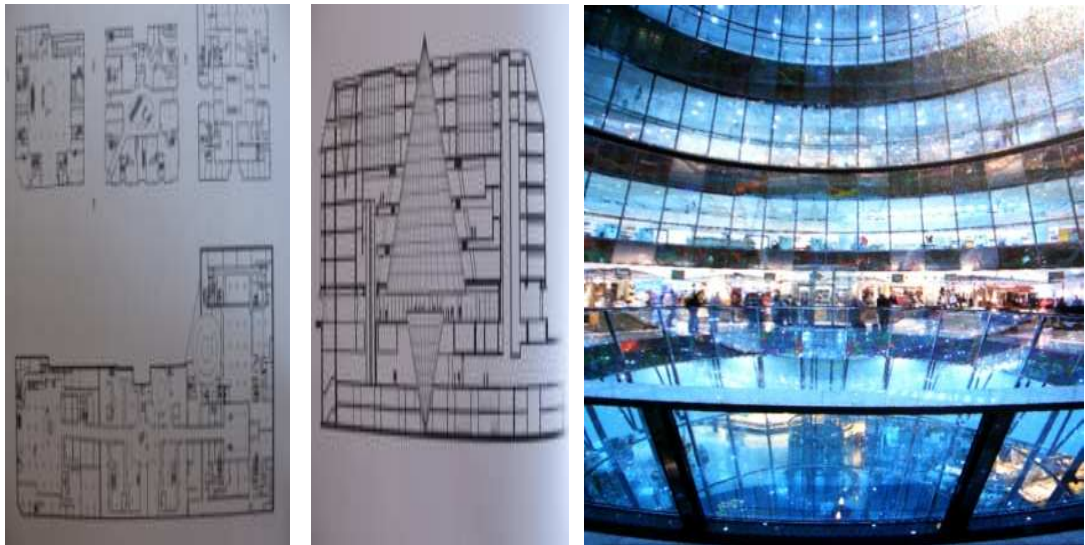
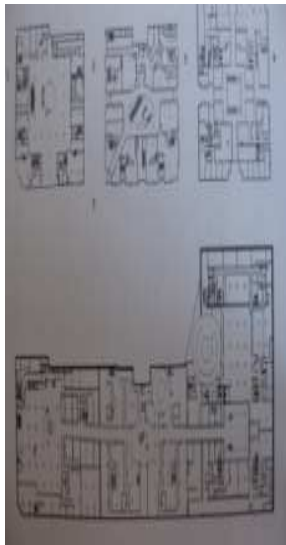
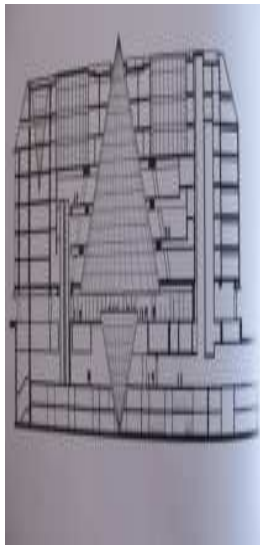

Example 11

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1988	Le Carrousel De Louvre France Architects: Ieoh Ming Pei Museum and exhibition Underground	Figure 3.39: Site Plan(Von Mejenfeldt. 2004)	Figure 3.40: View of pyramid (Von Mejenfeldt. 2004)	feeling of being outside, blurring the boundary between outside and inside the lighting generates accelerated perspective, making the space higher Acknowledged as landmark Light heart	Glass pyramid forms a familiar entrance both to the shopping center underground and museum.	Symbol of modernity The overall plan consist with philosophy according to Which French public art treasures is a part of world culture.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of plac	Less inside ness because of the connection between inside and outside which occur with glassy facad.	Verticality because of the shape of glassy pyramid.	The position of pyramid in the historical site of museum creates cognition.	Central position because of the shape of pyramid.	Ground is the boundary of the place. And bounded with glassy pyramid.	
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>3.39</p> </div> <div style="text-align: center;">  <p>3.40</p> </div> <div style="text-align: center;">  <p>Figure 3.41: Le Carrousel De Louvre(Von Mejenfeldt. 2004)</p> </div> </div>						

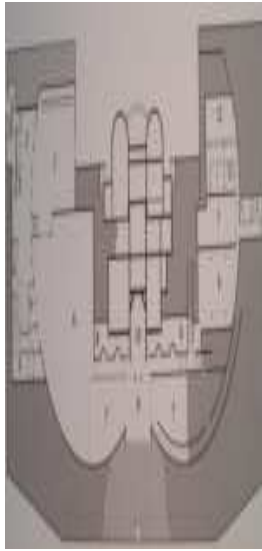


Example 12

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1991	Water temple Japan Architect: Tadao Ando Temple Semi underground	Figure 4.45: Plan.(Jodidi, 2007)	Figure 4.46: Section (Jodidi, 2007)	The shrine is submerged beneath the water from daily preoccupations and prepares him for the transcendental Circular pool field with floating lotus flowers.	Stair case define the main entrance, the visitor descends to the serene temple underground.	Religious idea Epitome of eloquent simplicity.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	There is emphasize on both, interior and exterior. Interior and exterior have a combination with environment.	Building has a horizontal extension in exterior. Stair importance in entrance to the interior create the verticality for inside.	Boundaries of building in nature create cognition.	Central organization in interior and exterior.	Boundary line is strong and shows the interior territory from exterior.	
						
3.45		3.46		Figure 3.47: Water temple (Jodidi, 2007)		

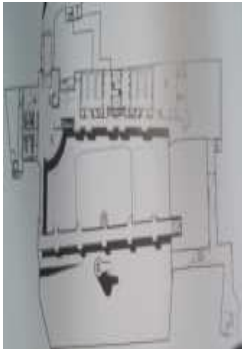


Example 13

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1993	Fredrichstrasse Berlin, Germany Multi functional Semi underground	Figure 3.48: Plan (Von Mejenfeldt. 2004)	Figure 3.49: Section (Von Mejenfeldt. 2004)	Building has two glass cones, that are placed top of each other. Natural light penetration is optimized transport deep down to building. Underground passage is not public area, either. Ironically, despite the success of the hidden passage.	A series of independent mega structures lining Fridrichstrasse, each of it multi functional. Each unit contains four sublevels.	Creates a fashionable shopping area. Strengthens the identity of the public street for visitors.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	The glassy element in the center decrease the insiderness of building.	Vertical extention because of the position of the element in the center.	Feel as passenger in the place.	Strong center and central organization.	Building's façade from above define the territory of place in belowground levels.	
 <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>3.48</p> </div> <div style="text-align: center;">  <p>3.49</p> </div> <div style="text-align: center;">  <p>Figure 3.50: Fredrichstrasse (Von Mejenfeldt. 2004)</p> </div> </div>						


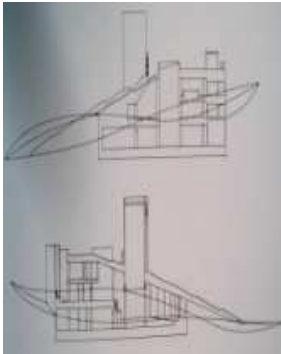

Example 14

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1993	Museum Beeldem Aan Zee Netherlands Architect: Wiem Quist Museum	Figure 3.51: Plan(Hall, 2004)	Figure 3.52: Section(Hall, 2004)	Introverted atmosphere in contrast with the hustle and bustle of the promenade Sky lights and glass screened patio Play of light and shadow on the wall suggest presence of a row of windows	Semicircle entrance covered by another semi circle entrance	Exhibition for an extraordinary collection in the dunes
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	There is semi private part between inside and outside.	Horizontal and vertical extensions.	Cognition occur by the place organization.	In the center there are important functions.	Earth bounded the building.	
  						
		3.51	3.52	Figure 3.53: Museum Beeldem Aan Zee(Hall, 2003)		

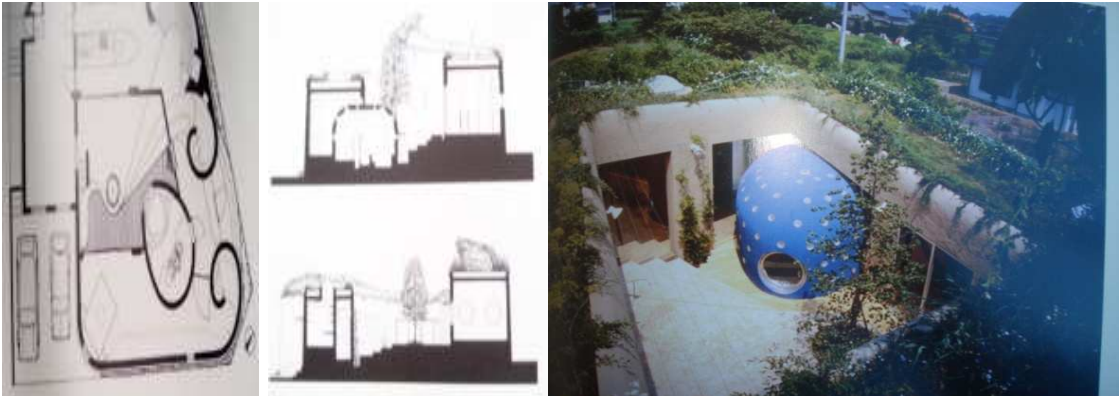
Example 15

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1993	Itakeskus Swimming pool Finland Architect: Hyvamaki karhunen Swimming pool	Figure 3.54: (Hall, 2004)	Figure 3.55: (Hall, 2004)	Sense of direction is affected by the winding route. Feeling of claustrophobia and unease by the variation between small and large spaces Entrance is a glass pavilion that emerges from the bowels of the earth. Wide flight of stairs are a beginner impressive journey to the underworld	the main space open up, where contact with the outside world come to an end	The area is not permitted to have direct links to light or air
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Interior has decortai vedefine and seprate from out.	Building has vertical extention	Be hidden is the cognition reason for the building.	Pool is the strong and important function in the center.	The earth and walls in some parts of building define the boundary.	
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>3.54</p> </div> <div style="text-align: center;">  <p>3.55</p> </div> <div style="text-align: center;">  <p>Figure 3.56: (Hall, 2004)</p> </div> </div>						




Example 16

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1994	Historical museum Japan Architect: tadao Ando Museum Semi underground	Figure 3.58: (Jodidi, 2007)	Figure 3.59: (Jodidi, 2007)	Land space and architecture approach Conveys the tomb Unusual Stepped design and dominate by sculpture tower Indirect approach path to the museum	Cascading waterfall leading to a natural pond near the entrance walk way lead to garden	Burial mound culture
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Inside and outside separate and well defined.	Horizontal extension by the big stairs.	Position of the building in the nature lead to cognition.	Not central organization.	nature is like boundary of building.	
  						
		3.58	3.59	Figure 3.60: (Jodidi, 2007)		




Example 17

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1994	Soft and Hairy House Japan Architects: Ushida-Findly Partnership Residential	Figure 3.61: Von Mejenfeldt. 2004)	Figure 3.62: Von Mejenfeldt. 2004)	Hairiness form of plants locates on the roof. Surrealism in its location of the functions of a home Soft in its undulating forms and use of material	The house folds around an inner courtyard	Resembles the wild and tangible site before it was built on
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Insiderness emphasized in this building.	Vertical extension by the light accessibility.	Locating in the earth lead to cognition.	Central organization because of central patio.	Earth is the boundary of building.	
						
3.61		3.62		Figure 3.63: Von Mejenfeldt. 2004)		


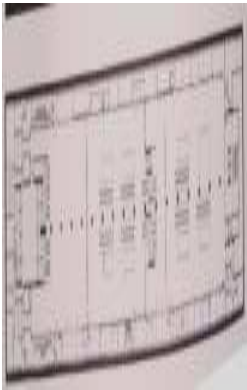

Example 18

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1995	Wagamama England Architect: David Chipperfield Restaurant	Figure 3.64: Plan (Hall, 2004)	Figure 3.65: Section (Hall, 2004)	The layout has been stripped of superfluous detail, including doorposts and other finishings so stress less. Sense of the world is conspicuous in its absence. Artificial and natural lighting, emphasis on purity.	Showpiece situated on the ground floor by the entrance. Long basement corridor, well lit by floor to ceiling windows along the street and open roofs	Introverted in character Speciality in interior
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Inside more emphasized than outside.	There are vertical and horizontal extensions. But vertical extension is dominant.	Design of place and signs in building lead to cognition.	This building has not central organization.	Ground define the territory of building.	
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>3.64</p> </div> <div style="text-align: center;">  <p>3.65</p> </div> <div style="text-align: center;">  <p>Figure 3.66: (Hall, 2004)</p> </div> </div>						

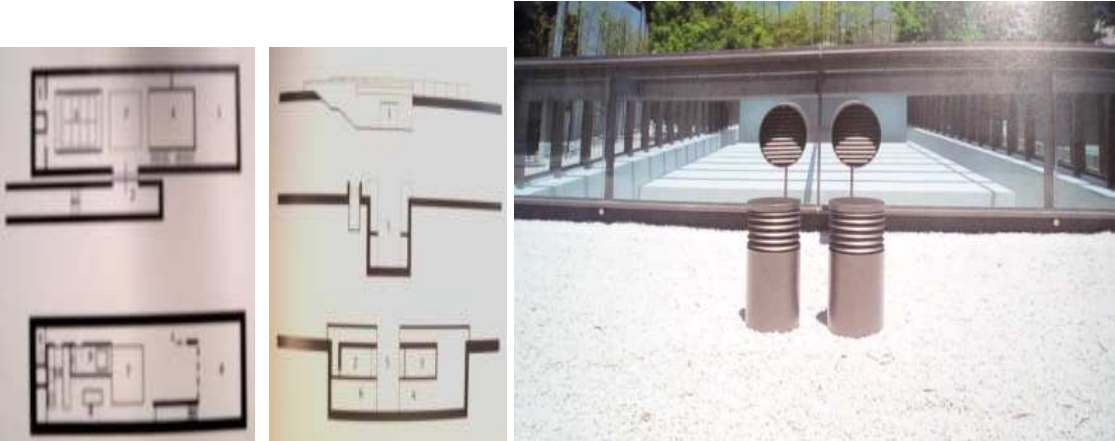
Example 19

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1995	Fabric Italy Architect: Tadao Ando research center underground	Figure 3.67: Plan (Jodidi, 2007)	Figure 3.68: Section (Jodidi, 2007)	Overall harmony Mutually catalytic relationship between the old and the new that would transcend time Sunken below grade, as sign of respect toward the old building	The house folds around an inner courtyard	Try to create a Unified environment
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Interior and exterior well defined.	Building have vertical and horizontal extensions.	Environment is the cognition reason for the building.	Central organization.	Nature is the boundary of building.	
  						
		3.67	3.68	Figure 3.69: (Jodidi, 2007)		

Example 20

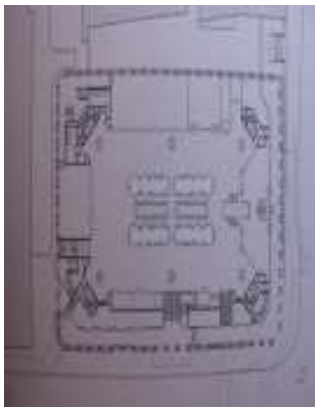
Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1998	Jubli line Canary wharf station London, Britain Architect: Foster and partners Metro station	Figure 3.70: Von Mejenfeldt. 2004)	Figure 3.71: Von Mejenfeldt. 2004)	The route is clearly defined, making directional signage virtually superfluous.	Three elliptical canopies protrude above ground level, they are foyer of underground.	Speedily orientation
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal		Cognition	Enclosure Centralization	Boundary
Sense of plac	Interior and exterior well desigend.	Vertical extention.		Cognition of place by signs of place.	The building has not central organization.	Earth is the boundary of building.
<div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">  <p>3.70</p> </div> <div style="text-align: center;">  <p>3.71</p> </div> <div style="text-align: center;">  <p>Figure 3.72: Von Mejenfeldt. 2004)</p> </div> </div>						

Example 21

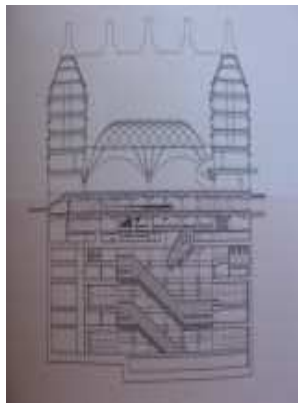
Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1998	Glass temple Japan Architect: Takashi Yamaguchi Temple complex Semi Underground	Figure 3.73: Von Mejenfeldt. 2004)	Figure 3.74: Von Mejenfeldt. 2004)	Hollow in the ground Divine experience, contemplation atmosphere, mysterious nature	Glassy, visible roof, 75 cm above ground, courtyard as interior not exterior spaces, light entering from court yard	The idea of Descending into the ground to meditate and reflect conjures associations with serene, introverted spaces.
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal		Cognition	Enclosure Centralization	Boundary
Sense of place	In the building emphasized on insiderness.	Vertical and horizontal extentions.		Cognition because of the characteristics of building base on Japanese believes.	Building has not central organization.	Earth defines the building territory.
						
3.73		3.74		Figure 3.75: Von Mejenfeldt. 2004)		

Example 22

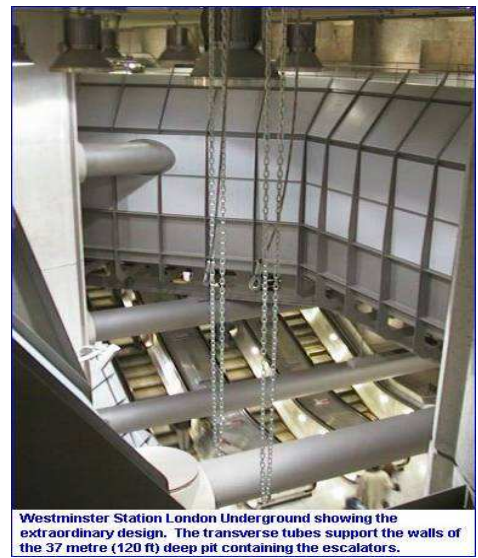
Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1999	Jubli line Westminster station London, Britain Architect: Michael Hopkins and partners Metro station	Figure 3.76: Plan (Von Mejenfeldt. 2004)	Figure 3.77: Section (Von Mejenfeldt. 2004)	Impressive interior Integral design	Surface load transfer to the retaining walls, kind of concrete box and inside the box is a lit,	Eases the people's circulation and save space
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Interior and exterior well defined.	Vertical extentions.	Signs and the weather condition also time and society are the cognition reason.	Building has a central organization.	Earth in the belowground levels is the boundary of building and above the grounds walls define the boundary.	



3.76



3.77

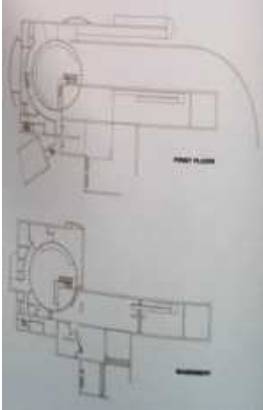
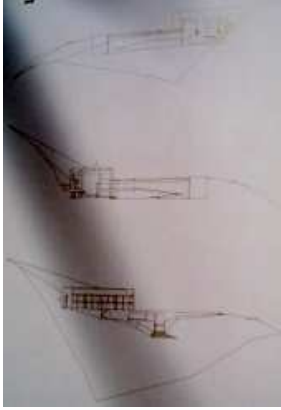



Westminster Station London Underground showing the extraordinary design. The transverse tubes support the walls of the 37 metre (120 ft) deep pit containing the escalators.

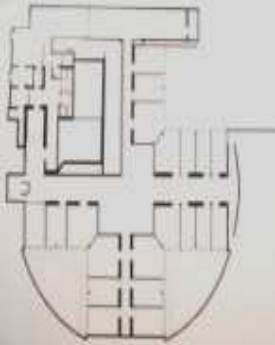
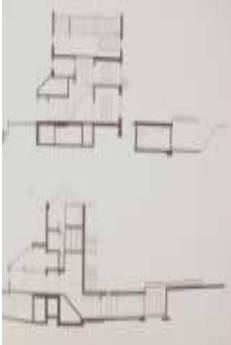

Figure 3.78: Jubli line Westminster station (Von Mejenfeldt.

2004)

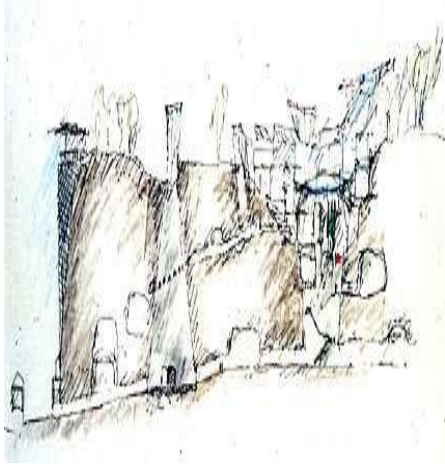

Example 23

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1999	Naoshima contemporary art museum Japan architect: tadao ando museum underground	Figure 3.79: Plan (Jodidi, 2007)	Figure 3.80: Section(Jodidi, 2007)	Relation between spaces Proximity of the sea	Oval courtyard and pond	Something akin to an earth work by digging
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Interior and exterior have the importance.	Vertical extension by the light entrance from semi private part.	Environmental integration leads to cognition the place.	Central organization exists in building.. the pool exist in the center. It is strong fun action and has not ceiling.	Nature is the bound of building.	
  						
3.79		3.80		Figure 3.81: Naoshima contemporary art museum (Jodidi, 2007)		

Example 24

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
1999	Villa hoogerheide Netherlands Architect: Jo Crepain, Antwerp Office	Figure 3.82: Plan (Hall, 2003)	Figure 3.83: Section (Hall, 2003)	Axis terminates at an earth retaining wall, against which two staircases serve as escape routes Major orientation point on the main axis	Circular subterranean extension Central corridors Patio housing style	Prevent destroying the view
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal	Cognition	Enclosure Centralization	Boundary	
Sense of place	Existing the semi private patio make the insiderness for places around patio.	Verticality occur by the way of positioning the openings around patio.	The way of connection between out lead to cognition of place.	There is a centralization around patio.	Building territory define with the earth.	
 <p>3.82</p>		 <p>3.83</p>		 <p>Figure 3.84: Villa hoogerheide (Hall, 2003)</p>		

Example 25

Date	Site Specifications Name/country/type of the building	Spatial organization	Sectional relation	Place Specific characteristics	Space characteristic	Essential quality
2002	Vulcania museum Saint Ours Les Roches in Auvergne Architect: Hans Hollein museum underground	Figure 3.85:Section(Von Mejenfeldt. 2004)		In this museum visitors can see what happens under the earth. Complexity of buildings has strongly symbolic connotations. Unrealizable from the ground	It is a long descent that leads visitors, as if through an eroded valley, to a funnel-shaped artificial crater, the heart of volcano museum.	passage through the earth is an important aspect for building
Spatial organization of place				Characters of place		
	Inside-Outside	Directions Vertical-Horizontal		Cognition	Enclosure Centralization	Boundary
Sense of plac	In this building emphasised on interior place and because of it, building has strong insiderness.	Verticality is the result of light entrance from above and ceiling.		Cognition in place is the result of positioning of building in the ground which has special characteristic of being in the ground.	Central organization of place because of the ceiling position.	Bounded with earth.
 <p>3.85</p>		 <p>Figure 3.86: Vulcania museum (Von Mejenfeldt. 2004)</p>				

3.4 Identification Qualities of Place Belowground Levels /Evaluation of examples

To be conscious about the belowground levels places, the components of the table 4.1 show the spatial organization of place and the characteristics of place in belowground level places through the examples.

3.4.1 Spatial Organization of Belowground Levels

Place concept of contains spatial organization. This means that networks of connections have special aspects for the expression of awareness and experience. Place is the field for efforts and contains cognitive identity. (Merleau-Ponty.1962)

Spatial organization of place is mentioned as an aspect of existence, and it is categorized as containing a spatial meaning. This category involves the characteristics of earth-sky (horizontal/vertical) and inside-outside relationships. Each of these classification agents has specific properties in below ground level and they have effects on the quality of place.

The aim of all buildings is to change the site in to a place. Spatial organization of place is not static places are changing. This doesn't mean the change of the place sense. Stabilities logic is necessary for human life, but this stability is agreeable with change and seeking for better condition.

Table 4.4: Spatial organization of place

Spatial organization of place (existential aspect, spatial meaning)	Direction of spatial extensions (horizontal/vertical)
	Inside- outside

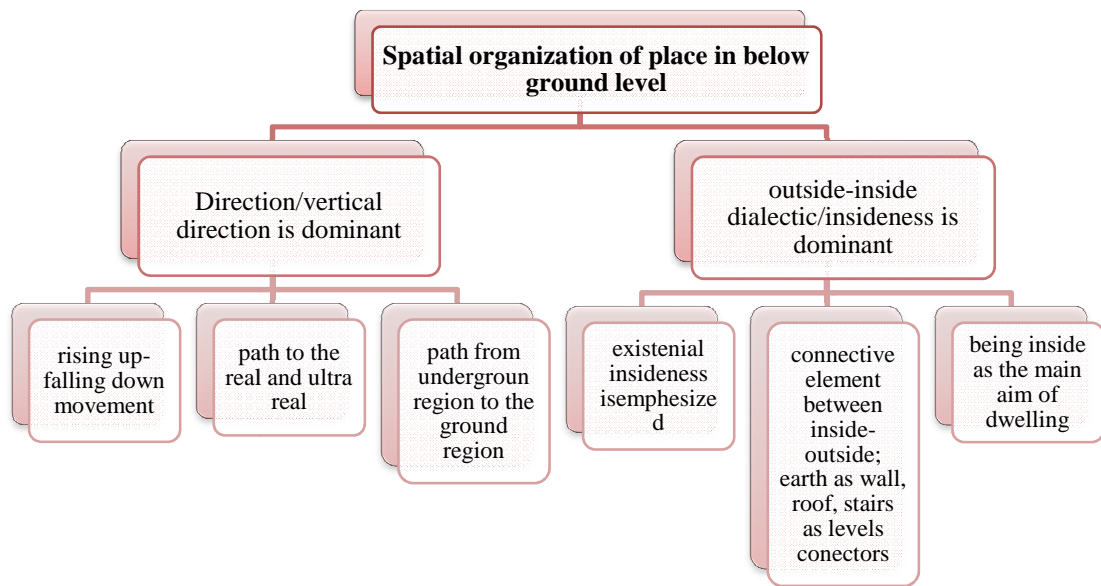


Figure 4.89: spatial organization of place in belowground levels

3.4.1.1 Direction of spatial extensions (horizontal/vertical)

Direction gives unity to elements through owning them and mostly relating them to a wider whole. Sometimes, paths and axes conjoin to each other. Always, paths tend outwards from a beginning point.

Findings about spatial connections show the body, with its dimensions, from up to down, before- after and right to left as a coordinating source of a psycho-physic system. Also, these extensions relate to the natural phenomenon such as directions (Norberg, Schulz.1975). Therefore, directions emphasize various properties of place; the dominant direction in underground level is the vertical direction. Thus, investigation about vertical dimension is noticable in the spatial organization of below ground levels.

Vertical dimension demonstrates rising-up and falling down. Vertical dimension has been considered as a holly dimension of space from the ancient times. Vertical dimension shows path to the real world which is up and down in the daily life. Therefore vertical axis symbolizes of a path. Vertical axis is the path from one existential region to another existential region. Verticality has surreal aspects.

Vertical axis splits the horizontal surface. A path shows the main property of human existence and it is one of the important and basic symbols for human beings. Paths divide human environment to regions which are mostly cognitive. These regions and domains in fact are places. Early human's beings created their first existential base via structuralizing the domains by directions. Thus, human beings don't have a feeling of lost beings become of the guidance of directions. (Norberg, Schulz 1975)

3.4.1.2 Outside and Inside Dialectic of Place

Experiential places are mixtures of human and natural order and are defined with significant human experiments of humans. Basic and main agents in place experience are being inside or insiderness. It gives a sense of belonging to the place, thus human beings identifies and owns the place. (Relph 1976). In the entrance of Koshino House by Tadao Ando (Figure 4.13) having a wall at one side of the living room, having big windows to the private patio, and a stair case as a separation element between private and public spaces, create a sense of insiderness .



Figure 3.90: Koshino house, (Jodidi, 2007)

Insiderness and outsiderness relation is a essential dialectic for experience. Different degrees of insiderness and outsiderness lead to different cognition of places.

Existential outsiderness give a strong sense of alienation akin to the sense of a stranger. In existential insiderness, subconsciously, place is full of sense and meaning to a person (Relph 1976).

Outsiderness and insiderness have direct relation to the experience of place. Categorizing various classification of outside-inside within a conceptual structure is appropriate for this research and cognition of specific places which are below ground level:

1- Existential outsiderness: A person feels himself out of place. In this position place gives an uncomfortable sense; of alienation. An example of this sense is evident in the homesickness and homeless positions.

2- Objective outsiderness: this position contains neutral and deliberate separation of the observed place. In this position place as an objective is under the study of scientific investigation about place and the environment which architectures use.

3- Sudden outsiderness: when place merely is a background and a position for accomplishment; for example landscapes and places that a person passes in his movement.

4- Existential insiderness: relatively containing sense and comfort in place. Place experience is subconsciously noticed; therefore, it is full of meaning. A person feels belongingness to the place. This is the deepest type of place experience and all humans desire it.

5- Behavioral insiderness: attention and careful deliberate position of place. Place counts up as a collection of objects, views and efforts. For

instance, experience of a place for the first time is an attempt to recognize cognitive paths and landmarks.

6- Empathetic insideness: person as an outsider attempt to cognate the place clearly and perceive it. This experience is necessitates of interest, unanimity and truthful attention to place.

7- Vicarious insideness: in this position connection with place come from illusion and imagination like in paintings, stories, music, film and other creative medias. For example Munesh paintings of Giverny garden touched Thomas Hardy roman which describe the 19s England villages. (Relph.1976)

Below ground places because of their specific position and location inside the earth, have emphasis on insideness. Therefore the existential insideness is one of the qualities of underground places.

Entrance as border between inside and outside:

The entrance of an underground building is a crucial design element. Entrance is the border between inside and outside. The conventional method of creating entrance corresponds to horizontal accessibility from outside to inside. The entrance for belowground levels has vertical feature, because of that, the entrance should connect different levels of the earth, and therefore it should sink in to the earth in the vertical direction.

One technique for doing this is to slope the ground downward towards the building. This allows people to descend the equivalent of one story while in an expansive, open air environment and walk into the building in normal mode. Another approach is to bring people into the underground level and then taking an elevator or escalator to a lower level, which is also a familiar activity. The traditional way to go underground is to create an entrance by stairs, such as the entrance to the

water temple by Tadao Ando, which is meaningful for Buddhist religion. It is also, a vertical functional state to take people to the main area from outside to inside (Hall, 2004)



Figure 3.91: Water Temple entrance, (Jodidi, 2007)

Designing from outside to inside necessarily accomplish through tensional strength. Thus insiderness is distinct from outsiderness, Architecture create the location of junction between inside and outside (Nurberg, Scultz 1975).

There are three building elements in all buildings. There are floors, walls and ceilings. The main and basical reason for the existence of these three elements is to make connection between inside and outside. These three elements, together and

automatically in different methods create an inside through an outside; floor via above and beneath, wall via within and around, ceiling via over and below. There are different types of architecture and every type of architecture has an expression of insideness and outsideness, via various degrees of openness and enclosure. (Thiis, 2000)

Below ground levels have a unique position in the earth. Therefore, those three building elements have unique definitions. Floor via above connects outside and inside, walls which relate within and around is ground itself. It means that there aren't other places beside inside. Thus; there is earth beside insideness and outsideness posited at the upper level and not on the same level with insideness. Ceiling is on the same level with the ground. Its entrance and structure is another connector between inside-outside. In below ground level it is a connector between levels in vertical sides.

Human success about definition of insideness and outsideness means dwelling. Reciprocal effect of place and environment on each other creates the inside and outside. Being inside is the basic aim for place, hence far from what is outside (Norberg, Shculz 1975).

A place for working as inside should answer to some ordinary orders; it should enter to the closed shape, which is the significant point.

House shouldn't be like a prison. Therefore, it needs openings to outside and in return creates a relation between inside and outside. Light gives a spirit to the place, because it is the base and foundation of life acting and reacting with the environment (Norberg, Schulz 1975).

In belowground levels dealing with openings and connection to outside occur through the vertical side and above.

Identity or sensitivity in relation with the environment always exists. Whenever there is a here, subconsciously there will also be a there. (Kalen 1996) Being inside is a significant quality via its places. This is such a quality which reinstates the deepest sense of settlement and dwelling. (Relph, 1981)

3.4.2 Essential Characteristic of Belowground Levels

One of the important points in Relph's ideas is the deep perception of identity, home and community meanings. From his point of view, the main meaning and essence of place is based on human subconscious factors, which define places as meaningful and deep centers of the being, and human existence. (Relph, 1981)

Intervention of humanity in the place is successful since human beings can cognate the main place characteristics. This establishment causes a human place which has harmony with human characteristics. (Seamon 1982)

A proper environmental image gives a strong sense of safety and emotional security. Environmental image is a consequence of spatial organization of place and this makes the imagination process possible. Weakness of environmental image leads to a loss of sense. Elements containing the structure of place are concrete, and they contain a character and meaning (Norberg, Schulz. 1975).

Without character all environmental surfaces would look abstract, such as a city known just by a map. When a character is visualized via formal articulation, in fact existential meaning appears as tangible things. Environmental character contains the soul of place soul. If place soul has reality and strength essence then place sense will be more tangible (Norberg, Schulz. 1975).

In below ground levels; the main object to create character of place is the earth. Ground itself is the existential part of world's essence. Therefore it is the most effective agent to give essence to the place.

Character is noticed in the whole atmosphere and from another point of view.

Phenomenological character includes appearance characters and determinants agents. All places have character. Place characters from some aspects' are come of time. Because of change of season, different times during the day, effect of weather condition, and also sun shine, according to these agents, character of place may change. Therefore, the sky over the head, the ground under the feet and also boundaries which define the place are significant. Recognizing the character of place depend on how the things are built. (Norberg. Schulz 1975)

A study about place in everyday life is possible through the character of place field. Thus, place structure can be described in known concepts like landscape and subsistence complex, then analysis of the place character becomes possible.

Natural or artificial character of place should be, determined first. Then it becomes possible to describe character of place with notions such as closure, openness, width, narrowness, somberness, luminosity. The concept of design, which are embodiment, modeling, proportion, rhythm, scale, dimension, materials, texture and color can describe the characters of a place. (Nurberg. Scultz, 1975)

In specific place positions such as belowground, some characters of place are certain and static and some relevantly and may change dynamically in the course of time.

Human dwelling means settlement in the place and existence in environmental characters. Subsequently two psychological proceeds occur. These are orientation and cognition. These two are the most important aspects of place characters and if they occur suitably in a place then human beings can have the place

sense. Characters some place contain of other aspects also. Those aspects are, firstly closure and centrality and secondly boundary and territory of place.

Table 4.5: Characteristics of place

Character of place	Orientation and cognition of place
	Closures and centrality
	Boundary and territory of place

To recognize the character of place in belowground levels, the aspects of character of place should be defined.

3.4.2.1 Orientation and Cognition of Place

Cognitive dissonance is an inconsistency between behavior and environment which cannot be attributed by humans to the external factors. Consequently those persons with cognitive dissonance tend to adopt their environment or their behaviors in order to bring the two back into harmony. If environment and behavior are in harmony cognition of place become possible.(Rapoport ,1977)

Norberg Schultz (1996) mentions human beings as part of the environment and says that forgetting this point lead to alliance in place. Modern human believe that technology and science deliver from direct relevance to the place; but air pollution, environment agitations and chaos appear as revenge angels and necessity of attention to the place and environment again becomes the subject of science Today, it's clear that place soul is a determinate and an important agent in any culture (Norberg Schultz , 1996).

Sense of place, more than anything, depends on environmental cognition.

Environmental cognition leads to a sense of feeling at home. Many people have a feeling of home with the environment, but do not have identified feeling. Real

belonging to place depends on both home feel and identified feeling. If an environment is not cognizable to a person, consequently, that place gives a sense of alienation and loneliness. Sense congeniality sense is being friendly with special environment. Scandinavians love the fog and ice and cold winds; and enjoy snow whiz sound under their foot, always experience the poetical value to sinking in fog. (Norberg Schultz , 1996).

Experience of place is contains a kind of relation and connection between outside-inside of the world and between inside-outside of the human body and human soul. Cognition of place makes people act more effectively in the environment, and also is a reason for emotional security and enjoyment of environment. Humans feel happiness and enjoyment in places, which make cognition possible. This requires distinctive characteristics from physical characteristics. Character of a place, which is usually remembered with emotion and sensation, causes sentiment and lack of it gives a feeling of dissatisfaction. Human identity is usually affected by places identity. Therefore if environment has clear spatial organization and contains of real things, it is possible to orientate in place and cognate the environment. Cognition sense of belonging is based on cognition of place. (Repoport, 1977).

Belowground levels, because of being in earth, cover features of a concrete existence, and contain purest materials to create the place. Therefore, according to what has been mentioned about cognition, there are cognition-identity sense and sense of belonging in belowground levels. Dwelling means belonging to a real place. In some ancient dwellings, such as Cappadocia in Turkey (Figure 4.18) and Yao Dong in China (Figure 4.17), sense of cognition and identity according to place and

sense of belonging are so strong that after moving centuries passed there are still settlement in them.



Figure 3.92: Cappadocia, Turkey, (URL 1)



Figure 3.93: Yao Dong, China, (Wang, 2003)

Knowledge of a place-where someone is, and where someone come from-is intertwined with information of who someone is. Landscape, in other words, shapes mindscape (Orr, 1992).

Distinction between outside and inside is the main foundation for place cognitive (Gidiyon)

Orientation answers to three questions:

1-where is the person?

2-how does a person enter the place?

3-how does a person understand where he is entering? (Rapoport 1977)

Orientation happens in three ways:

1-via topology by identical continuity

2-via designing, cognitive elements and placing them in a reference frame

3-via positioning, with use of evident and clear orientation and detachment

(Rapoport 1977)

Usually orientation in place is the combination of three methods. Therefore orientation is the processes, through characteristics of which people settle in a place and have the ability of using of the environment.

Kevin Lynch studied the spatiality of place effectively, and presented concepts like node, sign, way, edge, and district as basic elements of orientation in a place.

Below ground level orientation depends on the type of below ground category of places. These are: 1- Below ground level which has direct contact with outside, 2- Below ground level which has not direct contact with outside. Orientation properties of each type are different. In the first type, because of air circulation paths and light as an important agent, place can be recognized as an orientation source. On the other

hand; light entrances and scenes which connect earth and sky in place, contains a base for orientation in place. But in the second type air circulations assist the orientation in place. Metro stations (Figure 4.19) do not have direct connection, with outside, therefore, orientation and cognition in them are based on technological solutions such as air conditioners and electrical stairs and signs to find direction.



Figure 3.94: West Minister Metro Station, London, (Von, Meijefeldt, 2003)

Entrance of Louvre Museum (Figure 4.20) is located belowground level. From the top it has a glass pyramid which connects the inside to the outside directly. Orientation and cognition inside this type of below ground levels occur according to the outside.

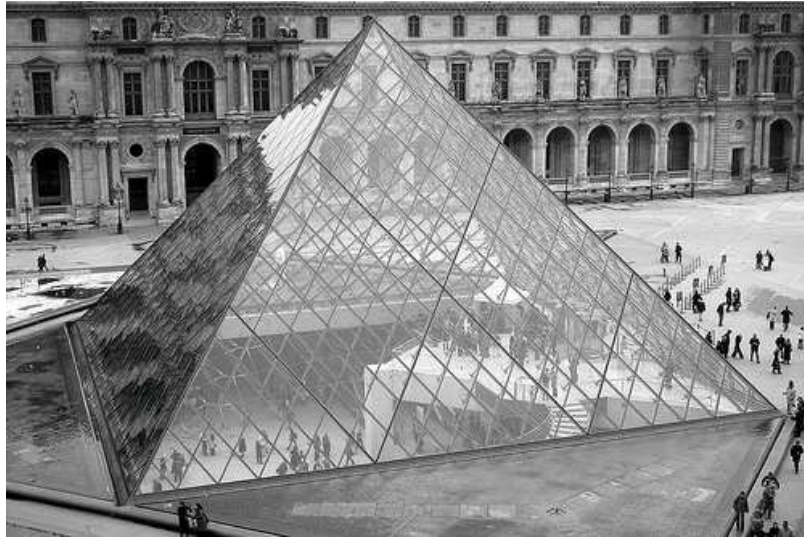


Figure 3.95: Louvre Museum, Paris, (Von, Meijenfeldt, 2003)

Cognition in place is related to the sense of place which is an outcome of place experience. Also quality of place structure can affect the place cognition.

Place contains two parts: space and character. Also, place sense is the result of place characters, thus, orientation and cognition.

3.4.2.2 Closures and Centralize

Need of centralization have been strong in human beings from the ancient days on today if appears all over the images of world as a centralized existence. In legends and stories, the center of the world is imaged as a tree or a column, which has the irony of world's vertical axe. (Norberg, Schultz. 1975)

Each closure changes towards the center and this may be the focal point of its environment. From the center, space extends with various degrees of rhythm. Each existence seems circular in its own essence. The shape of a circle consists of two elements: center, and environment. (Norberg, Schultz. 1996)

Main properties of artificial places are having focal points. Central place organization consists of a center and surroundings as insiderness, and also openings to the outside for connection to the outside.

Underground planning is mostly based on central organizations for organizing the space in below ground levels. Therefore they consist of the properties of central schemas. Centralized systemization is evident in Naoshima Contemporary Art Museum which was designed by Tadao Ando. This is a belowground level building.



Figure 3.96: Naoshima Contemporary Art, (Philip Jodidi, 2007)

3.4.2.3 Boundary and Territory of Place

Boundary line has a significant feature. Boundary separates the inside and the outside. It also determines outside character and urban view character. (Ashihara 1983)

Boundary and territory have three most significant characters. These are:

- 1-Sense of spatial identity
- 2-Sense of exclusiveness
- 3-Control of communication in place and time

Boundaries produce spatial order, and at the end determine place quality.

Any limitation is defined by a boundary. Hedegger says, boundary is not to stop things, but boundary is a beginning of existence of some things. Built space boundaries are floors, walls. Sight and landscape boundaries are earth, sky and horizon.

Enclosure property of boundary is determined by its openings. Wall presents the visible boundary of spatial structure and has properties such as orientation, rhythm, and continuity (Norberg, Schultz. 1997).

Door is another significant element of boundary. From the ancient time to present days, door has been one of the most symbolic and important elements in architecture. Door can have infinity and an eternal meaning. A door can give unity or make articulation. From the psychological point of view, a door can be open and also be closed. (Norberg .schulz 1975).

Thus door determines its relation with what is out, Window is the symbol of what is in. It is like the eyes. Window has the description of a far view and an inside view over the outside. (Seamon 1998)

Experience of movement and transfer is made real by a door and in reflection. It gives life to the visual process of inside and outside dialectic. (Simon, Magruer 2000)

Boundaries create the places for the recognition of human beings. Perceiving is mixture of territory and place sense (Norberg, Schultz. 1997).

CHAPTER 5

DISCUSSION AND CONCLUSION

In this study, the meaning of place in specific positions, which are belowground levels, have given rise to a specific analysis of the concept of place. In this concluding chapter, this study presents and analyses the general research findings concerning experience of place and bodily perception of place in belowground levels. The characteristics of different belowground place examples are examined and compared to the theoretical approach to the sense of place in belowground levels.

This thesis approached the research topic by first taking the general view of the lived space and place meaning in belowground levels. The examples revealed that the sense of place existence in the belowground place was identifiable. Having established this common feature in belowground levels, the place character in belowground was investigated. The findings from this analysis further reinforced the concept of existence of the sense of place in the places which are contained by earth.

During the history use of this type of places, illustrate sense of belonging to that specific type of places. The examples showed that belowground level places mostly were used for holly aims, because of specific spatiality and characteristics of them.

In the history, these types of places were classified in groups according to the purpose of use of them, such as temples which have burial essence, cave dwellings which have vernacular essence, churches and place of worship which have holly essence, connector and corridors which have bridge essence, museums,

administrative and residential typology. And for each group some important examples are mentioned that shows the experience of place and bodily perception in them in order to explain the spatial organization of place and characters of place. Also analyzing the examples illustrate that most characteristics of place occur in the same manner and all lead to sense of place in belowground places.

. The outcome of analysis of examples showed the significance of verticality (dominant extension is vertical in belowground levels) in the belowground levels because of the relationship which occur between human and sky in vertical direction and other specialties of vertical extensions. Another result of example analysis is investigation of the outside-inside dialectic. According to this approach it explained interior is stronger than exterior in belowground levels and analysis of examples also emphasize the insiderness in belowground levels.

Another analyzed subject was the characters of place. The agents containing characters of place are cognation, centralization, boundary and territory. Cognation of place lead to human identify him/herself in the environment and know him/herself. In most examples because of the importance of the sky light, plans are organized centrally for being the places around the source of light which lead to central planning and centralization. This also creates own characteristics. Boundary and territory of place, in the other words, boundary of human action in the belowground levels is defined by earth and ground and this puts human in integration with nature.

All analysis defines the act of human in her/his own lived space which equivalent with place, and it has meaning of experience of place by human. Experience of place defines the sense of place.

In the history there are examples of belowground places, type of which contained dwellings in them. Also in sustainable contemporary architecture there are various designs which use belowground levels. To contributing to research in this area, this study attempts to the quality of place in belowground levels. It also provides an insight into the history of the belowground level dwellings and buildings. The study will serve its purpose through awareness of place and design issues in architectural field, as these are directly linked to a clear understanding of place quality.

This research may help in, realizing the value of belowground levels as places which have integration with human soul to provide them for human life. Such aspects, issues and principles can be taken into consideration in future design.

Besides having a low profile in the visual sense, underground buildings present certain challenges to their designers. The issues may be different from the aerodynamic and structural details crucial to tall buildings, but effective subterranean design is certainly achievable. These design issues fall into two broad categories; those related to human perception and emotions, and those imposed by nature. Spiritual aspects and natural forces, which are grouped into the traditional categories of earth, air, fire and water, have a significant role on design.

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