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## **Original Research Article**

# A Conceptual Model of the Relationship between Human Being and the Urban Environment in the Perception Process\*

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#### **Abstract**

**Problem statement:** Perception of space is obtained based on a mutual relationship between human being and the environment and following a gradual process. The perception of space is related to all sciences whose concern is "creating a good place to live" for human beings and is grounded in the specialized literature of environmental sciences. However, the concept of perception as an epistemological subject is the concern of other fields of knowledge such as philosophy, something that has not been considered enough by environmental science researchers. Awareness of the essence of perception and explaining its mechanism and role it plays in the knowledge of existence has been considered for a long time by philosophers. Referring and paying attention to the views of our country's philosophers to clarify the concept and process of perception and its role in the knowledge of urban environment design is the main subject of this research. The effectiveness of philosophers' views in clarifying the features of perception, its levels, and how the process of perceiving the urban space based on it is the subject of this article.

**Research objective:** This study aims to recognize the concept of perception (Apperception) and its practical features in designing the environment using Iranian philosophers' views.

**Research method**: This research is descriptive-analytical, and its content is the result of bibliographic studies, analysis of texts, and exploration of the thoughts of selected philosophers using logical reasoning. This research studies the issue of perception from two dimensions, substantive (nature of perception) and procedural (its structure and process) in the field of philosophy and its effectiveness in the field of urban design knowledge.

Conclusion: The research results indicate that getting help from the Iranian philosophers' thoughts can be useful in clarifying the nature of perception and its four characteristics, including the re-creative process, impressionability, activism, and dynamism, as well as explaining the process of the urban environment perception. Finally, this article uses the two theoretical bases of philosophy and urban design to formulate the conceptual model of the "human-city perceptual relationship" and identifies the function and output of each level of the perceptual process.

**Keywords**: Perception Process, Philosophy, Sense Perception, Intellectual Perception, Urban environment.

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### **Introduction and Problem Statement**

The subject of perception (Apperception) is one of the basic concepts in the field of epistemology. It is impossible to deal with the subject of human knowledge and awareness of the world without addressing the subject of perception. Perception is the result of various discussions and studies, each of which can reveal an aspect of the human intellectual life, and beyond all scientific concepts of perception is its philosophical concept. Issues such as perception, whose understanding is very complicated, will give this opportunity to the philosophical thought of the field so that by using reason, they can deal with the teleology of knowledge, and this philosophical knowledge can also delimit what it finds in itself or what it gets from the outside world (Fakhuri & Georr, 1993, 5). Therefore, many philosophers have referred to the subject of perception and its levels in their works. In the present study, among the Iranian philosophers, the views of three prominent philosophers who played a more prominent role in the development of Iranian philosophical thought have been studied: Ibn Sina, Shihāb ad-Dīn Suhrawardī, and Mullā Ṣadrā. This study aims to take advantage of the Iranian philosophers' views and explore the territorial ideas for recognizing the concept of perception (apperception) and its practical features in environmental knowledge.

#### **Research Method**

This research is descriptive-analytical, and its content is the result of bibliographic studies, analysis of texts, and exploration of the thoughts of selected philosophers using logical reasoning. This research studies the issue of perception from two dimensions, substantive (nature of perception) and procedural (its structure and process). Then, using the concepts in environmental sciences and urban design in co-institution and correspondence between levels and qualities perceived from the environment, it deals with the conceptual model of the human-city relationship.

## Research Background

The results of previous research indicate that the views of philosophers are more useful in explaining the concept and regulating the perception process compared to the theories of environmental psychologists (Naghizadeh & Ostadi, 2013). It is clear that none of the philosophers wrote anything about the "perception of space and how to deal with it ", but reviewing their theories and adapting them to existing theoretical foundations in environmental knowledge and urban design shows the following achievements.

Definition of perception (Apperception): Perception is the process of internal understanding and inspiration that includes various functions such as selection, organization, maintenance, interpretation, and making sense. The general process of environment perception has three basic and inseparable steps including feeling, apprehension, and cognition. It also has an internal process (Faali, 1997; Irvani & Khodapanahi, 2001; Pakzad & Bozorg, 2012; Carmona, Heath, Tanrock & Tisdell, 2009; Lang, 2009).

Definition of Perception from the Point of View of Selected Philosophers: The analysis of the Iranian philosophers' thoughts was performed by selecting philosophers whose thoughts had a significant role in the development of Eastern philosophy and each of them was the founder of the most important philosophical schools of the East, including Ibn Sina, the leader of Avicennian philosophy and Peripatetic school, Suhrawardī, the founder of the Iranian school of Illuminationism, and Mullā Ṣadrā, the founder of Transcendent Theosophy.

Ibn Sina defines perception as follows: "Perception is taking of the perceived form in a variety of ways" (Ibn Sina, 1954, 50; quoted from Faali, 1997). Furthermore, in his book Al-Talighat, he considered perception as the emergence of the perceived form in the perceiving essence (Ibn Sina,1954 quoted from Faali, 1997). Avicenna's view on perception is based on abstraction. He considers apperception as the "abstraction of the truth of the object". "Perception

is that the nature and distinguished external form are gradually abstracted, and this abstraction will be perceived with various longitudinal stages". Suhrawardī has presented different definitions of perception, and these definitions have been transformed and evolved along with the evolution of his thoughts. He first stated: "Know that if you want to perceive something, its form should be perceived in your mind as it is" Then, he mentioned the "acceptance of the effect of evidence from the effective": "... and the truth of perception is that the perceiver accepts the form of apprehension to itself" (Suhrawardī, 1976, 409). "When the form of a thing as it is was presented before the perceiver, it takes form from him".

In Hikmat al-Ishragh, he considered the knowledge of the phenomenon to be dependent on acceptance of the effect. As a result of the change in his thought, he stated a new and different definition of perception, which is derived from the philosophical ideas of ancient Iran. This definition is the same as the exponential representation of perception with "light". Mulla Sadra believes that the truth of perception is "the existence of evidence (perceived) for the evidence (perceiver) is due to the existence of issuing forms not acquiring forms (Mulla Sadra, quoted from Faali, 1997). Mullā Şadrā considers apperception as the act of the soul and considers the relationship between mental images and the soul as the relation between action and subject, and its subsisting to the soul as subsistence of issuing and not immanent consolidation. In his view, perceptual forms are the innovations of the soul (Faali, 1997; Ghaffari Gharabagh, 2015). He considers perception as immaterial and does not consider it as a passive and reflective process but as the creation of the form of objects and products obtained by the creative activity of the mind. This view is reflected in the "theory of transcendence" and explains the levels of perception. Mullā Ṣadrā also believes in the conformity of mental cognition with an external object and establishes a connection between all human perceptions and external realities, and

believes that our information and perceptions are based on our senses (Mokhtari, 2020; Ghaffari Gharabagh, 2015).

## **Perception Process (Apperception)**

Environmental psychologists consider the general process of perception of the environment as three main and inseparable steps, including sensation, perception, and cognition, which itself has microprocesses including sensory processes, perceptual processes, and cognitive processes. Also, from the philosophers' point of view, the perception has not been achieved at once, "and the people have two sides, one is facing beyond and the other is facing this world and the power of its apperception is towards the subconscious, and we cannot find the power of the apperception of the people unless we express the types of apperception" (Ibn Sina, 1952). Therefore, apperception has stepped stages within a longitudinal order and emerges through four stages from sense to reason, including sensory perception, imaginary perception, illusory perception, and intellectual perception.

"Sensory perception" is the first stage of perception and it is extracted from the essence and part of the external features by the impressionability of the sensory organ of the face. Then, there is "imaginary perception," which is emerged without the need for the presence of the object and is maintained in the imaginary power mentally with more abstraction. Then, there is "illusory perception", which is the perception of meaning and an intangible and partial truth. "Intellectual perception" is the last stage of the perception process in which abstraction reaches the stage of perfection and the nature and general truth of everything is perceived. Illusory perception is inherently different from sensory and imaginary perception due to the perception of abstractions and meaning and is in common with intellectual perception (Mullā Ṣadrā, 2001a; Alizadeh & Zandi, 2009; Ghaffari Gharabagh, 2015). It should be noted that according to modern knowledge, the initial steps of perception are in correspondence with the

sense, and the final steps are in correspondence with cognition.

Abstraction and Transcendence: The four stages of perception are ranked according to Ibn Sina's view of "abstraction" and Mullā Ṣadrā's' view of "transcendence". The abstraction view is based on secession and the transcendence is derived from Mullā Ṣadrā's theory of "trans-substantial motion" in which the essence of beings has a growing development. Therefore, he believes that the entire universe is changing every moment. He considers the universe as the manifestation of trans-substantial motion that was not created in one moment but is recreated every moment (Mullā Ṣadrā, 2001b; Faali, 1997; Akbarzadeh, 2012; Ghaffari Gharabagh, 2015).

The world is like a river which appears to be still whilst it is not.

It goes and arrives the new one, where is the new one coming from? (Rumi)

According to the theory of transcendence, the human soul also has trans-substantial motion and is developed after each stage of perception, and the essence of his soul is based on the revolution (Syrurat) in the substantial motion and takes on new forms (Fig. 1) (Mullā Ṣadrā, 2001a). Therefore, with the increase of knowledge and awareness, the human soul grows and every day engaged in a new creation. According to the theory of transcendence, in the process of perception, the sensory form remains

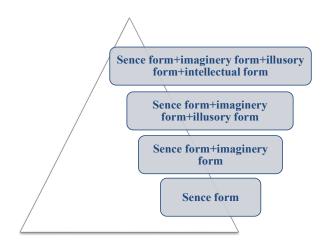


Fig. 1. The Order of Issuance of Perceptual Forms. Source: Author.

unchanged in the order of sensations. The imaginary perception creates a higher form from the sensory form and the sensory and imaginary forms remain unchanged in their order and provide the ground for the creation of an intellectual form. Mental forms enter an upgrading process without transformation, and at the same time, all four forms can exist (Mokhtari, 2020; Faali, 1997; Akbarzadeh, 2012; Alvandian & Allah Badashti, 2018).

Intuitive perception: In addition to the four types of perception, in the views of philosophers, another type of perception is referred to as "intuitive perception", which has different characteristics compared to the previous types. This type of perception arises from Suhrawardī's thoughts and is a result of the distinction that he considers between empirical knowledge and knowledge by presence, and believes that intuitive perception is derived from knowledge by presence. He considers intuitive perception as the best type of cognition, which is the fundamental way of understanding the truth of existence and does not need to be placed in the four levels of perception, and the emergence of this type of perception depends on the degree of soul's abstraction (Hedayati, 2014).

#### Discussion

## • Substantive dimension (nature of perception)

Exploring the concept of perception from the studied texts reveals four essential features of perception:

Processability: The process is "a set of actions that establish a logical relationship between input and output" (Golkar, 1999, 236). Perception is a process due to the occurrence of intra-mental actions resulting from receiving "environmental data" and processing them and achieving the output of "mental image and meaning", which can be addressed by considering three aspects of the process, including rotation method, sequence of steps and sequence of strategies.

Rotation method: Among the methods of process rotation, there are three types: linear, cyclic, and spiral. Ibn Sina's view on perception is a linear process and that of Suhrawardī is cyclic, but Mullā Ṣadrā's view expresses a more developed type of process that has a recreative movement with spiral rotation.

The sequence of steps: Environmental studies consider the process of perception as having three successive steps of sense, perception, and cognition and ignore recognizing the specific functional context for each of the steps (Ittelson, 1976, quoted from Lang, 2009, 102; Faali, 1997; Pakzad & Bozorg, 2012). In environmental sciences, the process of perception and its successive steps do not have a clear classification and structural order. Its reason may be due to the difficulty or the lack of the need to recognize boundaries for perceptual steps. In urban design texts, the perception of the qualities of the urban environment is divided into two types of tangible and sensible perceptions, which arise from the separation of world cognitive qualities into tangible and sensible qualities (Golkar, 1999; Barati, 2010; Sadrikia, Bemanian, & Ansari, 2018; Sarmadi, Shahcheraghi & Karimifard, 2020). However, among the philosophical ideas of the perception steps, a clear classification along with enumerating the characteristics, functions, and mental products of each step is divided into sensory, imaginary, illusory, and intellectual.

Structural factor in the classification: in philosophical thought, "abstraction and transcendence" are the most important factors in distinguishing the steps of perception and all the levels of perception from sensory to imaginary, illusory and intellectual perceptions are realized based on the degree of abstraction or transcendence of the mental form. Ibn Sina considers the abstraction of perception as the abstraction of the truth of the object, which will occur gradually and in parallel with longitudinal levels of perception. Hence, abstraction is a structural factor for recognizing and classifying the steps of perception.

Mullā Ṣadrā believes that this structural factor is transcendence, which has a role in recognizing the steps of perception. In transcendence, in addition

to the systematic reconstruction of the mental form, the gradual evolution of human and the mental form occur simultaneously, which shows a kind of intertwined structure of the evolution and reproduction of mental forms at the level of perception and it is in parallel with the selfevolution.

#### • Ultrastructural factor intuition

In intuitive perception, higher levels can be achieved directly from jumping the middle steps, regardless of the longitudinal hierarchy of the perception steps. An intuitive attitude can be introduced as an "ultrastructural strategy" to achieve a complete perception.

Impressionability: One of the features that can be taken from the philosophical definition of apperception is its impressionability. "The truth of perception is that the perceiver accepts the form of apprehension to itself (Suhrawardī, 1976, 409). The importance of accepting the impression by philosophers is such that they consider the correctness of perception due to this impressionability. "When achieving perception, if the effect of the perceived does not appear on the perceiver, the perceiver is the same as before the perception and it is impossible (ibid.). Impressionability can have two aspects: subjective and objective. Both sides of this impression change the perceptual relationship between human and the environment.

Activism (interactive action): Concerning environmental science, perception is an active process (Neisser, quoted from Lang, 2009; Sarmadi et al., 2020). This inherent feature of perception in philosophical ideas can also be interpreted through interactive action in the process of perception. Issuing different types of forms in the degrees of perception indicates the active nature of perception in philosophers' views. The distinguishing point of the philosophers' views in this regard is the recognition of the relationship between the existential degree of self and its active aspect in the process of perception, which implies the degree of perception activism.

The Degree of Activism: Among Ibn Sina's

writings, there is a "logical relationship between the improvement of the existential aspect of the self and the degradation of its active aspect" (Mokhtari, 2020), which shows the inverse relationship between the degrees of the self and its activism degree. Human activism can be divided into two parts of physical (external) and mental (internal) action. In the higher degrees (intellectual degree), the active physical action reaches its lowest degree, while the mental action is at its highest degree, and in the lower degrees of the self (physical level), the highest degree of physical activity and the lowest degree of intra-mental action is observed. Acceptance of this concept in establishing the equilibrium relationship of the phenomena in the universe is formulated in such a way that if the ultimate goal of the world active movement is considered in achieving the equilibrium, in this equilibrium relation, the amount of action (objective and subjective) in the process of perception is somewhat constant, so that the mobility of one side of the relationship decreases, the other side will increase its activism to balance the perceptual relationship. Fig. 2 shows this relationship.

In the sensory perception of the environment, it can

▲ The degree of Human activism / the degree of phenomenon activism ▼

Fig. 2. The Degree of Activism in the Perceptual Relationship. Source: Author.

be said that the auditory or olfactory perception that comes from the successive movement of sound waves or the odor is followed by an inactive reaction by humans. Smell and sound are perceived unintentionally, but in the perception of an image (part of a static view of the city) with less movement, the observer has an active action and moves to get more visual features of the environment by selecting and changing the angle of view and moving his eyes and head. Furthermore, in getting the tangible features of the environment, in confronting the static part of urban space, one should take active action by being in space and touching it. "The city and architecture stand still and expect the viewer to

move (Pallasmaa, 2011). These qualities besides the tangible features can be changed from the objective to the subjective environment and can be generalized to other degrees of perception.

Mobility and Growth: Mobility and growth are other features of perception. The Perceptual relationship between human and the exchangeable perception of the environment (environmental psychology) is considered as dynamic (Ittelson, quoted from Lang, 2009; Sarmadi et al., 2020) and the mental image is a dynamic perception process over time. Among the ideas of philosophers, the dynamics of perception can be interpreted with the theory of ontological dynamics of the soul (Ibn Sina) and the theory of transcendence and regeneration in the process of perception (Mulla Ṣadrā). Ibn Sina considered the human soul as the "perceptual agent" with a dynamic ontological nature, and Suhrawardī, by connecting intuitive perceptions to the degree of abstraction of the soul, considered perception as dynamic and maturing along with the self-evolution. In the trans-substantial motion theory, Mullā Ṣadrā believes that the essence of all beings is unstable one that in the process of perception, in addition to the relationship itself, both sides of human and environment are incessantly in the process of permanent recreation. So, in every moment, a new world, a new human being, and a new relationship emerge, and the perceptual relationship is always recreating three dimensions.

## **Procedural Dimension**

In the procedural dimension, the process of perception and its degrees are recognized separately. In this section, the compatibility of these degrees is analyzed with the perception of urban space.

## Recognizing the levels of Perception of urban Environment

Using the degrees of perception from the philosophers' point of view and using the concepts and characteristics of space, the process of receiving the urban environment can be recognized in this way.

Step 1, Sensory Perception: The physical

characteristics of the environment are perceived through the "senses." "Being in an urban environment" is a fundamental condition for the emergence of sensory perception. The perceptual phenomenon is "partial" and the product is "selected and perceived" with the least abstraction in the form of "sense form" including the tangible qualities of the environment and is recorded in the form of "sensory experience" of the urban environment.

Step 2, Imaginary Perception: a part of the tangible features is formed "without the necessity of presence" and with the help of "inner perceptions" of a person. The perceptual phenomenon is "partial" and is the product of a "mental image abstracted from tangible and intangible qualities" which is combined with the "inner perceptions" of the individual. The "mental image" of the space is "organized and maintained" in the mind.

Step 3, Illusory Perception: Illusory perception is the perception of "meaning" and intangible truth, and two conditions of "being in the environment and conforming to external features" are eliminated. The perceptual phenomenon is "partial" but is perceived more than the apparent feature of its "meaning". At this stage, with "more abstraction", a significant part of the tangible features is disappeared in favor of emphasizing the meaning, and the perceptual form

at this stage is the probable (ambiguous) meaning of the place. The function of this part can be considered "probabilistic sense-making".

The last Stage, Intellectual Perception: it is perceived by fully abstracting the tangible features of the "fundamental essence" of space. At this stage, not only the "condition and conformity with the appearance characteristics but also the partiality of the phenomenon" is eliminated. The perceptual phenomenon is "general" (as opposed to partial) and the output extends to the "most abstract limit". The meaning of the environment is perceived by passing through tangible features. The special function is "interpretation and sense-making" and the output based on mental imagery is represented in the form of a "schema" of space. In environmental sciences, this part of the process is in the cognition and knowledge step to achieve a stable mental pattern (Table 1).

It should be noted that all stages of perception are formed in the mental environment and the steps are not dependent on the time sequence.

Degrees of Intellectual Perception: In the section of intellectual perception, which is the last stage of the process of perception and cognition, intellects are perceived and classified according to their three divisions. The process of perceiving the perceptible

Table 1. The Degrees of Perception and its Output. Source: Author.

	Term	s of realiza	ation				
Types of perception	Being in space	Merge of traits	Being partial	The main function	The nature of the perceptual phenomenon	Perceptual product	Environmental output
Sensory perception		•		Select and receive	Partial and form	Sensory form	Experience form
Imaginary perception		•		Organize and maintain	Partial and form	Imaginary form	Mental image (organizing mental image
Illusory perception				Probabilistic sense- making	Partial and meaning	Illusory form	Probable sense of environment (mental image with probable sense)
Intellectual perception				sense-making, interpretation	General and meaning	Intellectual form	Schematic and pattern (meaningful mental image)

qualities of the urban environment is also consistent with intellect. The first intellect: The meanings of general concepts are derived from sensations such as species, and gender, and have an external, obvious, and non-acquired appearance. In the perception of the urban environment, it refers to the nature of a phenomenon that indicates part of the intrinsic features and characteristics of the phenomenon and the elements that make up its identity, and in the urban space, it is coexistent with the type of urban space such as square, street, etc.

Secondary intellects are acquired and cannot be read through internal perceptions and external manifestations. There are two types:

Rational secondary intellects: Due to the comparison of two or more types of intellects that are compatible with comparative qualities of a phenomenon compared to other phenomena in the perception of the urban space, quality in (comparative) proportion derived from similarity or difference such as largeness and smallness, contrast, similarity, or perception of the structure of the phenomenon such as continuity, coherence, and cohesion (Table 2). However, philosophical secondary intellects include the perception of generalized qualities with the highest degree of abstraction and refer to higher concepts such as order, unity, and beauty (Table 2).

## • The Basic Essence of Urban Space: Meaning as a Long-lasting and Durable Quality

A phenomenon is abstracted in the process of systematic perception to reveal its basic essence. Hence, the part of the main content of the environment that is received or recreated for the

last time from the process of perception (intellectual form) is the basic essence of urban space and the most stable component of space. This basic essence of space is its sensible qualities, which implies its meaning. "The meaning of places is ultimately understood" (Rapoport, 2005). In addition, it has a more stable quality than other aspects of both form and function, and this process translates meaning into "late and durable quality". The meaning of place, which implies a completely non-objective and all-encompassing aspect of the place, is among the sensible concepts that are at the end and the highest degree of perception. The triple classification of intellects to the first and second rational and philosophical, is partly the same as Rapoport's three levels of meaning, including instrumental or implied meaning, emotional meaning, and abstract meaning (ibid.).

### **Conclusion**

## Conceptual model of the perceptual relationship between human and environment

The results obtained from this study can be presented in the form of a conceptual model, which describes how the perceptual relationship of human with his environment (citizen and urban environment), and can be formulated as Fig. 3.

In the field of acquiring knowledge of the world by humans, the city is placed in the middle of the way. Human's perception of the city and the urban environment is a middle step to reach a conscious understanding of the universe (in an external relation) or perception of himself (in an

Table 2. Degrees of Perception of the Qualities of Urban Environment. Source: Author.

Degrees of perception	Perceptual product	Achievement (output) in the urban environment		
Sensory perception	Sensory form	Urban space experience		
Imaginary perception	Mental image (imaginary form)	The mental image of space		
Illusory perception	Illusory form	The mental image of (probabilistic) place		
Intellectual perception	Recreation of mental image (intellectual form):  • First intellect  • Rational secondary intellect  • Philosophical secondary intellect	Scheme or pattern (meaning of place):  • Type of urban space: square, street, node (implied meaning)  • Deductive qualities: size, difference and similarity, contrast Or structural: coherence, solidarity, coordination (functional meaning)  • Semantic qualities: order, readability, beauty (abstract meaning)		

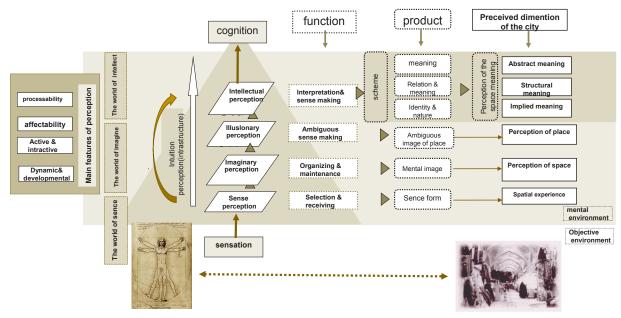


Fig. 3. Conceptual Model of Perceptual Relationship between Human and City. Source: Author.

internal relation), and perceptions of the city are important for the conscious connection between the universe and human (Ardalan & Bakhtiar, 2001). The emergence of a perceptual approach in urban design, in addition to the substantive and procedural achievements which affect the creation flow of the ideal place, is valuable because it recognizes a way to perceive and know the "intermediate world" (city) and strengthen the internal and external connection between human and the universe.

### **Endnote**

1. Apperception is an alternative word for perception used by Ibn Sina in the Danishnama-yi 'Ala'i (The Book of Knowledge for 'Ala' al-Dawla).

2. The authors declare that there was no conflict of interest in conducting this research.

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