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A Reflection on Environmental Quality and Meaning*

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Abstract

Improving environmental quality is interwoven with enhancing its meaning. Semantic factors are applied to evaluate quality and the indicators of the two concepts of quality and meaning overlap. However, theorists' viewpoints toward these two concepts are diverse so that some consider meaning as a quality indicator, while others refer to quality merely as the outcome of the presentational aspect of meaning. This has led to an ambiguity in determining the relationship between the aspects of these two concepts and, as a result, made it difficult to consent to what is implied as meaning or quality. The current study aims at clarifying the differences and the common points of the aspects and factors of the two concepts of meaning and quality, and determining their relationship, so that an agreement could be reached on these two fundamental concepts in both architecture hypothesis and criticism. Applying logical reasoning, this research defines a coherent general framework based on human-environment interaction, in which the position of each of the two concepts of meaning and quality is explained. Also, cognitive aspects of the environment, using the method of content analysis and literature coding, are categorized as the basis for matching and comparing the aspects of the two concepts. These two frameworks would function as the basis for search of and response to the ambiguities in the relationship between these two which, ultimately, would lead to the statement. In human-environment interaction, meaning undergoes perception and cognition, while quality is judged and evaluated. What is evaluated as the quality is the presentation and the final result of the cognition of the threefold aspects of the meaning, including functional, social and responsive. If the responsive meaning of an environment bears a positive affective load, the environment is considered to possess a good quality.

Keywords: *Quality, Meaning, Perception, Cognition, Evaluation.*

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Introduction and statement of the problem

Of the main themes of design and the basis of many critique and evaluation issues of architecture is environmental quality optimization. Similarly, environmental meaning is also a factor in creating environments that meet the needs and expectations of settlers. Both concepts have indicators that guide the design and evaluation process of the environment. Although these two concepts are often studied in different fields with varying degrees, when used in architecture, they show common factors that conjure up the idea of being similar or even identical. The most prominent of these similarities is the overlap of quality and meaning indicators which makes the scope of each concept ambiguous. This overlap prevents architects from reaching an agreement on differences and similarities of quality and meaning. For instance, to evaluate the quality, semantic factors, such as spaciousness, complexity, character, flexibility, pleasure, arousal, amongst others, are used. It is while, they are originally recommended to measure the meaning (Marans & Spreckelmeyer, 1982: 661; Pena & Parshall, 2001: 216-217; Carmona, 2001: 94-95, 141-142; Gifford, Hine, Muller-Clemm & Shaw, 2002: 131; Gann, Salter & Whyte, 2003: 322; Cousins, 2009: 5). Even Hershberger studies (1974) that explicitly used these elements to predict the meaning was interpreted as an attempt made to measure the aesthetic quality of the environment (Marans & Spreckelmeyer, 1982: 655).

Theoretician's perspectives have also created another ambiguity in defining the factors of the two concepts of quality and meaning. Studying and determining one concept's scope, a researcher may categorize other relevant concepts under that. Some studies focusing on defining quality indicators have defined meaning as one of the components and factors of architectural quality (Van kamp, Leidelmeijer, Marsman & De Hollander, 2003: 7; Van der Voordt, 2009: 19-20; Carmona, 2001: 141-142; Golkar, 2000: 10-25). On the other hand, research on the composition of semantic factors refers to quality of a form as part of its presentational meaning (Hershberger, 1974: 149).

Now, to simply, in explaining the ambiguity in and overlap between the factors of meaning and quality, consider that it suffices to investigate the difference among theoreticians' viewpoints is to consider these two concepts equivalent. But in fact, the concepts of meaning and quality and their scopes differ from viewer to viewer. When meaning counts as one of the quality indicators, the meaning of meaning reduces to the intrinsic or symbolic meaning of an element, and, in research on meaning, the concept of quality is limited to its presentational aspect. These suggest that there is little agreement on the aspects of meaning and its relationship with quality.

General concepts like meaning and quality lack clear and precise limits. The subjective and variable dimensions of each have also added to their complexity. Therefore, this research focuses on the application of each in the process of perception, cognition and judgement of an architectural space. This approach enables us to compare quality and meaning aspects, and to clarify the existing ambiguity in using these concepts. This comparison means no equivalence between these two concepts but seeks to clarify the relationship between their aspects and operational indicators necessary to improve the quality of architecture, regarding its close relationship with meaning.

In general, the current research aims to determine the relationship between the aspects and factors of the two concepts of quality and meaning and to compare them. The questions that this study seeks to answer are 1) what are the differences between and common points of aspects of meaning and quality? 2); where do these aspects stand in human-environment interaction? ; and, 3) How the quality and meaning indicators are connected and why semantic factors are used to describe and evaluate environmental quality?

Methodology

This research attempts to explain the relationship between the two concepts of quality and meaning in a general framework and coherent system employing a logical reasoning method (Groat &

Wang, 2013: 379). We use the process of human-environment interaction as a basic framework in which the position of each aspect of quality and meaning would be determined and compared. Also, based on the analysis and coding of the literature, a single classification of cognitive aspects of the environment is formulated that allows comparing of aspects and factors of quality and meaning. These two frameworks provide the basis for searching and responding to the ambiguities in the relationship between these two concepts, ultimately proposing an answer.

Theoretical foundation and literature

Quality and its aspects

The concept of quality has two dimensions: objective and subjective. The objective dimension of quality is associated with the appearance of the work (shapes, colors and materials) that can be measured by physical indicators. Its subjective dimension, on the other hand, signifies good attributes, values and proportionality with a clear aim (Marans, 2003: 75; Gann, Salter & Whyte, 2003: 319-320; Van der Voordt, 2009: 18; Keles, 2012: 25). Defining architectural quality, one needs to consider raising accountability level of the design to the needs and expectations (Nelson, 2006: 4), optimization (Ibid: 6), improving the environment through the proposed design and building (Rönn, 2011: 104-106), good attributes, suitable for a certain purpose, and meeting demands and expectations (Van der Voordt, 2009: 18). These illustrate more focus on the subjective dimension of quality in defining and determining its layers and indicators. They also assert that unlike quality's objective dimension, its subjective aspect is of moral value and implies goodness, positivity, desirability, suitability, and promotion. Quality, therefore, varies based on the assessors' personalities, their purposes and expectations, and those factors they value the most. One illustration of this is the two studies on the quality of office buildings that show as the institutional role of individuals varies, they feel differently toward the quality of the building

and consider different levels of function, form and build quality influential in generating good quality (Gann, Salter & Whyte, 2003: 328-329; Marans & Spreckelmeyer, 1982: 662).

Along with different attitudes and expectations of individuals, diverse aspects of environment and real environment conditions create different quality layers and aspects. These conditions are able to define sensitive and critical factors in the quality, both of which are a prerequisite for the goodness of the environment and lessen the importance of other indicators. Beauty and pleasantness, for instance, are indicators of the quality of residential environment. But, when quality is evaluated in certain environmental conditions, such as affordable housing, the importance of reaching some sensitive factors such as safety and low density can overshadow other factors like beauty and complexity. The comparison drawn between the two studies aimed at compiling environmental quality indicators, in a general residential environment and in low-income households, shows this difference, too (Bonaiuto, Fornara & Bonnes, 2003: 43-44; Amerigo & Aragones, 1997: 50).

Since quality is highly dependent on cultural-social context of both the assessor and the subject under assessment, it is difficult to formulate a comprehensive format of quality aspects. But a general view toward quality aspects is highlighted to assess diverse projects, judge architectural competitions, and use the process of quality control. Since the origin of the concept of quality in architecture is the heritage of Vitruvius, three aspects of form, function, and build quality provide the basis to define aspects and indicators of quality (Pena and Parshall, 2001: 124-129; Rönn, 2011: 106; Cousins 2009: 6; Van der Voordt, 2009: 17). So, quality can be considered as the sum of environmental values in three layers of form, function, and build quality. But the unity and the totality resulting from this combination leads to the quality that goes beyond them. This value, which is beyond goodness, has been interpreted as

excellence (Nelson 2006, 7; Cousins, 2009: 6). The quality that is equal to excellence seems out of reach because full-scale consideration to various aspects and layers of quality in a project requires not only coordination between the designer and the user, but also collaboration among multiple agents, such as the government, local officials, and constructors, as well as the availability of financial resources. Hence, the concept of quality becomes relative, and its degree varies according to the accountability of the environment to the sum of all its aspects and layers. Quality, in other words, is an ultimate concept reflecting a user or assessor's value-based final judgment on the goodness level of a building or work.

Meaning and its aspects

Meaning, like quality, is a general and broad concept. Besides, diverse approaches to studying it makes reaching an agreement on its limits less likely. In general, meaning is defined as anything the mind of a thinker refers to (Ogden & Richards, 1994: 15). Specifically, meaning is studied in various disciplines, including logics, linguistics, psychology, behavioral sciences, etc. The similarity between the aspects of meaning and quality lies in the psychological attitude toward meaning in the context of environmental psychology. That is to say, in general, meaning is a mediating trend or mental state in the behavior of a human being (or animal), which is the result of the perception of the stimulus and an antecedent for the production of a specific response (Osgood, Suci & Tannenbaum, 1957, 9). In order to define and predict human behavior, studies in this field aim at operationalization and measurement of meaning by semantic factors that philosophical or linguistic attitudes abstain from. Our study focuses on psychological view and its generalization to environmental psychology and architecture, as the overlap of factors of meaning and quality and the resulted ambiguity originate from this perspective. The Environmental psychological view toward

meaning has a variety of approaches, two of which are distinguished. The first includes the approaches that bestow meaning a longitudinal hierarchy and consider it with higher levels that are more valuable than the ordinary and low levels of meaning. Perceiving high-level meanings is possible by a skilled user; in a particular context and condition; though, the general user may also perceive higher-level meanings. These approaches divide meaning in two general levels of functional and social-cultural aspects (Jung, 1968: 16 & 47-48; Rapoport, 1982: 13, 221-224; Clapham, 2011: 373; Harré, 2002: 32). The former refers to lower and daily life meanings with functional goals, while the latter contains meanings of middle and higher levels, with more significance, depth, and effectiveness, including cultural, social, and value-based concepts that transcend everyday uses. Higher level meanings refer to cosmology, cultural schemata, attitudes toward the world, philosophical systems, and the like. Though the studies carried out on the meaning show that this level of meaning is either often absent in daily contexts or has its effects hidden in daily goals, values, intentions and activities of individuals (Coolen, 2006: 199).

The equal value among different levels and the types of meaning results from the second category of approaches, one instance of which is the meaning categorizations by Hershberger (1974) and Gifford (1987). These approaches consider various layers for meaning, yet these layers have a latitudinal hierarchy, so the general user is able to perceive them all. What is important in this type of classification is the co-existence of the emotional layer of meaning with the two functional and social layers. The process of forming this affection is a personal experience that connects the personal identity and personality with environmental meaning and is associated with sense of attachment and deep experience of belonging (Gifford, 1987: 62). However, the affective meaning of environment is not

necessarily a positive experience, but according to the study by Manzo (2005), humans have also negative or bipolar experiences in the environment that create negative or bipolar affective meaning. (Manzo, 2005: 67, 82). Therefore, meaning, along with referring to the environment's function and its collective socio-cultural values which are perceived by different groups of users, is given a personal-emotional aspect that varies from person to person. Due to more generalization and application of this approach to meaning in understanding the relationship between the ordinary user and elements of the everyday environment, this article also employs this classification as the basis for analysis.

Since meaning varies to different people and in different environments, semantic factors have been proposed to record users' description of various environments in a way that the resulted descriptors can be used for a variety of architectural spaces and understood by different users. These factors are often based on the initial three-dimensional system of Osgood, Suci and Tannenbaum (1957), consisting of robustness, activity, and evaluation, which were deduced from research on 50 pairs of bipolar adjectives, such as pleasant / unpleasant, diverse / recurrent, legible / ambiguous, etc. to measure the meaning of the environment. When meaning is measured through this process, the respondent chooses one or several factors from the factors presented to him as his evaluation of a space and determines their value on a specific scale. What he is actually doing is judging the environment and determining the distinction and difference among environments. For example, in a study performed by Küller (1973), Eight semantic factors for architectural spaces, such as pleasantness, complexity, unity, spaciousness, potency, social status, affection, and originality, were first developed, and then the desirable value of each for different types of space, namely art studios and houses, was determined from the viewpoint of the user and then compared. Thus,

semantic factors both determine sensitive and critical concepts in each architectural space and make the degree of the goodness of that space measurable based on the value of each factor.

In general, meaning has three functional, social-cultural and affective layers that encompass various dimensions of human-environment interaction, including physical and social as well as personal differences. The personal dimension of meaning causes both different people to perceive different meanings from a particular space and cognition of meaning to create a range of positive to negative experiences. But measuring the meaning aims to determine the optimum level of each of the semantic factors in a certain kind of environment and help architects to predict the judgments users form on environment.

Results

Quality signifies perception of the entire layers of the environment and their relationship with each other. Using the concept of quality in the procedure of judging architectural competitions as well as quality control indicates that quality is the final product of the process of environment design and production, and its perception and cognition. Therefore, quality is a kind of judgment and evaluation. Objective and subjective attributes of quality are embodied in three aspects of environment form, function, and build quality, but ultimately, quality is the overall and comprehensive concept of these different aspects. In other words, neither of these aspects solely can represent the quality of environment; rather quality results from the combination of all these layers. The evaluation a user gives about the quality of environment is laden with values, determines the goodness of environment, and affects the individual's satisfaction with the environment and, therefore, his satisfaction with life.

Thus, the initial step of quality evaluation is evaluating an environment's objective attributes which an individual perceives and evaluates based

on his mentality, goals and values (schemata). Based on this evaluation, he mutually adjusts his behavior and can undertake an activity to restore and improve the quality of his surroundings. This would trigger changes and adjustment in objective attributes and cause the process to repeat. Fig. 1 illustrates the model proposed by the current study to explain this trend based on three models: the environmental perception model of Gifford, Hine, Muller-Clemm & Shaw (2002) the Brunswik Lens Model (1952), residential satisfaction model of Amerigo and Aragon (1997) and the model of the relationship between environment and life satisfaction by Campbell, Connors, and Rogers (1976) cited by Marans (2003). This model shows that the combination of objective aspects of a building affects the cognitive attributes an observer extracts, and then, these cognitive attributes influence the observer's judgment on the architecture quality of the building. Perception and cognition of meaning, like quality judgment, occurs in the process of human-environment interaction. Based on his background knowledge and expectation of the environment, an individual receives and recognizes its stimuli, thus recognizing environment use, function

and purpose that form the functional meaning. Environment references to common social cultural values among the user groups also occur at this stage. These references to functional values and social-cultural values stimulate feelings toward them and judgment on them based on their value, and ultimately behavioral responses are evoked. Accordingly, the process of perception and cognition of meaning based on the perceptual cycle model (Neisser, 1976: 21) and the model of meaning perception and cognition (Hershberger, 1970: 42) is shown in Fig. 2. It is noteworthy that the three layers of meaning, are not necessarily created respectively, but can be formed simultaneously and in different cycles. In Fig. 2, to emphasise the conceptual distinction between different layers of meaning, this process is shown linearly. Layers of meaning include both aspects of perceiving and evaluating (or judging) the environment. Once one perceives functional meaning and social-cultural meaning, he judges the environment in the affective meaning layer. Affective meaning reflects respondent's evaluation of the concepts that are perceived in the two other layers. The description of the functions of the human psyche that Jung presents also asserts

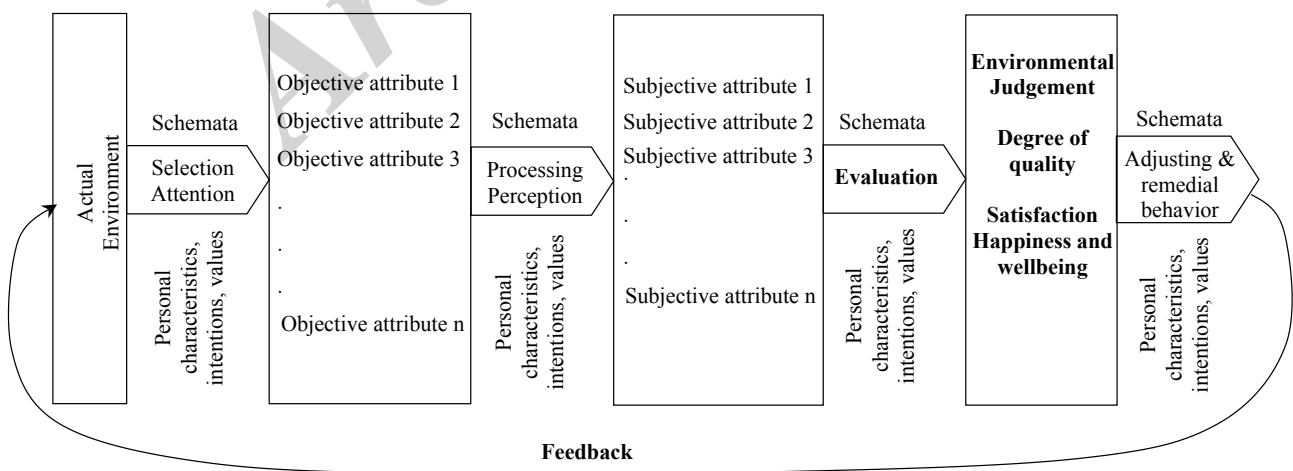
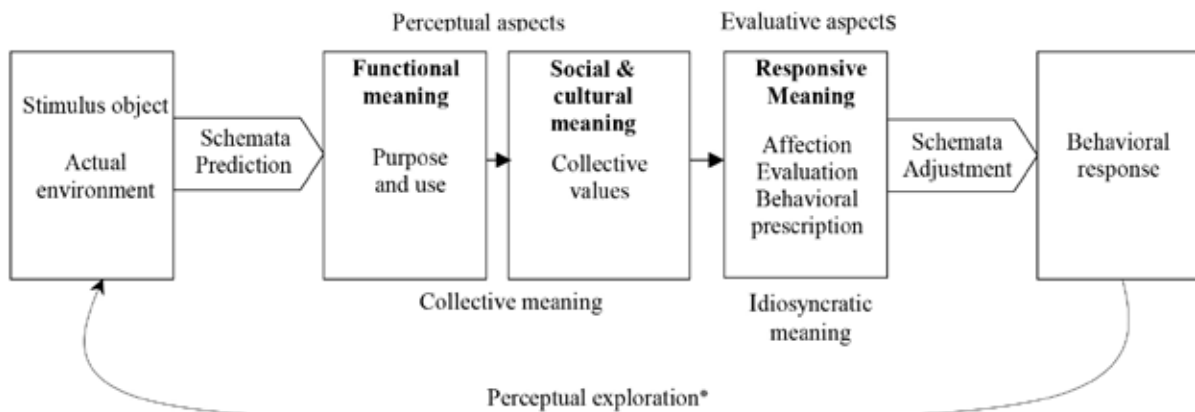


Fig. 1. The cycle of environmental perception, judgement of quality, and adjustment. Source: authors.



*Upon adjustment of user's schemata according to the information received from an actual environment, one embarks on perceptual exploration to receive new information from one's surrounding. Neisser's perceptual cycle (1976) is based on this recurring procedure of receiving information, schemata adjustment, and perceptual exploration.

Fig. 2. The cycle of environmental perception and meaning cognition. Source: authors.

such categorization. Accordingly, having received environmental information through senses or intuition (perception channels), one makes a decision through one aspect of thinking or feeling (judgment channels) about the environment (Jung, 1946: 14). In the process shown in Fig. 2, we can also identify the position of semantic factors. Since these environmental descriptors show user's evaluation and judgment on the environment and are laden with values, they are included in the evaluative aspect of meaning. In general, using these factors to measure meaning and predict the goodness of the environment confirms that they are the outcome of judgment or responsive aspect of meaning.

Discussion

In order to answer the first question of research, quality aspects and environmental meaning need to be compared. Initially, the objective aspect of quality containing presentational attributes of the environment is incomparable to any functional, social-cultural, and responsive aspect of meaning. However, defining levels of meaning, Hershberger (1974) introduces

subjective representation of an element objective attributes such as from recognition, size, scale and location as presentational meaning which Bechtel (1976) refers to as explicit meaning, as opposed to implicit or referential meaning. The reason to include presentational meaning within environmental meaning levels is that choosing any objective attribute as a stimulus and taking it into account requires the intervention of the schemata, thus, the process of perception is activated and the objective attribute turns into a subjective one. But studies Neisser (1976) performed show that the perceptual cycle of presentational cases is different from the perceptual cycle of meaning since the former, unlike the latter, can be detected by electrophysiological devices. In Table 1, levels of meaning and semantic factors extracted from various environmental studies are compared to environmental quality indicators in both objective and subjective aspects. It indicates that different types of environmental meanings cannot fall under the category of its presentational attributes. Therefore, the similarity and interwovenness of the concepts of quality and meaning begin at the subjective aspect of quality where semantic

factors become similar to environmental quality indicators.

Turning to the second question, the position of these two concepts is determined and compared during the procedure of perceiving and recognizing the environment. The position of quality in the process of interaction to the environment (Fig. 1) showed that subjective quality is a kind of judgment, and is formed following the perception of environmental attributes and their evaluation based on the user's intentions. Functional quality, for instance, addresses whether an element responds to the functional purposes expected by the user, e.g. is this chair comfortable? The answer to this question shows the degree of appropriateness and specifies a type of evaluation. In other words, quality asks about how. But the meaning is not necessarily a form of judgment, and asks about what prior to how. For example, understanding the functional meaning of an element is to understand what that element is used for. The answer to this question shows whether this chair is used for sitting, decoration, studying or rest. Although this meaning can slightly change based on user's expectation and anticipation, no judgment is required for a meaning to be known. The procedure of perception and recognition of meaning in Fig. 2 also shows that meaning can be completely separate from and independent of its

judgment level, referred to as affective meaning. So, although quality is certainly a kind of value judgment, meaning is the result of perception and cognition and does not necessarily reach the level of judgment.

Considering the evaluative character of quality and its position in the process of human-environment interaction (Fig. 1), it can be concluded that the combination of all layers, in the quality column of Table 1, leads to subjective quality. This is consistent with the definitions presented in the literature review suggesting that quality is the sum of all these layers and has an added value that exceeds the sum of the values of aspects. But as shown in Table 1, every aspect is itself a kind of meaning perceived and recognized through human-environment interaction. Now, one can use this argument to determine the relation between meaning and quality aspects in human-environment interaction: aspects of meaning are consistent with the subjective aspect of quality. Since, every aspect of meaning is itself a kind of distinct meaning, while quality is the outcome of combination of all its layers, it can be concluded that judgment of quality is the outcome of perception and cognition of different layers of meaning. In other words, it is the cognition of functional meaning, social-cultural meaning and affective meanings of an environment that gives

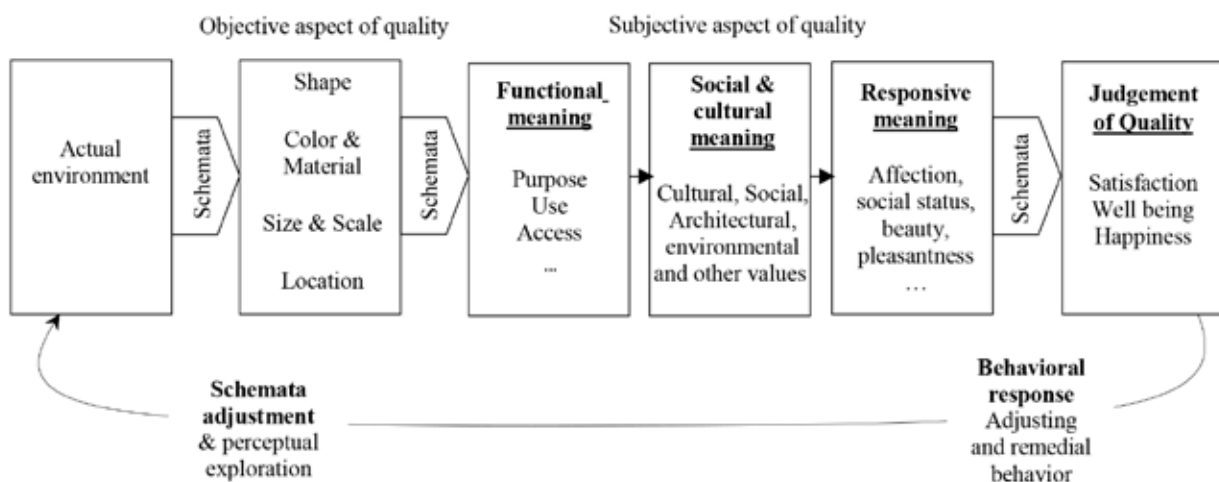


Fig.3. Quality emerges as the outcome of the cognition of various aspects and layers of meaning. Source: authors.

rise to its quality. Fig. 3 presents this conclusion in the form of human-environment interaction. This figure is also the result of a comparison between Fig. 1 and 2, which highlighted the position of quality and meaning during the procedure of environment perception. Based on this comparison, three aspects of environmental meaning fall into the category of subjective attributes of quality, and, in combination with objective attributes of

quality, provide the framework required for the final judgement on the degree of excellence of the environment.

Table 1 and the process presented in Fig. 3 lead to the analysis of the third question of research, the position of semantic factors in the evaluation of environmental quality. The semantic factors fall into the category of the affective aspect of meaning that describe the user’s evaluation of the functional

Table 1. A comparison between aspects of quality and meaning. Source: authors.

Quality*		Meaning	
Aspects	Layers	Aspects	Layers
Objective	Hardness, color (Bechtel, 1976) Character, attribute, property (Merriam-Webster Dictionary) Image, appearance, colors, materials (Van der Voordt, 2009) Materials (Rönn, 2011)	Functional	Everyday and instrumental meanings (Jung, 1968) Purpose, use, activity (Hershberger, 1974; Gifford, 1987) Functional properties (Groat, 1982) Use and intention of a setting, including accessibility, penetration gradients, seating arrangements, movement, way-finding (Rapoport, 1982)
	Functionality, usability, commodity (Gann, Salter & Whyte, 2003; Van der Voordt, 2009; Rönn, 2011) Use, access and space (Gann, Salter & Whyte, 2003) Functional features, including welfare services, recreational services, commercial services, and transport services (Bonaiuto, Fornara & Bonnes, 2003)		Social and Cultural
Subjective	Stability, build quality (Gann, Salter & Whyte, 2003; Van der Voordt, 2009; Rönn, 2011) Economic value (Van der Voordt, 2009) Contextual and sustainable (Van der Voordt, 2009; Rönn, 2011; Carmona, 2001)	Responsive	Uniqueness, familiarity (Groat, 1982) Attachment, sense of place (Sixsmith, 1986; Gifford, 1987; Kopek, 2006) Happiness, responsibility, privacy, desire to return (Sixsmith, 1986) Self-expression (Sixsmith, 1986; Rapoport, 1982; Kopek, 2006) Affection (Sixsmith, 1986; Küller, 1973) Social status (Küller, 1973; Rapoport, 1982; Nasar and Kang, 1999) Potency (Osgood, Suci & Tannenbaum, 1957; Küller, 1973; Hershberger & Cass, 1974; Rapoport, 1982) Activity (Osgood, Suci & Tannenbaum, 1957; Hershberger & Cass, 1974) Pleasantness, originality and innovation (Hershberger, 1970; Küller, 1973) Complexity, unity, spaciousness (Küller, 1973) General evaluative, utility evaluative, aesthetic evaluative, space, organization, temperature, lighting (Hershberger and Cass, 1974)
	Beauty, Impact (Gann, Salter & Whyte, 2003; Rönn, 2011) Pleasant, Attractive, Stimulating, enclosure (Marans & Spreckelmeyer, 1982) Diversity, distinctiveness, sense of place, community, innovation, spaciousness (Carmona, 2001) Complexity, clarity, friendliness, originality, ruggedness (Gifford et al., 2002) Strong, active, good (Bechtel, 1976) Upkeep and care (Bonaiuto, Fornara & Bonnes, 2003; Gann, Salter & Whyte, 2003)		

and social-cultural meanings of the environment and the procedure through which these meanings affect the emotion of the individual. Therefore, each semantic factor is used to measure the degree of goodness of the environment on the basis of the concept it implies. On the other hand, because this semantic factor is part of the affective aspect of meaning, it becomes part of subjective attributes of quality, too. While measuring, for instance, the complexity of a particular environment, such as home space, the desirable degree of that space complexity can also be determined. The same factor is also referred to as an indicator of environmental quality. But in determining the quality level of the house space, it is the combination of complexity with other semantic factors that determine the final quality level of that environment. Therefore, although semantic factors, like quality, are of an evaluative nature, they are used to measure quality as a component fulfilling the goal in combination with other components.

Conclusion

Quality was previously shown to be the outcome, and emergence of meaning aspects a user identifies when interacting with the environment. Thus, it is logically incorrect to consider meaningfulness or meaning as one of the several indicators of quality, and to consider quality as one of the subsets of meaning. But what is meant when meaning is introduced as a quality indicator, is often social-cultural meaning, including environment reference to the common values among the user groups; it is while other indicators introduced for quality are also equivalent to meaning factors in functional and affective aspects. Similarly, placing quality as a subset of meaning reflects mere attention to objective quality and presentational attributes and occurs only when representation of sensory attributes of the environment is considered as a layer of meaning by the user.

Comparing meaning and quality aspects and their position in human-environment interaction, we can, to some extent, clarify ambiguities in understanding

and using of their aspects. Applying semantic factors to measure quality is based on this notion that both relate to the judgement the user forms on the environment. In other words, semantic factors seek to answer the question of whether a particular environment is good. This is precisely the purpose of evaluating environmental quality. But it is noteworthy that while each semantic factor can be used to evaluate a form of environmental meaning, it solely fails to determine the environmental quality level. In other words, the measurement of each semantic factor shows the state of only one of the subjective attributes of environmental quality, rather than the degree of its excellence.

Another ambiguity in the relation between meaning and quality results from the definitions presenting quality as a good attribute of an environment. The current article also suggests that to judge environmental quality is to determine its goodness level. On the other hand, meaning is not necessarily positive. When an environment or a thing is considered as a quality one, we refer to its goodness and, in contrast, not having quality is associated with weakness, discomfort and dissatisfaction. That is why the judgment of quality and satisfaction are intertwined. Therefore, although the objective aspect of quality (as its prominent feature) does not necessarily imply goodness, a "quality design" in architecture suggests the subjective quality to be equivalent to a certain degree of goodness. Turning to the concept of meaning, however, as judgment is not a necessity of meaning, goodness or weakness of affective meaning is not synonymous with meaningfulness or meaninglessness. Now, if the responsive meaning leads to the user's positive judgment and bears a good affective and evaluative load, the environment can be considered as a quality one.

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