Cultural Identity in the Era of Digital Media

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This paper will address an important issue concerning architecture — the relationship between digital technology and culture. Digital technology changes the cultural and political structures of our lives by redefining their boundaries and interactions. The cultural identity of spatially defined places, such as a country, a city, or a neighborhood, loses its relevance. In the context of these phenomena, it is noteworthy that material architecture and the digital technology used by architects signify two opposite trends. On the one hand, buildings symbolically interact with a particular place and tradition, thus, they preserve cultural identity. On the other hand, digital technology, when used by architects, transforms buildings into elements of global exchanges and, in this way, supports the globalization of cultures. Architecture and digital technology are becoming interconnected, however. Digital media have already become an integral part of architectural education and professional services. The market of architectural services, with its new standards of efficiency, creates pressure to keep educational electronic environments at the highest level of technological development. My contention is that the consequences of integrating digital media into the educational processes in architecture are too complex to be evaluated exclusively in terms of commercial gains. This paper will problematize seemingly familiar aspects of the use of computers in architecture and will suggest topics worthy of further exploration.

Most contemporary cultural theoreticians point out that the sense of cultural subjectivity has always been constructed or that political powers have struggled for dominance over these symbolic practices which signify cultural identity.' Architecture can be seen as an important component of these processes. Buildings support a sense of belonging by giving form to cultural memory and contributing to the network of historical and social references which function across generations. Similarly to tradition, history, or language, buildings and cities have structured relationships within a given culture.? Buildings have been commonly acknowledged as multifaceted cultural symbols. It was exactly this symbolic value of buildings that made them military targets when enemies wanted to destroy a sense of cultural identity. Consider, for example, the city of Flores in Guatemala. Until 1697, this island city, known to its Mayan inhabitants as Tayasal, was the last major functioning ceremonial city of that culture. It was conquered and completely destroyed by the Spaniards. Following the pattern typical for all conquerors, the Spaniards built a Catholic church physically replacing the Mayan temples and, in this way, they symbolically conquered their cultural meanings. More recently, the history of Poland provides another example. At the end of 1944, in order to target national subjectivity, the Nazis systematically destroyed the entire medieval Old City of Warszawa.[3] They aimed at the material manifestation of history and tradition. Each nation, each well-established, traditional community could provide such examples of how architecture manifested a culture-specific, commonly-respected symbolic value.

Lets consider now the use ofcomputers in architecture vis-8-vis the issue of cultural identity outlined above. I would like to review three aspects of digital media in architectural education and professional practice: (1) digital media as tools for recording and managing information concerning a building's form and construction, (2) digital media as an instrument of visualization and promotion, and (3) digital media as a tool of collaboration.

Computers create new possibilities and new precision standards for the recording and management of information. In my discussion, it is important to analyze what this recording and management promote in the realm of architectural thought. It is telling that military or medical management of information dictates the pace of progress in the technology of data management. In both cases, in the war with a human enemy and in the war with a disease, what makes it possible to act on physical reality is to turn acomplex living and feeling entity into its quantitative model, controllable because reduced to what can rationally structured.' The technological filtering of information can be seen as similar in architecture. Consider, for example, how computer-aided-design systems and their epistemological basis are constituted. As was the case with a living and feeling organism, cultural or symbolic space is not aconcern for CAD mapping. In order to rationally represent, to produce a geometric two-dimensional drawing

or a three-dimensional model of a building, its physical form and performance must be measured and "translated" into numeric data or a geometric map. Space must be understood as geometrically structured in order to enter that data. When admitted in this way, the form of space is perfectly coded, leaving no margin for ambiguity. CAD systems have a lot in common with Foucault's discussion of classical episteme. CAD's systems of viewing are the same as those that were well-established in the seventeenth century.[5] Just as classical systems of "transparent signs," the representation of space on a computer screen is, first of all, a tool of analysis. The transparent signs were meant to develop a type of operational system that left no doubt about the analytical functioning of a sign, while, at the same time, this system eradicated all other meanings. These other meanings might have been associated with the resemblances a sign could embody, or with the perceptual complexity of the real phenomena.[6] In the case of architecture, what can be recorded with the new level of precision are only these attributes of physical reality that can be precisely analyzed. In agreement with the Cartesian tradition, the realm of thought had to be separated from the realm of material reality. The former had to remain untrustworthy. The correctness of thoughts or impressions cannot be analyzed with accuracy because it rejects measurement. Only the physical reality is quantitatively analyzable. When reduced to location, extension, or to physical characteristics of its material properties, reality can submit to the speed and accuracy of computer data management. To be efficient, that is, to be a tool of analysis, CAD systems must reduce the complexity of architecture to the geometric complexity of elements and their disposition in space. Space must be approached as systematic and rationally constructed, devoid of the perceptual "murmur," that is, the ambiguity of interactions between thought and architecture.[7] However, it has always been this complex and multifaceted interaction between thought and architecture that turns a building into a symbolic repository — a material place where cultural values can be negotiated across generations. To design or interpret a building with this kind of complexity, one must use imagination and memory. Thinking has the power of establishing mental models of architecture which relate a material building to various aspects of cultural reality across space and time. Such thinking accepts the ambiguity and imprecision of interpretations because imagination and memory open networks of meanings beyond what is literally visible or present at a particular moment.

Within epistemological parameters of a CAD system, a 3D model or a set of layered orthographic drawings could be seen as simple or complex, but only if one is referring to the number of its elements or geometric patterns. A CAD documentation could be correct or incorrect, depending whether its geometric or physical characteristics were correctly or incorrectly measured or coded. When a CAD documentation is inconsistent, it is only confusing. The consistency of CAD is that of a universal scientific system of knowledge. That is why, as a conceptual tool, CAD is merely designed to compile value-indifferent elements. Similar to the way reality was scientifically ordered in the classical era, digitally supported design is typically the arranging of elements which are analytically predetermined. These elements are frequently taken from a library of solutions or patterns. The CAD notation foregrounds the quantitative dependencies among these elements over their symbolic relationships.

The ambiguity of a free-hand sketch is different. A sketch can be a counterpart of imagination, a tool of exploration of mental models leading to the gradual emergence of a unique architectural sense. Conceptual thinking relays on this ambiguity because to design something means, first of all, to define a design problem and/or to establish a set of conceptual/symbolic priorities. This process tests how broad the network of symbolic references should be for a prospective piece of architecture to engage physical and cultural relationships. A unique sense of an architectural idea reflects what is important and why in a particular design proposal. Traditionally. culture-specific value systems provided the parameters for these conceptual negotiations.

These issues are far from being a purely theoretical speculation. They translate into what may or does happen in a computer studio. The efficiency or convenience of recording architecture influences the possible architectural outcomes. In a studio, computer-generated forms emerge with unusual immediacy. They are premature in their geometric completeness. The lack of compositional or symbolic relationships, or the lack of conceptual development can be dissimulated by the accuracy and multiplicity of these geometric forms. The complexity of geometry or unusual formal effects are frequently confused with the complexity of meaning related to the cultural and material context of architecture.' I am not suggesting here that complex geometry created on a computer screen is different from what architects used to draw on paper. It is the issues of complexity and depth of meanings that are being introduced in a different way. A great number of elements becomes more accessible and easier to manipulate. This easy satisfaction of grasping the quantitative complexity or turning formal manipulation into entertainment weakens the need for the complexity of cultural references. Consequently, I would say that Computer Aided Design systems manage factual information in architecture most efficiently by reducing a building to a physical or a self-referential geometric construct. Cultural phenomena, which transform a building into an emblem of cultural identity, remain marginal in this mode of conceptual representation.

The second aspect of digital media in architecture is the visualization and promotion of prospective architecture. This problem is directly related to the way architecture can be recorded. However, it is not the accuracy of CAD that I would like to analyze here. Rather, I would like to focus on the fact that architects can create visual sensations that allow viewing a building before it is constructed. Envisioning architecture, especially the visual complexity of its interior spaces, the distribution of light, or the sequences of experiences, was always one of the most challenging aspects of any design.' In a design process, it is difficult to distinguish between one's

intentions and the actual physical consequences of his or her decisions. Envisioning architecture poses a practical problem as well. A client has much less training in envisioning architecture than an architect. It is the client, though, who needs to understand and approve a proposed solution in order for that design idea to become a physical reality. Computer graphics bring a completely new solution to this problem. It is possible to create a still photorealistic image or a photorealistic animation of the building that is being designed. Advanced hardware and software offer modeling options such as texture mapping, positioning of light sources and the calculation of light distribution relative to the optical characteristics of surfaces and the shape of space. Although it is still time-consuming and technically demanding, "real time" visual simulation of a design will become a standard commercial presentational tool in the future.

From a commercial point-of-view, the benefits of making easy to see something which does not yet physically exist, are obvious. The commercially persuasive character of such presentational images relies on literalness, that is, it supposedly assures that "what you see is what you get." This certainty reflects that what is being promoted as being of value is visually there in the image, ready for instant perception. This process is another kind of reduction — architecture is reduced to a perfect commodity. The value of a building is equated with that of a commercial image, which is only good if it instantaneously pleases or excites a viewer/client. In the context of my argument, however, I would like to address how digital techniques of visualization relate to the issue of cultural identity. As I indicated before, a building or an urban place symbolize cultural identity when they belong to a city seen as a material repository of complex cultural and economic processes. In order to see a cultural value in material architecture, one needs to acknowledge the existence of traces of many cultural, historical, spatial, and social references and establish a complex mental network of relationships between them. Envisioning such architecture takes much more than making it literally visible. It is a matter of constructing a mental vision of how a building could function within its network of cultural interconnections. This mental viewing should include various social and political perspectives or different time-frames.

Finally, there is the problem of the global expansion of architectural services. An electronically-supported collaboration between an architect and other architects, consultants, or clients in different parts of the world is a growing trend. Such an exchange of ideas and knowledge to produce adesign poses many questions. Although the internationalization of architectural services creates an opportunity for economic growth, the cultural implications of such an expansion cannot be overestimated. I would like to show how electronically-supported collaboration is a central issue in this respect.

Any collaboration depends, in the first place, on the modes of communication. What could become the object of a collaboration must follow the pattern of message constitution. Especially in the case of international collaboration, the universal language of science, which I discussed before, may and often does dominate collaborative efforts. The quantitative description of physical reality and value-indifferent geometry constitutes the most reliable code of such an exchange. Perfectly coded information about the physical form and performance of a building may be the beginning, but also frequently becomes the only product of such a collaboration. As mentioned before, the epistemological foundations of CAD systems privilege this type of architectural information. If not the scientific information about a piece of architecture, but rather the understanding of itscultural meanings is sought, architectural collaboration faces a much bigger challenge.

Symbolic meanings are culture-specific. It would be na'ive to assume that having a faster or farther-reaching communication technology would make the discussion of symbolic meanings of a prospective building any easier. Let's consider, for example, architectural collaboration at the time when conceptual ideas are being shaped."' Conceptual ideas are difficult to define and articulate. This difficulty is not a problem of communication, but a problem of making something thinkable at all. In this process, architects decide which attributes of architecture are relevant for a design process and what kind of sense they make. The way architectural ideas have been evaluated and developed, have always reflected culturally-grounded value systems functioning in that place and time. These values might have been subjected to political forces and were in the constant process of negotiations, but they did engage current concepts of symbolic reality on multiple levels.

It may seem that images have a greater chance of conveying these cultural meanings than the scientific notation could. However, when a simulated image of an architectural solution is transferred from one continent to another, only the appearance of architecture is transmitted. Similarly to what I have discussed before, architecture is reduced to a visual commodity. In many cases, new media create merely the effect of substantive cross-cultural dialogue. Photorealistic depiction creates an illusion of clarity and immediacy of perception. Such depiction of proposed architecture, may hide the absence of its cultural-specificity behind dazzling visual effects. It is much easier to visually entertain or create the appearance of a commercial product than to convey how the conceptual and symbolic priorities are being constituted. The understanding of cultural differences in approaches to architecture, its value, perception, and use, is far more complex than what such a commercial process is designed to support. It should not be surprising, then, that an architectural stylistic fashion frequently determines the shape of architecture in a cross-cultural collaboration. Style and fashion have always been the means of cultural dominance. Most frequently, high technology and new architectural styles are associated with progress and disseminated all over the world by international corporations. In the absence of difficult cross-cultural dialogue, political or economic powers always prevail. These newest economic processes are not that different from the old practices of colonization. As it has always

been, the architectural identity of less developed countries seems to lose in this "collaboration."

In conclusion, let me say that digital technology is not the cause of these cultural phenomena. It is simply built into the current cultural changes. At the same time, whether we like it or not, digital media has become an important part of architectural education and professional services. I contend that digital technology should enter architectural discourse and setting objectives for architectural education not as a technical or commercial solution but exactly as an element of cultural or political changes. On the other hand, cultural identity should be seen as an issue crucial to the future of the discipline of architecture. As I have discussed, cultural identity is at stake when buildings cease to serve as repositories of culture-specific symbols and are reduced to technological solutions, or images which can be exchanged globally. If architects are to participate in the processes of shaping local and global visions for the future, they should not blindly follow new technological or commercial trends. Architecture should reestablish itself as a cultural construct capable of manifesting and transferring through time the ideas which give people a sense of belonging.

Consequently, in the future of architectural education, the question of how to visualize should not be separated from all the critical and theoretical issues of architecture. The material form of architecture, as well as anything that influences the process of designing and using it, including the issue of cultural identity, should be analyzed within the same network of relationships. The interdisciplinary theories of representation provide such a critical framework.

NOTES

1 See, for example, studies on the function of a museum by Tony Bennett, "The Exhibitionary Complex." *New Formations* 4 (Spring 1988), pp. 73-102, or Detlef Hoffmann, "The German Art Museum and the History of the Nation," *Museum Culture: Histories, Discourses, Spectacles,* eds. Daniel J. Sherman and Irit Rogoff, (Minneapolis, MN.: University of Minnesota Press, 1994), pp. 3-21, or various contemporary studies on colonization of cultures (for example the works of Gayatri Spivak.)

2 See Henri Lefebvre's discussion of representational space in *The Production of Space,* trans. Donald Nicholson-Smith, (Cambridge, MS.: Basil Blackwell, 1991), p. 33.

3 It was also one of the first decisions after the liberation of Poland to reconstruct the Old City. Despite the fact that the country was devastated, the idea of rebuilding this national symbol gained overwhelmingsupport. Wojciech Kalinowski, *Zabytki urbanistyki i architektury w Polsce,* (Warsaw: Arkady, 1986), pp. 538-80.

4 Paul Virilio pointed out the fact that even as early as at the turn of the century photographic prints became an instrument of what he calls the three great authorities: the law, the army, and medicine. (see Paul Virilio, *The Vision Machine* (Bloomington, Indiana: Indiana University Press, 1994), p. 43.
Jean Baudrillard, on the other hand, reveals how media functioned as an instrument of power, constructing "the illusion of the [Gulf] war." (see Jean Baudrillard, *The Illusion of the End* (Stanford, California: Stanford University Press, 1992) pp. 62-65.

5 The development of the systematic consistency of projection systems was frequently associated with their usefulness for military purposes. For adiscussion of thedevelopment of parallel projection systems see Massimo Scolari "Elements for a History of Axonometry," *Architectural Design,* vol. 55, No 5/6, (1985), pp. 73-78.

6 For a discussion of transparent signs see Michel Foucault, *The Order of Things* (New York: Random House, 1973), pp. 63-67.

7 This "murmur of signs" in knowledge is what, according to Foucault, ended with the Renaissance and gave place to the classical transparency of signs.

8 A good example of how much understanding architecture can be devoid of its cultural functioning can be found in the study of generative capabilities of the compositional grammar that William J. Mitchell discusses in *The Logic of Architecture.* Compositions of Palladian villas were structurally analyzed and a compositional language was established. The grammar of this language was then used to indifferently generate multiple versions of Palladian villas. (see William J. Mitchell, *The Logic of Architecture: Design, Computation, and Cognition* (Cambridge, MA: The MIT Press, 1990), pp. 152-179.

9 I discussed the new opportunities created by computer graphics for "photographic mapping" of perceptual qualities in historical architecture in "The Structures of Memory: New Modes of Depicting Existing Architecture," *Architecture: Material and Imagined, Proceedings from the 85th Annual Meeting, Association of Collegiate Schools of Architecture* (Washington DC: ACSA Press, 1997), pp. 529-534.

10 See, for example, William J. Mitchell's *Recombinant Architecture,* a discussion of information technology and its use for a collaboration between six schools of architecture. The Internet address of this text is <http://www.design-inst.nl/doors/doors2/transcripts/mitche.html>.