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NIKOS A. SALINGAROS: A NEW VITRUVIUS FOR 21st–CENTURY ARCHITECTURE AND URBANISM?

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Abstract

This article adopts the premise that the work of Nikos A. Salingaros marks a true beginning for seriously regaining what cultures and societies have lost throughout the years through the work of many architects, urbanists, and decision makers. It explores the three monographs he has written and views them as a new "De Architectura" for 21st century architecture and urbanism. The article reflects on Vitruvius's De Architectura and sheds light on selected evolutionary aspects of architecture and the anti-vitruvian practices that continued for hundreds of years, but intensified over the last century. It reviews the attitudes of anti-vitruvian architects that contributed to severe socio-cultural and contextual problematics. The views adopted in this article are based on the conviction that the theories and writings of Salingaros are a reaction and a conscious positive response to these practices, and that these theories will invigorate the creation of humane and livable environments.

Keywords

Nikos Salingaros; Vitruvius; Christopher Alexander; deconstructivism; anti-architecture; urban structure.

NOTE to Academics, Architectural Students, Critics, and Practitioners

This article should not be seen in a similar light to the typical practice of critics. It is by no means, and should not be interpreted as, propaganda or a publicity campaign for a new theory. It simply reflects on the work of a scientist, a mathematician, an architectural theorist and a concerned world citizen who felt the need for architects to start shaping a better world. Recognizing the current status of architecture, it views Salingaros' work as a great endeavor that is not bound to a time limitation or a geographical location.

Preamble: From Vitruvius to Salingaros

Frank Granger and Morris Hicky Morgan's translations of Vitruvius' *De Architectura* tell us much about the essence of architecture as a cultural artifact, and as one the most important professional and educational disciplines. *De Architectura* offers insights into issues on what constitutes architecture, how architecture should be practiced, and the bodies of knowledge required for a responsive and knowledgeable architect. After several centuries of many failures to address these

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issues and to face the practical realities of architecture in satisfying the basic needs of people, Nikos A. Salingaros shines on the international architectural community. He brings to light his own theories in three manuscripts that I believe will shape the future of world architecture.

The three pieces of Salingaros titled "Anti-Architecture and Deconstruction," "Principles of Urban Structure," and "A Theory of Architecture" mark an important milestone in the history of architectural theories, where true scientific thinking coupled with the integration of natural and social sciences put architecture again into focus, and answer a series of critical questions. While offering harsh criticism on conventional practices, the manuscripts offer science-based theories and arguments, an aspect that remains missing from old and recent debates on architectural theory and criticism. It is my conviction that they will eventually penetrate the thick skin of traditional academics and the inherited practice norms of professionals, which are not equipped to face the complexity of architecture and urbanism in the 21st century.

On Vitruvius

While little is known about Vitruvius and his life, examining some of the available manuscripts (Granger, 1931; Morgan, 1960) reveals that he was born around 80 BC and died in 25 BC. He was a Roman architect as well as an engineer, admired and studied Greek philosophy and science in depth while gaining an intensive experience — in architecture and the technology of the time — throughout the course of his professional career. Vitruvius

was also a writer and can be seen as the first theorist of architecture in Western history. There were other earlier or contemporary known and unknown theorists in other cultures. In this respect, one would differentiate between Vitruvius and others by considering their work as "Volume 0 theories" while that of Vitruvius as "Volume 1 theory," i.e. a recorded written theory.

According to Granger (1931), Marcus Vitruvius Pollio or "Vitruvius" was one of those appointed to oversee the design and manufacturing of the imperial artillery or military engines of the Roman Empire at that time. It is said that he was the architect of at least one unit of buildings for Augustus, "Gaius Julius Caesar Octavianus." A few years before he died, Vitruvius completed his manuscript *De Architectura* which, after its re-discovery in the 15th century, became one of the most influential writings to be studied by architects from the early Renaissance until the present.

On De Architectura

Vitruvius adds to the tradition of Greek theories and practices the results of his own experience. *De Architectura* covers almost every aspect of Roman architecture. The books break down as follows: 1. Town planning, architecture in general, and the qualifications required of an architect; 2. Building materials; 3. Temples and the orders of architecture; 4. *continuation of book 3*; 5. Civil buildings; 6. Domestic buildings; 7. Pavements and decorative plasterwork; 8. Water supplies; 9. Sciences influencing architecture — geometry, mensuration, astronomy etc.; and 10. Use and construction of machines (Granger, 1931; Smith, 2004).

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Roman architects were significantly different from their modern counterparts, acting as engineers, architects, artists, and craftsmen combined. Vitruvius was very much a professional of this type, a fact reflected in *De Architectura*. He covers a wide variety of subjects that he saw as touching on architecture. This included many aspects which would seem invisible to modern eyes, ranging from mathematics and astronomy, to meteorology and medicine. In the Roman conception, architecture needed to take into account everything that touched on the physical and intellectual life of a human being and his surroundings (Rowland & Howe, 1999).

In Vitruvius' *De Architectura*, known in contemporary history as "Vitruvius: Ten Books on Architecture," architecture was defined and theorized. However, it was re-stated in the 17ᵗʰ century by Sir William Wotton (Morgan, 1960). In theory, three complex criteria/phenomena constitute the definition of architecture: 1) Convenience/Commodity; 2) Durability/ Firmness; and 3) Beauty/Delight. This means that a building or a portion of a designed/built environment must meet three standards to qualify as architecture. It must conveniently serve the purpose for which it was designed, built, and inhabited; it must be structurally sound; and it must be beautiful.

Each of these three criteria constitutes a number of subordinate complex phenomena. For the purpose of simplifying these phenomena one would venture the development of a preliminary definition of each. Commodity or convenience expresses the functional aspects of architecture, the way buildings house human activities, how people live and how

societies operate in the physical environment, or simply the dialectic relationships between people and their environments. Firmness or durability on the other hand represents the technological aspects of architecture, since it is governed by the natural sciences, including the laws of physics, statics, and dynamics. Delight or beauty exemplifies the aesthetic component of architecture, and this is based on the very fact that architecture seeks to express ideal concepts of beauty that emerge from symbols embedded in a particular culture. Notably, each of these phenomena has an interdependent relationship with the other two (Salama, 1998).

On Anti-Vitruvian Practices

Throughout the recorded history of architecture, the balance among the preceding three criteria/phenomena and their interdependencies has been a continuous challenge, and one can confidently argue that they were never addressed in full. This is especially obvious when looking at how architecture has evolved as a profession and as a cultural product throughout the last century. Up to the modern era, architecture was — and was seen as — a cultural index that took different forms in different historical eras. These forms resulted from the intersection of contextual particularities of geography, economy, and socio-political settings. However, architecture was always concerned with producing individual works of art on individual sites, where designing buildings or built environments was intuitive. The design process relied heavily on the experience, judgment, and talent of the individual designer. While this approach to architecture has — in a few cases — resulted

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in some of the most enduring achievements, today architecture faces severe challenges which threaten its traditional role that was dominant in pre-modern times, namely since beginning of the 20th century.

Although architects of the ancient world were generally associated with the rich and powerful, the king and royal institutes, their work had many merits that we still appreciate in recent times. With varying degrees of success it attempted to strike the balance between the three criteria/phenomena of architecture. Still, the poor and the middle class were never addressed by architects. On that basis, one can argue that while there were many excellent achievements in architecture, typical conventional practices throughout the pre-modern era were Anti-Vitruvian. Over the last three decades however, a few positive Vitruvian-based attempts emerged here and there around the world.

While having its roots in the beginning of the 19th century, the Modern movement reached the first half of the 20th century under the general title of "International Style" or "Modern Architecture," though it did not live up to its name. The basic premise of the Modern movement was to integrate function, arts, and crafts to form universal ideas within the requirements of technology. This by default has led to the belief in certain principles that include a rejection of ornament and historical styles as a source of architectural form (historicism), while replacing this with a belief in machine aesthetics. However, the literature on architectural theories corroborates that the Modern movement failed to appreciate the distinction between conceptual abstract designs, the realities of buildings, and the context within which they are designed and built. Throughout this last century, the continuous attempts to internationalize or universalize architecture have resulted in the subtle destruction of traditional cultures, and I believe many academics and theorists would agree on that (Salama, 1995).

The international Post-modern movement was a direct challenge to many of the premises upon which modern architecture was based. It advocated efforts ranging from historicism (including historical revivalism and historic eclecticism) to schizophrenic approaches of collage and elitist architecture. Based on some logical fundamentals and critical visions, it acknowledged the role of symbolism in architecture. It also regarded Modernism as lacking the premises to properly respond to the emotional and cultural needs of people while simultaneously expressing economic, scientific, and technological givens of the time. Post-modernists acknowledged the taste codes of the public as a source of design, in the belief that such a practice would help their work to communicate with the users of architecture (Mitchell, 1993; Salama, 2002 & 2007). While this might be seen as a good-intentioned practice, it trivialized the essence of architecture that eventually became very superficial. In this respect, the major weakness of Post-modernism lies in the fact that its disposition did not allow it to go far enough in its acknowledgment and understanding of its context. It did not address the shortcomings implicit in modernist architectural practices, but rather, it tacitly accepted them.

Despite any good intentions that might have

existed, Modern and Post-modern movements were anti-vitruvian in nature. The simple reason for this statement is that one criterion of architecture was always emphasized at the expense of the other two, or that a high value was placed upon two phenomena while the third was oversimplified or entirely ignored. In historic terms, as two developmental phases of architecture, they have culminated into architectural globalization with many underlying "isms" and trends that simply cut architecture from its roots, which are exemplified by socio-cultural and physical contexts.

Globalization generally refers to an economically driven process, whereby the politics, economics, and culture of one country penetrate other countries (Stiglitz, 2003). It is seen by those who believe they will benefit from it as a force that can unite economic forces, while at the same time causing social and cultural resistance. Under strong global economic and cultural impacts, world architecture witnessed the erosion of regional/local identities. It is concomitantly experiencing the loss of visual anchors into the soul of most cities, and even small towns and villages. The three very basic criteria of architecture were entirely forgotten, and were replaced by other factors that involve market economy and the establishment of transnational anti-vitruvian practices.

On Anti-Vitruvian Architects

Since architecture became an established profession, architects are always in a continuous search for recognition and fame. The reason is that throughout history they have wanted to be the intellectual and social peers of their elite clients. According to Kelbaugh

(2004), architects have established first local, then continental, and now global networks of criticism, critics' circles, and publications in which awards, books, and magazines are the real medium of expressing their status. In such a medium, the photographs are privileged at the expense of the physical artifacts, and I would add here at the expense of the people who use them. The result is that *"Architecture has become the exclusive domain of the so-called "Star Architect" (starchitect in common usage), no longer operating as a conveyance, but as a usurper of culture and identity."* (Salingaros & Masden, 2007:37).

Architects still believe that they are eligible to use the act of building — which buildings are however actually used by others — for personal exploration and expression. They are creating architecture that makes little reference to anything, only their creative impulses. Concomitantly, this sense of artistic entitlement empowered a few of them to design a few brilliant individual buildings. Yet, it has produced fragmented and illegible urbanism. Therefore, one can argue that, in generic terms, while some architects manage individual buildings well enough, the overall built environment is increasingly mismanaged.

Digging into the study of Dana Cuff (1989), the attitudes of anti-vitruvian architects become more obvious. Cuff was interested in exploring two issues through interviews with star architects. These were the notions of the individual and the image of the society, and the individual's identity and the individual's sense of others. Her interview resulted in a number of statements made by name architects that support the preceding argument. Richard

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Meier states: *"… the similarities among my works are because I am interested in certain things."* Robert Kliment states: *"… I make what I want to be … architecture is a way to create order and logic in my own life …"* Eisenman states: *"… I act through architecture, how else do I prove I am here …"* As Cuff commented, *"… a building reveals a self portrait of its maker …"* (Cuff, 1989).

Strikingly, these architects see themselves as creative leaders and among the world's actors, but with special talents and unique responsibilities, emphasizing the cardinal contribution of the individual maker to the world of architecture. As a result, their buildings are seen as steps within their own lives. This illustrates that artistic originality and individual authorship are highly revered and seen as paramount, and thus the notion of "celebrity" continues to be a dominant aspect of international architectural circles. What does this tell us? An assertion can be made here: anti-vitruvian architects, the shapers of most cities in the developed and the developing worlds, are immersing themselves in a matter of self exploration and self expression, and thus the creation of architecture is based only on intrinsic feelings and beliefs rather than rational, logical, and contextual constraints (Salama, 1995).

In response to these syndromes the recent article of Salingaros and Masden (2007) raises critical questions *"How can anyone believe that a "Dutch Design Demigod" could know more about a place than the very people who were born and raised there? How can these starchitects espouse to know what is best for the rest of the world? More importantly, how do we combat the aesthetic authority that* such individuals now exert over our place in the world?"* (Salingaros & Masden, 2007:37). I would argue that someone, some organization, a professional body, an architectural club, a client group, or whatever responsible entity should take these questions and seriously try to answer them in an attempt to stop or minimize the severe damages to cultures and societies in which those anti-vitruvian architects practice.

The preceding reflection goes along with the architect role models identified by James Ackerman in his pioneering article: "Listening to Architecture" (Ackerman, 1969). The anti-vitruvian architect role models can be exemplified in two types of architects; the egoist, and the pragmatist role models. One should note in this context that other roles have been identified by several writers, for example Erber (1970), and Burgess (1983). Nevertheless, for the purpose of this discussion, the focus is on the egoist and the pragmatist as dominant models that continue to exist for centuries. Again, based on recent practices, one could see them as the only models now.

The egoist is attitudinally described as the "I-give-them-what-I-want" approach to practice. The pragmatist role, on the other hand, is attitudinally described as the "I-give-them-what-they-want" approach to practice. In terms of the attitudes underlying these two models one can argue that the tendency of the egoist is to deny or oversimplify (or superficially respond to) the system of values of a society, while the tendency of the pragmatist is to totally accept the system of values as is. Both these attitudes produce negative approaches to the creation of the built environment, and to the way in which architecture is practiced. The

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egoist is paternalistic and his/her role is to create abstract forms based on subjective feelings, whereas the pragmatist is entrepreneurial and his/her role is to manipulate forms based on accepting the values of others. In this context, one should emphasize "her" as star architects now include female architects (2). The anti-vitruvian practices and the attitudes of anti-vitruvian architects have contributed to severe environmental and social problems. The cultural and visual identities of different localities in different parts of the world are completely lost because of the role models they adopt, as well as the naivety of the client groups who support them.

One should conclude this section by the following four wonders and one wish:

• I wonder if anti-vitruvian architects are able to deal with different segments of societies other than serving the rich and only the rich.

• I wonder if they have the ability to protect the tangible built heritage within the intangible cultural and societal contexts.

• I wonder if they can democratize design practices and if they know how to involve people affected by design decisions in the process of making those decisions.

• I wonder if they are able to deal with problems and paradoxes associated with different sub-cultures including the disabled, children, seniors, and the under-represented (Salama, 1999).

• I wish I could see anti-vitruvian architects able to solve a housing problem in a village or in a dense urban region, or able to introduce

change in a poor community, or a squatter settlement. While anti-vitruvian architects are immersing themselves in exploring new innovations to foster their fame, two thirds of the world's population lacks shelter or lives in substandard houses (adapted from Salama 2003).

On Salingaros

Reaching the global condition and the resulting ills of anti-vitruvian world architecture and urbanism, many architects came to terms with the facts of industry and economy, but typically at the cost of their ethical responsibilities as independent professionals. The ethics of the individual responsive architect or the small-scale architectural office were replaced by the ethics of the large consulting firms or real-estate companies. As a conscious reaction to this condition, Nikos Salingaros' work is emerging to offer new theories that if adopted, adapted, and practiced, will shape a better environment for the future. The question at this point is: Who is Nikos A. Salingaros?

Born in Perth, Australia of Greek parents, Nikos A. Salingaros is a mathematician and polymath popular for his work in urban theory, architectural theory, complexity theory, and design philosophy. Salingaros shares a harsh critical analysis of conventional modern architecture with the architect and computer software pioneer, Christopher Alexander, the prominent scholar and theorist. Salingaros, like Alexander, has proposed an alternative theoretical approach to architecture and urbanism that is more adaptive to human needs and cultural aspirations, combining rigorous scientific analyses with deep intuitive

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experience (Wikepedia, 2007). He has collaborated with Alexander in the editing of Alexander's latest work, "The Nature of Order". Salingaros' three manuscripts and numerous articles have been published in, not only the mainstream conventional architectural magazines, but in responsive online and paper journals as well.

Prior to shifting his attention to architecture and urbanism, Salingaros published substantive research on Algebras, Mathematical Physics, Electromagnetic Fields, and Thermonuclear Fusion. Salingaros still teaches mathematics, and is Professor of Mathematics at the University of Texas at San Antonio. He is also on the Architecture faculties of universities in Italy, Mexico, and the Netherlands.

In 1995, Salingaros' first publication on architecture marked the beginning of an exciting new career, which quickly eclipsed his earlier one. His papers on architecture and urbanism have been translated into Catalan, Farsi, Finnish, French, German, Italian, Portuguese, Spanish, and Swedish. He was awarded a grant by the *Alfred P. Sloan Foundation* in 1997 for his pioneering efforts in building a scientific understanding of architecture and urbanism. He has appeared as a guest on *National Public Radio*, and has been interviewed by several magazines. He is a champion of the New Urbanism, combining it with new exigencies of the developing "network city". In an essay with James Howard Kunstler, Salingaros predicted the end of the skyscraper era, which expanded his popularity worldwide (Salingaros Home Page, 2007).

Salingaros and Alexander

In the context of reflecting on the work of Salingaros, one has to refer to the mutual and collegial relationship between him and Christopher Alexander. Both have contributed remarkable arguments and theories since Alexander's "Notes of the Synthesis of Form" in the 1960s to Salingaros' "A Theory of Architecture" in the 2000s.

Salingaros acknowledges a debt to Christopher Alexander for encouraging him to devote his energies to understanding architectural and urban form. Indeed, it was Salingaros' collaboration with Alexander, in editing Alexander's four-volume book "The Nature of Order," that precipitated Salingaros into architectural research. He credits Alexander for this inspiration: "*Working with him on his book The Nature of Order during the twenty years prior to its publication taught me much of what I know about architecture and urbanism. He has generously encouraged me over all these years. More than that, he provided a solid point of sanity in an architectural world driven by images, fashions, and opinions. My work utilizes and expands on his ideas in many ways. A full appreciation of the material presented here can only come from reading his monumental work.*" (Salingaros, 2006:25).

Alexander, in turn, gives Salingaros credit for his original ideas: "*In my view, the second person who began to explore the deep connection between science and architecture was Nikos Salingaros, one of the four Katarxis editors. He had been working with me helping me edit material in The Nature of Order, for years, and at some point — in the mid-nineties I think — began writing papers looking at architectural*

problems in a scientific way. Then by the second half of the nineties he began making important contributions to the building of this bridge, and to scientific explorations in architecture which constituted a bridge." (Alexander, 2004, Katarxis No. 3, online).

The fact that each is crediting the other in some form and out loudly is a rarity in recent academic and professional practices. Today, many theorists, academics, and practitioners are claiming territory or ownership over whatever they can. Another question here: what does this tell us? Simply, it tells us that professional ethics are explicitly integrated in the work of Salingaros.

From Vitruvius' Triad to Salingaros' Triad

Earlier I used the following terms: Commodity/Convenience, Firmness/Durability, Delight/Beauty. However, there are many interpretations in the literature expressing these three phenomena, and how they constitute a work of architecture or a building. Some authors refer to these phenomena as function, structure, and beauty, while others still prefer to use the original Latin terms *Utilitas*, *Firmitas*, and *Venustas*. According to O'Gorman (1997), we may think of the Vitruvian components as the corners of an equilateral triangle, or better still, the legs of a tripod called architecture. No one leg can stand alone; each is dependent upon the other two to form the work of architecture, and this fosters the earlier argument of this paper.

Many theorists argue (and rightly so) that this is an exquisite formulation; for all its antiquity it remains a useful framework for the initial thinking about architecture, and the preliminary analysis of a building. However, one would tend to believe that this was not enough. The reason is that architects since the discovery of *De Architectura* needed more elaborate arguments; this is perhaps — in part — one of the reasons why many architects and practices became anti-vitruvian, and the results are really repelling. They needed more clarification and interpretation of phenomena that correspond to the changing nature of architecture and the societies it serves.

It would be very difficult in the 21st century to still think of the three criteria/phenomena introduced by Vitruvius as a panacea to the ills of world architecture and the built environment in general. This is especially true in light of population growth, increased urbanization, technological advancement, and the dramatic changes in the structure of contemporary societies. Those major forces are coupled with housing problems and the continuous emergence of squatter settlements, the deterioration of the built heritage, and the emergence of new building types and large structures.

Undoubtedly, Vitruvius gave us the ABC of architecture, but someone should have continued the alphabet of architectural theories. It is my conviction that Nikos Salingaros offers a new alphabet that corresponds to the demands placed upon the profession by contemporary societies. His work meets the requirements of architecture and urbanism in the 21st century. As a critic of modernist, postmodernist, and deconstructivist styles of building and thought, Salingaros' triad is emerging to replace these styles with a humanistic architecture for the future. His

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work is seen by many as forging a crucial interface between innovative ideas for a new architecture, and the timeless content of traditional architectures (Salingaros Home Page, 2007). To some, and to eventually many academics and practitioners, Salingaros' role will be the responsive theoretician whose aim is to reconnect humanity with so much that was lost over the past several decades.

Introducing a new alphabet, Salingaros has written three manuscripts that can be interpreted as forming the new triad. These are "Anti-Architecture and Deconstruction" (2004), "Principles of Urban Structure" (2005), and "A Theory of Architecture" (2006). Similar to that of Vitruvius, but differing in content and comprehensiveness, the triad can be explained in terms of how each manuscript and its underlying critical theories lead to the next. "Anti-Architecture and Deconstruction" comes on the top angle or corner of the equilateral triangle, as it introduces critical analyses of 20th century architecture, and offers a prelude to the successive theories. As one moves clockwise, the second manuscript "Principles of Urban Structure" comes on the right corner of the triangle as Salingaros' theories are introduced at the urban scale. Continuing to move clockwise, one reaches the third angle of the triangle where the latest manuscript, "A Theory of Architecture" comes to introduce scientific and mathematics based theories on architecture. Moving clockwise again to the first angle in order not to forget the critical analyses, one thus keeps remembering the ills that resulted from the anti-vitruvian architects and their practices, and the move continues (Figure 1).

I would agree that such a triad could change, as the future writings of Salingaros may evolve the equilateral triangle into something else. However, at the present moment in the history of architectural theory, it is a triad and will continue to be so until a new round of Salingaros' work emerges. The triad offers the foundation for a completely new approach to the built environment. As stated in Salingaros' Website, his work *"derives rules that underlie a living architecture …"* These rules do not simply clone great architectures of the past, but they re-interpret them; they go against copying-pasting elements and symbols from the past, an aspect promoted by anti-vitruvian architects and critics.

Two striking aspects are evident in Salingaros' triad. They can both be classified under the heading of "integration." The first is an integration of two different but complementary types of knowledge in architecture. The second is an integration of the two extremes of architectural theory, the hard facts and the soft values. It is believed that there are two types of knowledge in architecture. The first comprises knowledge resulting from research that seeks to understand the future through a better understanding of the past — research and reflection that explores accepted ideas. The second comprises knowledge resulting from research that probes new ideas, principles, and theories which will shape the future — research that develops new hypotheses and epistemics. While "Anti-Architecture and Deconstruction" falls within the first type, "Principles of Urban Structure" and "A Theory of Architecture" constitute the second type.

Some architectural scholars and thinkers may argue that what we have accumulated throughout the years within the scope of "architectural theory" are simply expressions of ideas and experiences which have concomitantly been identified as "theory." (Ozkan, 1999). While this argument is in part valid, an architectural theory should address three components: the scientific, the artistic, and the professional, while the three components should range from hard facts to soft values. However, if a theory claims to be scientific it has to search for the truth, if it claims to be artistic it has to be original, and if it claims

to be professional it must be ethical and valid. Again, Salingaros' triad incorporates these components into an objectively and logically accepted philosophical system that is based on critical visions, scientific understandings, and well articulated arguments. These two characteristics of Salingaros' triad are a concomitant reason that his triad has generated controversial debate in the architectural media. Unlike mainstream architectural theories developed during the past century, Salingaros' theories are verifiable because they stem from mathematics and science.

Anti-Architecture and Deconstruction
Critical Analysis/Criticism of
20th Century Architecture

Remembering

Prelude

Deriving Rules
that Underlie
a Living

A Theory of Architecture
Scientific & Mathematics
Based Theories

Principles of Urban Structure
New Theories at the
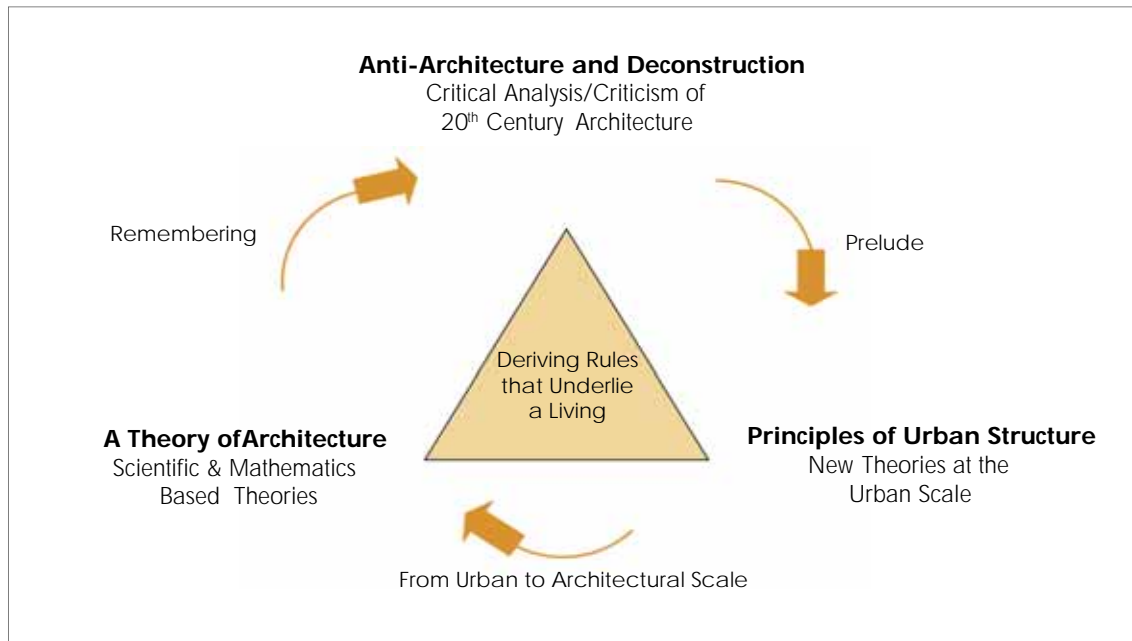Urban Scale

From Urban to Architectural Scale

Figure 1: Salingaros' Triad: Deriving Rules that Underlie a Living Architecture.

Anti-Architecture and Deconstruction

"Anti-Architecture and Deconstruction" is at the top of the triad. The manuscript appears as if Salingaros was setting the stage for his future writings. He established the scene through a collection of twelve essays in the form of a compilation that critically analyzes evolutionary aspects of modernism and post-Modernism, while heavily criticizing the resulting end-style of these two movements: Deconstructivism. *Anti-Architecture and Deconstruction* encompasses an interview with Christopher Alexander, and contributions and comments from well-known writers and scholars including James Stevens Curl, Michael Mehaffy, and Lucien Steil, among others.

The main argument of this manuscript lies in Salingaros' belief that architectural deconstruction is not a new thing. It has started since the 1920s from the Bauhaus, the international style, and modernism, going through new brutalism and late and post modernism. Each of these "ISMS" is regarded as a cult that had tremendous negative impacts on they way in which we think about or approach architecture in pedagogy and practice. Salingaros argues, and rightly so, that deconstructivists have disassociated themselves from the lessons derived from history and precedents, while distancing themselves from basic human needs and cultural contexts.

While many critical statements are made by Salingaros in different parts of the manuscript, one should note his criticism of the critics, the articulate and fancy rhetoric and writings of Charles Jencks and Bernard Tschumi. In this respect, in two important essays, Salingaros made valid arguments where the manuscript refers to Jencks as a "phrase maker and style tracker." He points out that Jencks' understanding and use of scientific concepts to justify and celebrate deconstructivist architecture is simply superficial (2). On the other hand, Bernard Tschumi's two major writings titled "The Manhattan Transcripts" and "Architecture and Disjunction" were closely examined by Salingaros. He concluded that Tschumi's work is a collection of meaningless images that resembles advertising and a false claim of knowledge of mathematics in analogizing it to architectural form.

The other ten essays offer eloquent and convincing arguments against such a destructive attitude of deconstructivism and deconstructivists. However, three of these should be highlighted. The essays titled "Derrida Virus," "Background Material for the Derrida Virus," and "Death, Life and Libeskind" eloquently show how Derrida's notion of deconstructivism became a dangerous virus which keep reproducing itself infinitely. Derrida, an Algerian-born French philosopher founded such a notion in literary criticism, and described it as "a method for analyzing texts based on the idea that language is inherently unstable and shifting, and that the reader rather than author is central in determining the meaning" (Derrida, 1973). While his work was heavily criticized by prominent linguists and philosophers including Noam Chomsky, it found listening receptive ears in the architectural community, a typical habit of many name architects who run after slogans and strange notions that help them to philosophize and theorize in order to justify their work.

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Metaphorically, the virus has killed almost all connections to the past, to humanity, and to context. The resulting ills are manifested in many cities, but the trauma is well articulated in the work of Daniel Libeskind in the Ground Zero Proposal, the Seattle Public Library, and the Berlin Holocaust Museum. Salingaros shows how the rhetoric surrounding the claims of Libeskind on the emotional experience of the Ground Zero proposal are nothing but negative. In this respect, a reference needs to be made to university campuses which are supposed to convey constructive messages about the future of learning, research, and humanity; they are calling deconstructivists to destruct their learning environments. This is clearly evident in the work of Antoine Predock in the McNamara Alumni Center of the University of Minnesota, and the work of Frank Gehry's Wiseman Art Museum of the same University. Notably, Gehry's work is invading many university campuses including Case Western Reserve University through its School of Business, and the University of Cincinnati through its Center for Molecular Studies. University campuses are intentionally conveying "deconstructive" messages.

While the manuscript was criticized by a few readers for having some redundancy, that issues and concepts introduced say the same thing in several chapters, one should respond by arguing that in many instances, in order for a writer to make his message clear, it has to be repeated, stated, elaborated, and articulated in different contexts and in different manners. This is one of the most important qualities of those who believe in their message. Undoubtedly, this manuscript is a voice of logic and reason against anti-architecture norms, and the destructive attitudes of their followers.

I would add my voice to other reviewers of this manuscript: that it must be a mandatory reading in schools of architecture worldwide. Salingaros' call for going against those attitudes and regaining our interest in solutions to human problems needs to be adopted. The manuscript's thrust for re-associating ourselves to the near and distant past — depending on who we are and the cultural context in which we operate — deserves special attention by both academics and practitioners.

Principles of Urban Structure

The right angle of Salingaros' triad is "Principles of Urban Structure." The manuscript moves beyond criticism, and incorporates critical analyses into philosophical interpretations. The result is to form new visions through which we may understand the city as a mixture of phenomena. A preliminary examination of this manuscript reveals that it is based on the view that a city with its physical, socio-economic, institutional, and cultural presence produces and re-produces, transmits and represents much, if not all, of what counts as politics, knowledge, and culture. One should be definite in this respect and argue that for thousands of years, many cities have been, among other things, centers of culture, politics, and the arts. Therefore, the knowledge of what a city is and what it is that makes its buildings, neighborhoods, districts, streets, and the spaces within it alive needs to be subjected to new interpretations and visionary arguments. This is the essence of this manuscript. In this respect, Salingaros argues that *"different types of urban systems overlap to build up urban complexity in a living city. This raises the need for using concepts such as coherence, emergence,*

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information, self-organization and adaptivity." (Salingaros, 2006).

Constituted in ten chapters, "Principles of Urban Structure" accommodates a number of theories and discussions that Salingaros has developed since the mid 1990s. It introduces the unifying notion of the network city to understand urban phenomena as components of a complex system. As another Greek, Constantine Doxiades, introduced the Science of Human Settlements — *Ekistics* several decades back, one tends to see this work as having a Greek origin. Salingaros is describing a beginning of a real urban science that complements scientific approaches to urbanism currently undertaken by several academics and scholars. However, as stated in the introduction of the manuscript, it examines the unproven principles adopted for many years, which were taken for granted. It calls for a fresh look on our needs to re-shape, re-structure, revitalize, and repair cities based on some proven logical understandings.

In the context of outlining this manuscript as an integral part of Salingaros' triad, it is important to cover selected crucial issues. It provides a different way of thinking about an urban area or a portion of a city. Overall, the theory is not about geometrical forms, it is about activity nodes and the physical paths that connect them. It offers planning principles based on a mathematical understanding of what generates the urban web. On that basis, Salingaros argues that the current system of breaking down neighborhoods has already alienated and segregated communities, while at the same increasing crime. He complements his theory of the urban web by two other theories that pertain to the relationship between urban space and its information field, on one hand, and the distribution of sizes, on the other.

Based on information theory and the laws of optics, Salingaros concludes that successful urban spaces are bounded by concave surfaces. The spaces reinforce paths and the paths are reinforced by the spaces. Insufficient information that people need to define spatial boundaries causes psychological discomfort. In terms of the distribution of sizes, and based on empirical research, a link is established between certain ordering mechanisms inherent in the human mind and the designed environment. This reflects the understanding that the design of an environment is not arbitrary, but should satisfy a set of constraints. While this conclusion may see to be revealing what is already known, the organization of mechanisms underlying design were developed by Salingaros in light of several analogies with complex systems in biology, physics, and physiology.

The manuscript is dense in terms of introducing science-based concepts, ideas, and visions, while linking them to the physical environment. On the one hand, a number of other ideas are presented to address critical issues that pertain to complexity and urban coherence, such as connecting the fractal city, and the role of information architecture and human intelligence in shaping the urban environment. On the other hand, the influence of Alexander is present in Salingaros' work. While Alexander's *Pattern Language* had and continues to have a great impact on the minds of many people, Salingaros investigates the *Pattern Language* further, as two chapters are exclusively dedicated to root the pattern language into the soil of recent debates on architecture and urbanism.

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A Theory of Architecture

This manuscript represents the third angle of the Salingaros triad. While capitalizing on recent efforts to develop interpretations of socio-cultural phenomena by means of scientific models, it builds on the four-decades-long effort of Christopher Alexander. While having his own theories and distinct thinking for approaching and introducing issues, Salingaros refers in several chapters in one form or another to the work of Alexander, as he sees him as a mentor and views his work as a source of inspiration. Those who read and study the work of Alexander would immediately realize this fact.

Preceded by a preface written by Prince Charles, and a foreword by Kenneth Masden II, "A Theory of Architecture" accommodates twelve different but related chapters. Some of them were jointly written with other scholars including Debora Tejada, Hing-Sing Yu, Michael Mehaffy, and Terry Mikiten. Among a number of aims Salingaros has identified for this work, two critical ones are noted. These are based on my belief that they contribute to a new understanding of architecture, its theoretical base, its education, and its practice. As stated by Salingaros, these two aims are: *"Derive laws for how matter comes together to define buildings that give pleasure to human beings,"* and, *"Explain, using scientific arguments, why people derive pleasure and satisfaction from some forms but not from others"*. This is based on his conviction that the architectural community has ignored for years logical thinking and empirical or experimental verification. Thus, this manuscript, in Salingaros' words, is developed to correct this condition.

"A Theory of Architecture" is in fact not about one theory, but several complementary ones that together contribute to a new vision about architecture. Concepts that pertain to complexity, emergence, and evidence-based design, pattern languages, the fractal mind, geometrical fundamentalism, and meme encapsulation, while presented in different chapters, are all integrated to shape such a vision. Highlights on these concepts reveal the message of the manuscript. In addressing complexity, Salingaros uses a model of organized complexity to estimate the degree of life in a building and measures the organization of visual information. In evidence-based design, he introduces the concept of adaptivity as a characteristic phenomenon of emergence. As a reaction to the fact that contemporary architectural theory has degenerated architecture into a narrow meaning by oversimplifying the relationship between spaces and their meanings, he proposes a broader discourse that involves evidence-based design, an aspect that is being addressed by responsive architects in creating healing, work, and learning environments. Building on Christopher Alexander's work, Salingaros incorporates a pattern language and a form language into an adaptive design method. Geometrical fundamentalism is another concept coined and explored by Michael Mehaffy and Salingaros to express the dominance of monolithic forms of modern architecture that led to a "tunnel vision" understanding of space.

This manuscript is of great value to architectural educators. It helps them correct some of the misconceptions inherited in architectural education. These include the fact that educators tend to present knowledge as a

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body of facts and theories and as a process of scientific criticism. The processes that led up to this product are always hidden and internalized. Salingaros offers explanations of how such processes occur, and uncovers their hidden qualities. Also, in pedagogy, knowledge is usually presented to students in a retrospective way where abstract and symbolic generalizations used to describe research results do not convey the feel of the behavior of the phenomena they describe; the late Donald Schon emphasized this view in 1988. The term "retrospective" here means extensive exhibition of the performance of the work of an architect over time. In essence, the analysis of precedents as part of the curriculum should be introduced. Salingaros derives his concepts and theories from precedents, historical or scientific. Rather than giving students ready-made interpretations about the work of star architects, Salingaros offers a deeper insight into the understanding of the true essence of architecture. This is a marvelous piece and it should be a required reading in theory courses introduced in both undergraduate and graduate programs of architecture worldwide.

Epilogue or Prologue for 21st – Architecture and Urbanism

In ending this article, one tends to think of this discussion not in terms of a conclusion or an epilogue, but as a prologue for the future of architecture and urbanism in the 21st century. Vitruvius' triad was the beginning of the dictionary on architecture, while Salingaros' triad completed that dictionary after two millennia. While Vitruvius' triad maintains its presence in discussions nowadays, Salingaros'

triad is apparently admired and adopted by Western Classical architects. The reason is that it validates new classical and traditional buildings by means of scientific arguments, although his work is not about classical architecture at all.

Implicitly and explicitly, Salingaros' writings within the triad and also other writings favor the architecture of indigenous populations, and especially those of traditional Islamic architecture. It is here that the greatest degree of "life" can be found through form and artificial materials. Because his writings have a broad scope that addresses these specifics, they are being translated into Persian and several European languages. However, they have not been circulated within the Arab world as one would expect. Therefore, this is a call for Arab scholars, who should also join the movement of creating responsive architecture, that is an architecture based upon science, society, culture, and logic. They should embark on a translation effort so that these theories can reach their target population, especially architecture students. In fact, Salingaros' triad validates centuries of traditional architecture, which is being ridiculed and despised by anti-vitruvian architects and practices, in Salingaros' words: "by a certain ignorant class of Western architects." Unfortunately, younger architects in many parts of the world and especially in the Arab and Muslim world have picked up these prejudices and are currently looking down on their tradition as a "step backward", and as something to avoid. Actually, they are assaulting their culture and its underlying traditions.

Evidently, we are living in a time of confusion, and in a world in which no one theory will have the upper hand in solving the contemporary

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needs of society in the field of architecture and urbanism. This requires redefining architecture to be ultimately a social act, and a scientific/intuitive art. It is crucial for current theory and practice to question once again the fundamental values embodied in traditional architecture and urbanism in a scientific manner, and to look for ways in which such values can contribute to the creation of livable environments. Now, one should pose questions that were repeatedly posed by others: 1) Is architecture nothing more than a mask of authority and power? 2) Is it a means of hiding hardship and the harsh realities of ugliness, poverty, inequity, and injustice that plague world societies as a result of Globalization? 3) Is it a camouflage that covers up the epidemics of anti-vitruvian architects and their followers? 4) Is it a veil that simply hides the symptoms of the ills that characterize current urban environments? In the context of efforts attempting to find thoughtful answers, and in the midst of the recent social, political and cultural turmoil, Nikos A. Salingaros declares the beginning of a visionary thinking paradigm. In my view, this is a new *De Architectura* for 21st-century architecture and urbanism.

Notes

(1) Female architect celebrities are showing off: During the World Congress of Architects (2005) of the International Union of Architects-UIA, I recall the vast entry lobby of the Convention Center in Istanbul, Turkey filled with hundreds of students, young and old architects, journalists, critics and writers, who came from different part so the world. This was because all were waiting for Zaha Hadid to give one of the congress keynote speeches. Like Rock or Heavy Metal stars, she came in trousers, blouse, and light jacket, all in black, surrounded by a number of body guards, and those waiting screamed as soon as she appeared

on the escalator on her way to the auditorium. People were dying to get autograph signatures from her. Strikingly, when I attended the lecture I found a less than appealing presentation, not much to say about the work presented, not even the typical rhetoric one generally hears from deconstructivists.

(2) I have reached a similar conclusion during the Architectural Public Sessions of Al Azhar Engineering 5th International Conference in 1997, AEIC-97, where Charles Jencks gave a speech in Le-Meridien , Cairo. Egypt. He was very articulate and his lecture was influential to many because of the big words he used. Students and faculty from around the Arab world were intrigued by his arguments. Strikingly, again, no single word of criticism from the part of architects including myself was said. However, some social scientists and linguists were present, and noted a superficiality in the arguments he introduced on "Architecture of the Jumping Universe."

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