

ORIENTATION, IDENTIFICATION, REPRESENTATION

Space and Perception in Architecture

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*To seek the essence of perception is
to declare that perception is,
not presumed true, but defined as access
to truth.*

Maurice Merleau-Ponty

Perception is essential to being in the world — through perception we are in the world. Perception is our way to understand reality and to acquire knowledge of it and be in interaction with the environment. Experiencing architecture is based on perception: the spatial orientation, identification and representation which together make possible our environmental experience.

Architecture is not only seeing, but also experiencing. Environmental endoscopy makes it possible to study the environmental orientation, the spatial elements of the environment, but the identification and the representation which are included essentially in the overall perception of the environment presuppose the actual experience of the environment. This presentation discusses all these three levels of the spatial experience.

In architecture, space can be discussed in many different ways: we can talk about, for example, architectural space that includes inside and outside space; we can discuss urban space that includes the physical structure of the whole built environment or we can talk about what has been called existential space, that includes the relationship between man and his physical environment. In this presentation space is considered in its wide, experience based meaning: space as the environment of percep-

tion, the interaction between man and space, or as a kind of cognitive space theory. Most essential in this discussion is the experience of place, the feeling of place, and its origins, since place is the most unique experience of space, it is man's deepest experience of the environment.

INTRODUCTION: Environmental Analysis

The methods of analyzing space based on perception are called environmental analysis. Environmental analysis is based on the analysis of both the perceptions and the images they bring forth. Environmental analysis begins from the idea that the environment consists of certain spatial/physical elements that are connected to each other in a certain way forming a structure or a system. When the elements and their connections to each other are realized successfully they form an unforgettable good environmental totality, or a place. (Stenros, 1992).

In environmental analysis, space can be approached on the different levels of its occurrence: with the help of environmental analysis we can seek the characteristics of the environment, or make a study of the environmental images or analyze the universal, theoretical structure of space. In environmental analysis space is not considered as a phenomenon but it is studied as internal relations and the structures they form in order to make a theoretical model of the structure of space.

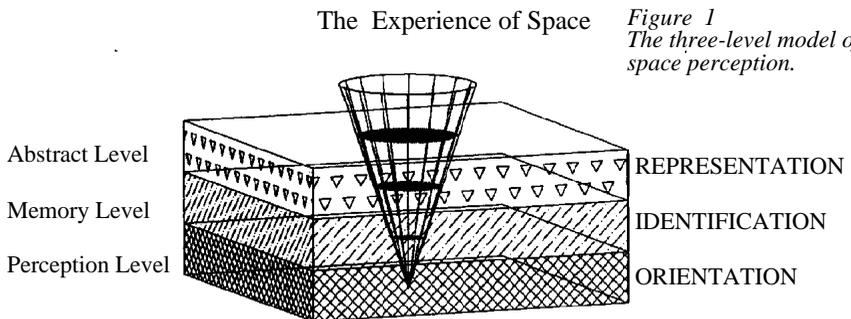
The space theories based on environmental analysis form a tradition among architectural theories. The examples of early space theories are the theories of Gordon Cullen (*The Concise Townscape*, 1961) and Edmund Bacon (*Design of Cities*, 1967) which deal with the city structure and movement in space. The actual space theories, or so-called place theories, that emphasize the feeling of place as an environmental aim, are the architectural theories of Kevin Lynch (*The Image of the City*, 1960), Christopher Alexander (*A Pattern Language*, 1977) and Christian Norberg-Schulz (*Genius Loci*, 1980).

Space theories have been greatly influenced by the cognitive knowledge and science of the time. The theo-

ries of Cullen and Bacon were inspired by the psychological motion research of the time; Lynch has applied to his theory the mental images of cognitive psychology. Alexander's theory is based on linguistic research and the theory of Norberg-Schulz is based on figure theory and phenomenology. Most information about perception and the relation between man and the physical environment is to be found in the classical theory of the image of the city by Lynch.

The Three-Level Model of Space Perception

In the perception of space we can separate three levels that appear simultaneously: (1) first, the perception level or the physical reality, the environment that we perceive, (2) second, the memory level or the images and the feelings of the environment through our personal history (i.e. the personal environmental experiences collected into memory) and (3) third, the abstract level, the level of perception representations which on a general level organizes and directs perception, memory and action in the environment. (Stenos, 1992).



When considering the levels separately, we can talk about environmental orientation (the perception of the environment), environmental identification (a sense of place) and environmental representation (the figuring of the environment). The environmental orientation in-

cludes the analyzing of space: the spatial elements, the sequences of space and the experience of them while moving in the environment. The environmental identification contains the experience of place, the special consciousness of some meaningful point in space or environment. The figuring of the environment includes the mental representation of the environment. Together all these levels form the interactive cognitive system between man and the environment. The elements on the perception level are the physical environment and its objects: the natural and built environment, like for example the natural places and the built archetypes which manifest them in the theory of Norberg-Schulz. On the memory level, the environment consists of the mental images connected to activities and places as in Lynch's theory of the image of the city. The abstract level consists of the categorical relations both in the structural elements and between them, like Alexander's morphological laws of a pattern language. The abstract level directs perception in a general way, recognizing and classifying space. The memory level directs the schema of the perception cycle, the anticipating—i.e. what will be perceived and paid attention to and what we will be conscious of. The physical level strengthens or corrects the perception schema depending on the correspondence of information between the schema and the sensory perception. Together, the different levels of space perception form the continuous, layered space experience.

When all the levels are activated simultaneously—or we become especially conscious of them—we become aware of the feeling of place: the experience of the physical level is combined with memories and the instant consciousness of the universal structure, "the microcosmos". The experience of place occurs at a special point in the continuous experience of space, vertically piercing through the levels of space experience, thus always reflecting both the unique and the universal structure.

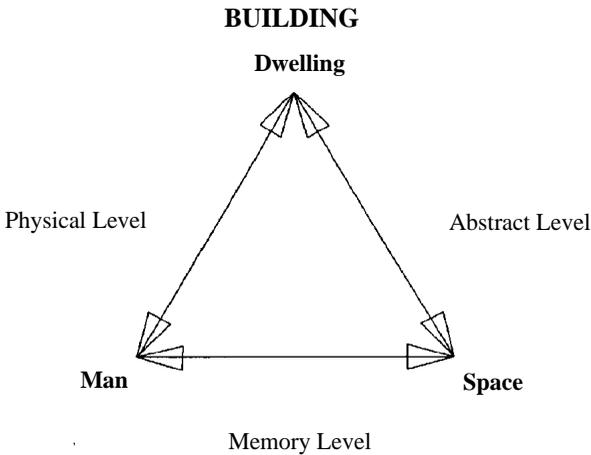
On the perception level the perception of place occurs; this is the external experience of place, the spatial orientation. The memory level includes the inner experi-

ence of place, spatial identification, which includes spatial representation, the figuring of place. In the next section I will discuss each of the levels of perception separately through their characteristics.

ORIENTATION: Nesting and Being on the Road

According to Martin Heidegger, the relation between man and space is most accurately defined as dwelling, which is the way man is on the earth. For Heidegger, earth and sky, divines and mortals form together the fourfold that dwelling protects and assists by bringing to the things the essence of the fourfold. The essence of building is in letting-dwell. (Heidegger, 1971). Thus, the relation between man and space (dwelling) is defined by building and architecture.

The triangle-like relation of man—space—dwelling/ building comprises the whole range of architecture, the three different levels of its appearing. The relation between man and dwelling (building) is manifested on the physical and practical level: in the physical structures and in the action of building. The relation between man and space reflects the memory level: the experiential interaction of man with the environment. The relation between space and dwelling (building) includes the abstract level of space: the conceptual, structural level of architecture.



*Figure 2
The relation between
man and space*

The relation between man and space appears most clearly in the built archetypes. In the archetype of a separate dwelling or house, the essential thing is the creation of the general spatial order: the forming of the spatial elements and their connections to each other. On the other hand, in the archetype of the town, the essential thing is the marking of place; the archetype of a town also includes the emphasized meaning of a boundary and accordingly belonging to something, or being inside or outside something. In general it can be noticed that in addition to the creation of the spatial order, the archetypes also presuppose the creation of place. By the demarcation of space, the archetypes define not only the relation of man to space but also his position in the general spatial order and the universe.

The demarcation of space is essential to the creation of a place. Place has a dualistic character; it appears as a structural entity (demarcated space) and as the signification of it. According to Heidegger, a boundary is not where something stops but rather where the presence of something starts. Thus the demarcation of space defines the presence of something "special" and significant. According to Norberg-Schulz, place is space that has a clearly distinguishable character. Thus the rise of place presupposes the being of some specific character, that makes a special point of space, distinguishable from the environment.

So the appearance of place includes three essential facts: (1) the separation or the demarcation of space as a structural entity, (2) the activation of space; a place always activates its immediate environment—a place has influence around it giving meaning to the whole surrounding area, (3) the topological character of space; place is always related to other places. (Stenros, 1992).

In accordance with the topological character of space, man has two primary spatial orientations: being on the road, heading towards something new, and nesting, building a shelter—the dynamic and the static orientation which can be called the transition space and the primary space. (Stenros, 1992).



*Figure 3
Man has two
primary spatial
orientations:
nesting and
being on the
road. Lawrence
Halprin, Sierra
Mountainscape
1982, San
Francisco.*

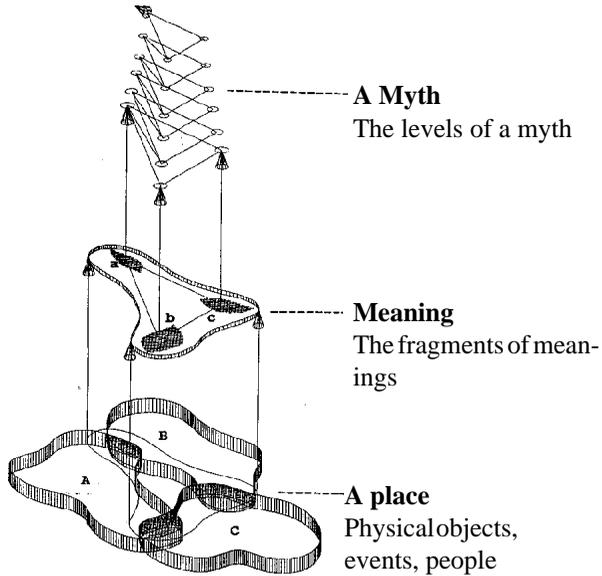
In structural terms, the spatial environment consists of fixed points and distances between them or the arranged sequences of space and the meaningful places. The transition spaces connect together the places of the spatial system giving the feeling of continuity to the structure of space. They affect orientation and moving in space. The primary spaces, or places, are the fixed, static points of space. The structural meaning of the primary space is to make order out of the surrounding space. The basic meaning of primary space is a response to man's need for safety.

IDENTIFICATION: A Mythical Place

The spatial experience is based on perception, the experience of place is brought forth by images; thus the experience of space is the outer part and the experience of place is the inner part of the same perception of environment. The image connected to a place is based on

the emotional experiences which consist of the physical characteristics of the environment and the activities which happened there as well as the people concerned. The strength of an image depends on the intensity of the emotional experience that it is based on. The more significant a place is, the stronger image it makes; at its strongest it becomes mythical. The collective mythical places are commonly shared, significant places like, for example, Paris and Venice; the personal mythical place is home. The unique and most mythical place is the childhood place: or the experience of the direct relation to the environment of a child. In general, the most important meaning of a mythical place is remaking the lost, undivided experience of the reality of childhood.

Figure 4
The structure of a mythical place.



Structurally, a mythical place is like a poem: one can see in it at a glance the multiplicity of reality as it is. Both a place and a poem have a unique origin; they are variations which can be experienced again in one's own way. Thus a place, like a poem, reflects at the same time the private (unique) and the general (a variation); a place is a unique experience of the universal. The universal structure of

place—as of a poem—is a center without direction, and thus without movement or time. (Stenros, 1992).

In general, a place and a poem are analogous: both are based on a personal experience, a dialogue between "I" and the world, and through them it is possible to make a connection to reality as it is and to form an image which is captured by emotion not by thought. A poem is a prototype of a place: both reveal the position of man in the universe through a personal and unique experience.

The origin of place is "a nucleus house", the experience of space in the childhood when the body and the surrounding space are united and thus the body includes the whole spatial universe, the overall understanding of space in which the perceiver and the thing perceived cannot be separated from each other. By reflecting himself onto the essence of the place, a perceiver can experience the connection to the substantiality of the place and through that to the whole "human world" and its reality.

The places that we have experienced do not become a part of perception as such, but detached from the original spatial context, as separate fragments they are attached to the new experiences of place. The fragments and the images they awake form the flexible system of places, a network where the different points are activated at different moments and thus at different strengths. When attached to the physical fragments of the environment, the free meanings spread to the surrounding spatial reality. When the fragments are connected again to a new physical environment and recognized, they activate the immediate environment to form a new place. Thus, the physical fragments and the images they include carry with them (vast) meanings which form a new place when attached to the environment. (Stenros, 1992).

The most primary place, which forms the nucleus of the place system, is in man's early spatial experiences of himself in space. Thus, in all places a perceiver sees a reflection of himself; for this reason the experience of place always includes the identification and the strengthening of identity.



*Figure 5
A commonly shared
mythical place: Paris.*

REPRESENTATION: The Environmental Interaction

The perception of environment presupposes knowledge, skill and activity. In the field of cognition science, which examines man and information processing, (for example, sense processes, memory, understanding, learning, perception etc.) the central issue today is the representation mechanism, which means man's ability to form the inner mental representations of the outer world and to manipulate them. The representation is the way the environment exists to a perceiver. The representations are subjective: they are the perceiver's point of view of the environment. (Hautamäki, 1992).

The representation mechanism assumes (1) first the receptory equipment which includes the sensory organs and the nervous system by means of which a perceiver gets information from the environment and his own body; (2) second, it assumes that a perceiver has the representation equipment or the mental ability to adapt classification, recognition and memory; (3) third, a perceiver has the symbolic equipment or the ability to produce symbols and consciousness. Consciousness refers to the phenomena which form thinking, perceptions, emotions, self, etc. The symbolic equipment differs from the representation equipment so that the latter does not necessarily include consciousness. Perception as consciousness is a condensation of many representations which is called a symbol. (Hautamäki, 1992).

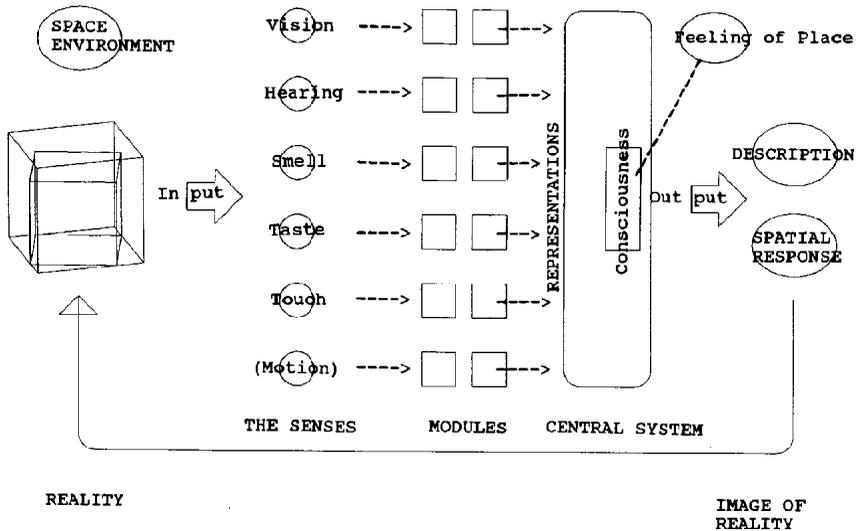
For a perceiver, the environment is the source of information; the receptor equipment prepares the information obtained from the environment and the representation equipment further classifies and stores it and compares the new impulses with the existing ones in the memory. After many phases and through many connections, with the help of the symbolic equipment, a perception which includes a set of representations is brought forth. (Hautamäki, 1992).

In comparison with the three levels of perception, the receptory equipment corresponds to the perception level: the information a perceiver receives from the environ-

ment through the senses. The abstract level corresponds to the representation equipment—the ability of a perceiver to classify, recognize, and memorize, for example, the environmental and spatial elements and to combine and arrange contexts which are the basis of perception. The memory level corresponds to the symbolic equipment which includes the consciousness, thought, emotion, and the self of the perceiver.

The environmental interaction based on the experience of perception forms the model of overall cognitive space perception. Through the three levels of perception, the orientation, the identification and the representation, a perceiver is in continuous interaction with the environment. The information received through the different senses is processed in the parallel system; based on the representations, the perception of the spatial environment is formed, which also includes the consciousness, a sense of place. The perception evokes a response to the environment, a possible reaction or an action based on the information obtained through perception. (Stenros, 1992).

Figure 6
The model of the overall cognitive space perception.



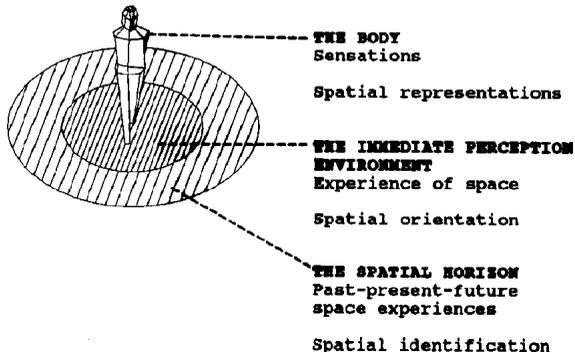
POSTSCRIPT (Self Is a Part of the World)

The three levels of perception: orientation, identification and representation cannot be distinguished from each other, in other than the conceptual sense; they appear simultaneously in environmental perception interlocked and connected to each other. In the broad sense one can think that in the perception, the perceiver (a subject) and the environment (the object) are not separated from each other, but together they form a very dense and complex and, in reality, inseparable interaction.

Phenomenologically, body and perception are united, body is not primarily in the space but it is of it. (Merleau-Ponty, 1962). The body is the concrete, visible reality of self; through the body by perceiving man is related to the surrounding reality and the environment. The body forms the structural starting point of the spatial self. The actual spatial self, however, includes in addition to the experience of the body, the immediate perception environment and, through memory, the whole spatial horizon of a perceiver: the past-present-future experiences of the environment. (Stenros, 1992).

In this way, the primary content of spatial continuity is formed: space is the extension of self—and thus self is a part of the world. Space and the experience of it is an entity onto which we reflect ourselves. Thus, the meaning of architecture is in the direct and immediate experience of it—or to quote Merleau-Ponty: "The world is not what I think, but what I live through".

Figure 7
The spatial self.



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Figure 8
Self is a part of a world.
Ryoan-ji Temple, Kyoto

