The Sociocultural Role of Architectural Types: Cultural Sustainability in Architecture and the Possibility of Convention[1]

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Abstract

This study looks at the issue of cultural sustainability in architecture from the perspective of architectural types and attempts to question the cognitive viability of using types in the creation of a sustainable cultural milieu. The study conducts a multi-disciplinary and cross-comparative discourse analysis on the subject areas of cultural sustainability, cultural schemas and architectural types, in an attempt to find out the social and cognitive role of architectural types with regard to cultural sustainability. Examining these subject areas comparatively, the study respectively investigates the role of cultural schemas in cultural sustainability, the correlation of architectural types and cultural schemas, and the social and cognitive role of architectural types in the formation of cultural sustainability. Consequently, the study questions if the use of architectural types has a cognitive basis in the creation of a sustainable cultural milieu.

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Mimari Tiplerin Sosyokültürel Rolü: Kültürel Sürdürülebilirlik ve Geleneğin Sunduğu Olanaklar[2]

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Öz

Bu çalışma, mimarlıkta kültürel sürdürülebilirlik konusuna, mimari tipler perspektifinden bakmakta ve sürdürülebilir bir kültürel ortamın yaratılmasında tip kullanımının bilişsel geçerliliğini sorgulamaya çalışmaktadır. Çalışma, kültürel sürdürülebilirlik açısından mimari tiplerin sosyal ve bilişsel rolünü ortaya çıkarmak amacıyla, kültürel sürdürülebilirlik, kültürel şemalar ve mimari tip konularına ilişkin çok disiplinli ve karşılaştırmalı bir söylem analizi yürütmektedir. Bu konuları karşılaştırmalı olarak inceleyen çalışmada, sırasıyla kültürel şemaların kültürel sürdürülebilirlik üzerindeki rolü, mimari tiplerin ve kültürel şemaların ilişkisi ve kültürel sürdürülebilirliğin oluşumunda mimari tiplerin sosyal ve bilişsel rolü incelenmektedir. Sonuç olarak, mimari tiplerin kullanımının sürdürülebilir bir kültürel ortamın yaratılmasında bilişsel bir temele sahip olup olmadığı sorusu cevaplanmaya çalışılmaktadır.

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Introduction

The cognitive function of cultural knowledge in the interpretation of new information accumulated a considerable research interest. As a formative aspect of this cultural knowledge on the other hand, the cognitive function of architectural types and their role both in the interpretation and production of architectural products, and also in the formation of a sustainable built environment still seems to be an area that needs further attention. This study delves upon the cognitive role of architectural types in the creation of a sustainable built environment and discusses if types have the possibility of sustaining a cultural milieu today.

Methods

With the aforementioned objective, the study conducts a multi-disciplinary and cross-comparative discourse analysis respectively on the subject areas of culture, cultural sustainability, cultural schemas, the cognitive role of cultural schemas in the interpretation of built environment, architectural types, and the cognitive and sociocultural characteristics of architectural types, in an attempt to examine the cognitive role of architectural types in the creation of a sustainable cultural milieu.

Findings and Discussion

    a.   Culture and Cultural Sustainability

The inclusion of cultural sustainability as the forth pillar of sustainable development is a recent phenomenon with its unique dimensions of importance (Soini and Birkeland, 2014, p. 213). Mentioned previously under the third pillar of social sustainability, the concept of cultural sustainability itself was first brought up in 1995 by the World Commission on Culture and Development (WCCD) and was defined as the "inter and intra generational access to cultural resources" (WCCD, 1995). Although the definition of the concept still remains to be vague, it broadly talks about the preservation of cultural values, ideas, practices, artefacts and heritage (Axelsson et al., 2013). Culture is taken here as an asset in its own right and considered as having a crucial role in keeping the sustainability of a society, in unison with the other three dimensions of sustainable development, which are ecological, economic and social (Soini and Birkeland, 2014, p. 214).

On general terms, culture can be accepted as the "meaning content of human communities, which are expressed through their symbolic patterns, norms and rules" (Hylland-Eriksen, 2001). Being a very multifaceted and complex concept itself, "culture" has seen many shifts of meaning throughout history and has many different definitions that highlight these shifts. Being evidently at the root of cultural sustainability, the term "culture" can still be defined in a more inclusive manner as:

"The system of shared knowledge, ideas, skills, beliefs, customs, behaviors and values, which humans acquire to cope with their world, to transmit from generation to generation by learning and express in the material systems of artifacts and the built environment". (Lawrence-Zuniga, 1997, p. 49)

In this definition and else, the most important aspect of the term is that it is shared by a society, transferred from generation to generation and loaded with that society's value systems. It becomes through these shared meanings that culture enables people to 'make sense' of things around them; let them communicate and formulate ideas. As Stuart Hall suggests, people are able to communicate the way they do in a society as they share the same "cultural codes". Members of the same culture think and feel about the world and understand it in similar ways on the basis of these shared 'cultural codes', which are the shared sets of concepts, images, and ideas. As Hall describes, this is what determines to 'belong to the same culture' (Hall, 1997, p. 4, 18) and it becomes through those cultural codes that the meaning in society is constructed and sustained (Du Gay and Hall, 1997, p. 13). Accordingly, culture acts as a very crucial element for the sustainability of the very being of the societies it belongs to.

b.   Cultural Schemas in Cognition and their Cognitive role in the Interpretation of Built Environment

Studies on cognitive theory suggest that people carry this load of cultural information and operate on it through their cognition by way of their cultural schemas, which are a subset of their bigger store of cognitive schemas (Johnson, 1987, p. 19) (Oyserman, Sorensen, Reber and Chen, 2009, p. 219). It is an acknowledged theory today that our knowledge is held by our minds by way of our cognitive schemas, which are basically defined as the conceptual structures, which represent our knowledge of objects, situations, events, actions and sequences of action (Wertsch, 1985, p. 154). They are described as the mental frameworks that we use to organize our knowledge, which control the reception, storage, retrieval and production of information (D'Andrade, 1992, p. 28).

Cultural schemas on the other hand are found to be the subset of cognitive schemas and they are specifically defined as the "patterns of basic schemas that make up the meaning system of a cultural group", which govern how the people in that group experience and interpret their experiences in their daily lives (Nisbett and Norenzayan, 2002, p. 5, 6). They are seen as the "presupposed, taken-for-granted models of the world that are widely shared by the members of a society and that play an enormous role in their understanding of that world and their behaviour in it" (Holland and Quinn, 1987, p. 4). They vary from "highly concrete and specific constructs like spoons and left-turns to high-level schemas for things like love, success, authority, pollution, and the like". (D'Andrade, 1992, p. 34).

The use of our store of cultural schemas is of seminal value for the continuation of our daily lives within a cultural community and to interpret the meanings that are offered to us by that community through different cultural means, such as architecture, behaviours, tools etc. It is generally accepted today that culture exists at the very beginning of most of our cognitive experiences that define both the reception and the production of meaning through systems of representation. For D'Andrade, to have a sufficient understanding of a culture, a person should be acquainted with the most "intersubjectively shared" information of that culture, which are the mostly used and legitimized cultural schemas of that culture. Therefore, it is deemed important to know how to use those schemas for that cultural community. The interpretations that depend on those schemas are not questioned and treated as "obvious facts of the world". An important example given by scholars for a cultural schema is the restaurant script, which defines the overall general behaviour and setting patterns that defines the activity of eating at a restaurant (D'Andrade, 1989, p. 809, 820-825; D'Andrade, 1987, p. 112-113).

In cognitive literature, culture is altogether accepted as the sum of mental representations (cultural schemas), their public expressions and resultant behaviours in certain contexts, which are always in a continuous interaction with each other (Medin, Unsworth and Hirschfield, 2007, p. 618). As Shore states in line with this, culture could be seen as to have two main dimensions, which are called the "culture in the mind" and "culture in the ground". The first dimension, which is "culture in the mind", describes our aforementioned cultural schemas, which are the "cognitive representations" of the cultural context that we are in. The latter on the other hand, which is "culture in the ground", consists of the external manifestations or artefacts in the environment, such as our architecture, pottery or tools, which are also called as the 'material culture'. They also contain the intangible forms of culture, such as the forms of speech or social interaction styles etc. (Shore, 1996, p. 44, 52). It is proposed that there is a constant interaction between these two dimensions: people form cultural schemas ("culture in the mind") when they experience 'externalized' public cultural artefacts, such as buildings, tools etc. (culture in the ground) and they form new 'externalized' public cultural artefacts (culture in the ground) when they express their own cultural schemas ("culture in the mind"). As Shore describes, these two dimensions of culture therefore has a "twice-born character" that results from the specific internalization and externalization of culture in the mind (Shore, 1996).

The research shows that architecture or built environment exists as an important component of this "culture in the ground", from which members of that society derive cultural meanings to form their cultural schemas. When people would produce back to that very cultural environment from where they have driven their schemas, those very schemas become active again (DiMaggio, 1997, p. 263-287). Therefore, our built environment, as a form of our

material culture, both derives its meaning from the 'cognitive-cultural system', which is formed by customs, rituals and alike, and also perpetuates this 'cognitive-cultural system' by being its externalization in the environment (Donald, 1998b, p. 181-187). Consequently, as the research on cultural cognition shows, the role of our cultural schemas is indispensable in the understanding, interpretation and production of the architecture and the built environment that we inhabit. We need the necessary cultural schemas to give meaning to our experience with architecture, to read our built environment and behave accordingly. To maintain this meaningful relationship between us and our built environment becomes especially important for the sustainability of our cultural existence and milieu (Fig. 1)
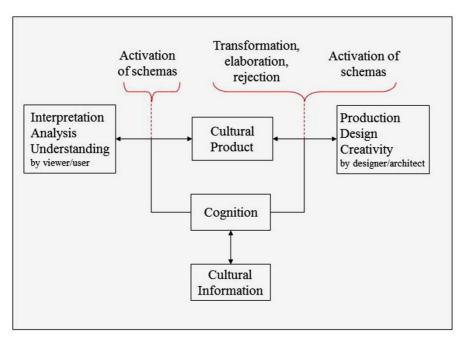

Figure 1 The use of cultural schemas in the interpretation and production of built environment (Diagram by author).

c.   Architectural Types and Cultural Schemas

As the research on design cognition shows, architectural types could be seen as a part of our store of cultural schemas. As cultural attributes that are used cognitively in the interpretation and production of architectural products, types behave like cultural schemas on the cognitive level assisting both the reception and interpretation of incoming architectural information and also the production of new designs.

The dictionary definition of "type" describes the term as "the general character or structure held in common by a number of people or things, which are considered as a group or class" ("Type", 2012). The grouping action provided by a quality of abstractness that unites and represents a larger group is what produces the "type" (Tice, 1993, p. 162). In architectural

theory, type is defined both as an abstract conceptual form, and as a cognitive facility, which functions as the context for systemic action based on categorization (Habraken, 1985, p. 40). In the article 'On Typology', Rafael Moneo combines these two traits and defines type as:

> "...the concept which describes a group of objects characterized by the same formal structure. It is neither a definite spatial diagram not the average of a serial list. It is fundamentally based on the possibility of grouping objects by certain inherent structural similarities. It might even be said that type means thinking in groups." (Moneo, 1978, p. 23)

An important emphasis implied in this definition is the abstract characteristic of type, which is used to act as the structural common denominator of a larger group (Argan, 1996, p. 246). Through this abstractness, it both becomes embedded in the units of the group as a conceptual structure, and it also represents them on this commonality.

As stated by Petruccioli, the birth of the architectural type results from the presence of this commonality that exists between a group of buildings. Type appears in this framework as a result of a process of elimination that leaves only the common elements that belong to this group. For Petruccioli, this process of elimination leaves type only as a schema and makes it a collective product in this sense that is shared both by the architects and the community they serve to." (Petruciolli, 1998, p. 11).

Emphasizing this abstract schematic quality, Quatremere de Quincy, who is one of the first theoreticians who worked on architectural type, uses even the term 'schema' while explaining the term. Defining type as "the idea of an element which should itself serve as a rule for the model" (Argan, 1996, p. 240), Quatremere states that type is neither a concrete image of something that can be copied or imitated directly, nor it is a definite form, but it is a schema or the outline of a form (Argan, 1996, p. 244). Quatremere refers to type as an ideal schema, which acts as the abstract structure used for spatial articulation (as cited in Argan, 1996, p. 244). For Quatremere, type is set to contain the most ideal form of relationships for the required basic demands in spatial articulation, which are to be used recurrently in different forms and shapes through time. As Argan indicates, architectural type appears in this sense as a 'schema of spatial articulation', which has been shaped as a 'response to a totality of practical and ideological demands' (Argan, 1996, p. 246). It appears as a 'common root form' reduced from complex formal variants.

The comparative survey with cultural schemas demonstrates a correlation that exists between the notions of architectural type and cultural schema. This emphasis on the abstract schematic structure of type that functions as the initial common denominator or the preliminary structure behind spatial articulation gives the first hints of its correlation with the notion of 'schema'. Being a form of 'thinking in groups', type exists as the formal, functional or structural schema, which consists of 'abstract system of relationships'. As mentioned before, it exists

not just as a unique formal spatial diagram, but as an outline that expresses and provides the possibilities of several complex forms of potential results.

The connection between types and schemas are portrayed very explicitly in several definitions of type made by different theoreticians. As stated before, in his definition of type, Quatremere de Quincy refers to type as the 'schema' or the outline of a form ("type is not a definite form but a 'schema' or the outline of a form") and characterizes it as the 'schema of spatial articulation' (Argan, 1996, p. 244, 245). For Quatremere, like a schema, type acts as the abstract structure that is set to contain the most ideal form of relationships for spatial articulation, which are developed for the required basic demands to be used recurrently in different forms and shapes through time.

Likewise Quatremere, Habraken also notes on the schematic quality of type by defining type as an implicit, abstract 'schema', which is possessed conventionally as a shared knowledge. Habraken states that type gives permission to a range of variations for the reason that it is the abstract basic schema behind spatial articulation (Habraken, 1985, p. 25). The adaptability of type therefore appears as a seminal characteristic that results from its schematic quality. On account of this schematic adaptability, Wittkower states that in architectural design, type adapts to the specific spatial and temporal features of different contexts and programs while conserving its significant characteristics. He demonstrates this generic schematic characteristic of typology in analyzing Renaissance architect Palladio's villa designs (Wittkower, 1971).

Therefore, the design theoretical research also shows that, type exists as a general solution schema, which acts as a source of generic knowledge manipulated in design (Oxman, 1990, p. 2-8). As explained before, it contains the body of prior knowledge that allows the designer "to extract 'generic schema' from specific images". It consists of both the finding of the 'generic representational schema' and also the knowledge of the strategies of using this schema (Oxman, 2001, p. 280).

d.   Cognitive Role of Architectural Types in the Formation of Cultural Sustainability

As architectural artefacts are structured by layers of cultural signification and as the architectural forms and their content have a historical representational value, the interest in type in architecture appears as a search for 'meaning', since type establishes continuity with cultural memory in architecture (Argan, 1996, p. 240). As testified by Colquhoun, typology works as a condition of architectural meaning through its ties with culture (Colquhoun, 1996, p. 248).

Studies on the cognitive use of culture suggest that the built environment is both directed by cultural schemas and also signifies the encoding of them, through which the members of one culture translate from it specific formal cues resulting in appropriate behavior (Lawrence-Zuniga, 1997, p. 49). What we can deduce from this research in terms of the interpretation of architectural products then is that architectural artefacts present cognitive tools for the user/viewer, depending on the existing cultural schemas. The 'new' in architecture could only be read by the viewer on these terms in connection to his/her prior cultural knowledge.

As Bonta indicates the interpretation of an architectural work by the viewer/user cannot be isolated neither from the context of ideas within which they were proposed, nor from the position of the interpreters. Interpreting an architectural object thus requires recognizing a set of characteristics, which can also appear in other works of architecture, such as typological features or previously known qualities (Bonta, 1979, p. 24). This feature requires the presence of 'familiarity' that must be observed by the viewer. As stated by Tesar, this familiarity is required for the building to pass the threshold of relevance for the viewer. If its form appears too remote, it would go unnoticed as it would require an unreasonable information processing effort, which is pointlessly effortful for the visual or formal acceptance of architectural works (Tesar, 1991).

Thus, in the perception and interpretation of architectural works, type exists as the initial frame of reference, or the preliminary way to know, which controls the acceptance and initial processing of new visual and spatial information (Tesar, 1991, p. 168). Carrying within itself the function and form as connected to each other, type connects the visual image of the building with its function and this way provides for the user/viewer the message that he/she can use in the perception or the interpretation of the architectural product.

As Tesar states, type acts in this sense as the 'natural context of architectural experience' in the perception of information, where the mind compares and matches the new information into the existing schematic structure of type in order to recognize and understand it with the least information processing effort (Tesar, 1991, p. 166). This way, the new 'strange' information is digested with the help of type into the 'familiar'. As stated by Alan Colquhoun, type becomes in this sense, the context with which the new work is understood (Colquhoun, 1996, p. 248). It stands for the familiar cognitive structure or the 'familiarity' that is used in the reception and perception of problems to arrive into new solutions later through the creative process. Type's familiarity becomes the ground to position oneself before stepping onto a new, unknown ground (Tesar, 1991, p. 168, 174).

Consequently, as cultural schemas help us to communicate over shared images and ideas due to the recall of prior cultural knowledge, types also function over the shared visual and formal

information, which live within the social body as shared knowledge gathered by common experience (Habraken, 1985, p. 25). As Robinson states, the architectural type "links the act of perceiving and categorization with the act of recreating and designing" on the basis of culture (Robinson, 1989, p. 256). Type both carries the seeds of culture within it and also transfers it to continue its existence through time. As indicated by Robinson, the power of type comes directly from its connection with culture:

> "Built form as artifact not only expresses the ideas held by a culture but also communicates and perpetuates them. Insofar as there are different kinds of buildings and building types in a culture, architecture can be used to indicate that there are different kinds of places – places for which different kinds of behavior may be expected, behavior settings…The power of the building type as a subject of analysis thus derives from its embeddedness in culture. Unlike the style, which is understood only by the formally educated, building types communicates meaning to all societal members." (Robinson, 1989, p. 273)

Therefore, identifying the meanings conveyed by architectural types allows the "productive building upon or modifying of existing cultural values by means of architecture" (Robinson, 1989, p. 273). As Tesar states, in this sense types hold the promise to reunite the world of social meaning and the world of architecture in a way that depends on the 'sharing of images' (Tesar, 1991, p. 165).

It is acknowledged today that in architecture, this integrity and the concern for communication could be maintained if the design of the buildings can develop in harmony with the existing cultural environment. As Tesar notes, the maintenance of this meaningful communication is very important for architecture, since architecture is an inclusive social and public art, rather than an exclusive fine art with its accompanying freedom to explore and to express the subjective, personal, and private subject matter. On these terms, it has a responsibility to manifest our shared values publicly in material form and to provide us a shared frame of reference to experience our environment (Tesar, 2010). Therefore, as Peter Collins also indicates, an architect's urge towards self-expression and originality should not override this communication and the sense of duty towards the environment and the past (Collins, 1971, p. 27), and what is more, the search for rationality in buildings and in the physical environment should not destroy the existing cultural continuity in the environment, since, as stated by Assi:

> "Rationality does not necessarily demands using a logic dissociated from existing conditions. Change in built form need not take place as dissociated from the existing conditions. It could happen in the nature of the context. Interventions can be knit more successfully knit into the flow of history."
> (Assi, 2001, p. 3)

On these terms, architecture possesses both the capacity and the task of providing a meaningful communication in the environment by way of respecting the cultural levels shared by the society. Knitting urban patterns and creating cultural landscapes, it holds the ability of both expressing and reinforcing the values of the society and the layers of cultural ideas. Being a public art in this sense, it carries the responsibility of providing a cultural communication within society and offering a meeting point between the interpretation and the production of the architectural products, by way of the proper use of cultural information.

In the light of the theories examined in the previous sections, it could be argued that in architecture, this connection between the 'interpretation' (perception, understanding or reception), the 'production' (design), and the 'architectural product' could be provided by the cognitive use of cultural schemas, such as architectural types. This intersection of the interpretation and production of architectural products over the shared frames of reference could be provided by the cognitive function of cultural knowledge that is in continuity within the society. Those shared forms provided by culture produce a meeting point for the interpretation and production of architectural works, which results from the familiarity of recognizable forms. The value of this intersection is important leaning on the fact that architecture is a public art that shapes the shared human environment and in fact, it is through this intersection that architecture becomes a public art, which is given the responsibility of forming our built world.

On this basis, the use of types in architectural design could be an effective tool to learn from the architecture of a culture and to form a cultural continuity therein. Types act in this sense as the cognitive tools that can create a richer architectural language by forming a connection with the past or with the existing cultural environment (Assi, 2001, p. 5). As Tesar notes, they offer cultural continuity and sustainability in this sense by keeping the degree of change from getting out of hand (Tesar, 2010). By way of building on the existing types, an architect can respond to his environment with sensitivity and can provide a sense of continuity between the past, present and the future (Assi, 2001, p. 3). As suggested by Assi, this kind of an approach can maintain "a creative process of regeneration of diversity within the context of the communication and unity of the community" (Assi, 2001, p. 5). Therefore, the use of types in design is of seminal value for architecture and is a way to form an "an alternative to the current fascination with novelty as the primary design strategy" (Tice, 1993, p. 162).

Conclusion

The results of the discourse analysis show that architectural types work as the cognitive counterparts of architectural culture and in culturally stable and locally isolated environments their use in architectural design could be an effective cognitive tool to form cultural continuity therein and to keep a sustainable cultural milieu. They exist as nonlinguistic cultural schemas

of a society, by working as the visual image models of a culture (Shore, 1996, p. 56-65). As cultural schemas help us to communicate over shared images and ideas in a society, types enable us in this sense to make sense of the built environment around us based on the shared cultural information that we have. As Tesar notes, types offer cultural sustainability by keeping the degree of change from getting out of hand and hold the promise to reunite the world of social meaning and the world of architecture in a way that depends on the 'sharing of images' (Tesar, 1991, p. 165).

Acknowledgement

References

Argan, G. C. (1996). On the typology of architecture. In K. Nesbitt (Ed.), *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995* (pp. 240-248). New York: Princeton Architectural Press.

Assi, E. (2001, December). *Typological analysis of Palestinian traditional court house*. Paper presented at the International congress of UNESCO – ICOMOS, Paris.

Axelsson, R., Angelstam, P., Degerman, E., Teitelbaum, S., Andersson, K., Elbakidze, M. and Drotz, M. K. (2013). "Social and Cultural Sustainability: Criteria, Indicators, Verifier Variables for Measurement and Maps for Visualization to Support Planning". *AMBIO*. 42 (2): 215–228. doi:10.1007/s13280-012-0376-0.

Bonta, J. P. (1979). *Architecture and its interpretation*. New York: Rizzoli.

Colquhoun, A. (1996). "Typology and Design Method". In K. Nesbitt (Ed.), *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965-1995* (pp. 248-258). New York: Princeton Architectural Press.

Collins, P. (1971). *Architectural judgment.* Montreal: McGill-Queen's University Press.

D'Andrade, R. (1987). "A folk model of the mind". In D. Holland and N. Quinn (Eds.), *Cultural models of language and thought* (pp. 112-151). Cambridge: Cambridge University Press.

D'Andrade, R. (1989). "Cultural cognition". In M. Posner (Ed.), *The foundation of cognitive science* (pp. 795-830). Cambridge: The MIT Press.

D'Andrade, R. (1992). Schemas and motivation. In R. D'andrade and C. Strauss (Eds.), *Human motives and cultural models*. Cambridge: Cambridge University Press.

DiMaggio, P. (1997). Culture and cognition. *Annual Review of Sociology*, 23, 263-87.

Donald, M. (1998b). "Material culture and cognition: concluding thoughts". In C. Renfrew & C. Scarre (Ed.s), *Cognition and Material Culture: The Archeology of Symbolic Storage*, Cambridge: McDonald Institute for Archeological Research.

Du Gay, P., Hall, S., Jones, L., Mackay, H., and Negus, K. (Ed.s). (1997). *Doing Cultural Studies: The Story of the Sony Walkman* (pp. 10-18). London: Sage publications.

Habraken, N. J. (1985). *The appearance of the form: four essays on the position designing takes place between people and things*. Cambridge, MA: Awater Press.

Hall, S. (1997). *Representation: cultural representation and signifying practices.* London: Sage Publications.

Holland, D. and Quinn, N. (1987). Culture and cognition. In D. Holland & N. Quinn (Ed.s), *Cultural models of language and thought*. Cambridge: Cambridge University Press.

Hylland-Eriksen, T. (2001). *Small Places – Large Issues*. London: Pluto Press.

Johnson, M. (1987). Chapter 2: The Emergence of Meaning through Schematic Structure. *The body in the mind: The bodily basis of meaning, imagination and reason*. Chicago: University of Chicago Press.

Kroebe, A.L and Kluckhohn, C. (1965) *Culture: A Critical Review of Concepts and Definitions*. NY: Vintage Books, NY.

Lawrence-Zuniga, D. L. (1997). Studying culture and history in exotic places and at home. In G. Moore and R. W. Marans (Ed.s), *Advances in environment, behavior, and design*, volume 4. New York: Plenum Press.

Medin, D., Unsworth, S. and Hirschfield, L. (2007). "Culture, categorization and reasoning". In S. Kitayama & D. Cohen (Ed.s), *Handbook of Cultural Psychology*. New York, NY: The Guilford Press.

Moneo, R. (1978). On typology. *Oppositions*, 13:23.

Nisbett, R. E. and Norenzayan, A. (2002). Culture and cognition. In D. L. Medin (Ed.), *Stevens' Handbook of Experimental Psychology*, Third Edition, New York: John Wiley & Sons.

Oxman, R. E. (1990). Prior knowledge in design: a dynamic knowledge-based model of design and creativity. *Design studies*, 2(1), 17–28.

Oxman, R. E. (2001). The mind in design: a conceptual framework for cognition in design education". In C. Eastman, W. Newstetter & M. McCracken (Eds.), *Design knowing and learning: Cognition in design education*, (pp. 269-295). Oxford: Elsevier Books.

Oyserman, D., Sorensen, N., Reber, R. and Chen, S. X. (2009). Connecting and separating mind-sets: culture as situated cognition. *Journal of personality and social psychology*, 97(2), 217–235.

Petrucciolli, A. (1998). "Exoteric, polytheistic, fundamentalist typology: gleanings in the form of an introduction". In A. Petrucciolli (Ed.), *Typological process and design theory,* Proceedings of the international symposium sponsored by the Aga Khan Program for Islamic Architecture at Harvard University and the Massachusetts Institute of Technology. Cambridge, MA: Aga Khan Program for Islamic Architecture.

Robinson, J. (1989). Architecture as a medium for culture: public institution and private house. In S. Low and E. Chambers (Ed.s), *Housing, culture and design, a comparative perspective*. Philadelphia: University of Pennsylvania Press.

Shore, B. (1996). *Culture in mind: cognition, culture and the problem of meaning*. Oxford: Oxford University Press.

Soini, K. and Birkland, I. (2014). "Exploring the scientific discourse on cultural sustainability". *Geoforum*. 51: 213–223.

Sperber, D. and Hirschfeld,L. (1999). Culture, cognition, and evolution. In R. Wilson & F. Keil (Ed.s), *MIT Encyclopedia of the Cognitive Sciences*, (pp.111-132). Cambridge, Massachusetts: The MIT Press.

Tesar, P. (1991). The other side of types. In G. Rockcastle (Ed.), *Type and the impossibility of convention*. Minnesota: University of Minnesota.

Tesar, P. (2010, June). *Types as* intersubjective *expressive systems*. Paper presented at EDRA 41/types-II Symposium - Annual Conference of the Environmental Design Research Association.

Tice, J. (1993). Theme and variations: A typological approach to housing design, teaching and research. *Journal of Architectural Education*, 46(3), 163-164.

Type. (2012). In *Merriam Webster Online Dictionary*. Retrieved from: http://www.merriam-webster.com/dictionary/type.

WCCD (1995). "Our creative diversity", Paris: WCCD, p. 64.

Wertsch, J. (Ed.). (1985). *Culture, communication and cognition: Vyogotskian perspectives*. Cambridge: Cambridge University Press.

Wittkower, R. (1971). *Architectural principles in the age of humanism*. New York: W.W.Norton.

Biography of the Author

Zeynep Cigdem Uysal Urey was born in Ankara, Turkey, in 1979. She received her B.Arch. degree in 2001, from the Middle East Technical University (METU), Department of Architecture (Ankara, Turkey). She received her M.Arch degree in 2004, again from the Middle East Technical University (METU), Department of Architecture. She received her PhD degree in 2012 from North Carolina State University, College of Design (Raleigh, USA). In 2012, she joined Cankaya University, Department of Architecture, and in 2013 she became an Assistant Professor at the same institution. Her current research interests include the use of cultural information and cognitive schemas in architectural design.