

“ALGORITHMIC SUSTAINABLE DESIGN: THE FUTURE OF ARCHITECTURAL THEORY”, A SERIES OF 12 LECTURES BY NIKOS A. SALINGAROS.

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Professor Nikos A. Salingaros, a practicing Urbanist and Architectural Theorist, presents a powerful series of compelling hour-long lectures that apply cutting-edge mathematical techniques to architectural design. This breakthrough lecture series seeks to explain the foundations of architectural form using scientific concepts from hierarchical scaling to memes. Dr. Salingaros has applied the most exciting scientific developments of the past decade, such as fractals, complexity theory, evolutionary biology, and artificial intelligence to produce a series of lectures explaining in great detail the mathematical and scientific basis behind structure, and how structures affect the way in which human beings interact with the built environment. The twelve lectures were integrated to relate topics such as algorithmic processes, cellular automata, Sierpinski carpets, harmony-seeking computations, generative codes, and New Urbanist codes. The lectures were transmitted live via streaming video to participating institutions throughout the world, and have now been made freely available.

Modernity's love affair with progress has subconsciously masked the eyes of society to

the true purpose of architects and architecture. Self-centered expressionism has become the new norm and often-scientific observation is misconstrued and falsely used as justification for the abstract forms this kind of architecture produces. Dr. Salingaros highlights the flaws in this justification, and shows that the educated and informed use of scientific study as a support for architectural design is possible.

Utilizing the monograph “Harmony-seeking computations” by Christopher Alexander, as well as extracts from Alexander's “The Nature of Order”, Books 1, 2, and 3 and Stephen Wolfram's “A New Kind of Science”, Salingaros was able in his lecture series to outline in a clear and straightforward manner how all matter both biological and inanimate organizes itself into coherent structures. He proposes that the greatest architecture is complex and coherent; but neither random, nor simplistic. In this lecture series, Salingaros uses the scientific method to answer many of the important questions in architecture: What makes something beautiful? How important is ornament in design? Is there a connection between the design of a building and the physiological and psychological

state of its users? What should the relationship of the building be to its site and surrounding areas? Salingaros not only informs the pupil of his scientific findings, but also proposes practical solutions that can be utilized in the offices of architects and urban designers today. Interestingly, his findings seem to trump the basic Modernist Principles that are taught since the Bauhaus school of architecture, and which have led to the egocentric and absurd architecture of the day.

His course is not limited to algorithmic studies but branches out to nearly all elements of architectural design and urbanism. Through his exploration of fractals and their occurrence and survival in nature he dismantles their avant-garde application as merely image-giving devices (as has been seen in much of the work of Frank Gehry and Daniel Libeskind) and reorients the designer to utilize fractals as models to develop algorithms that lead to the creation of life-giving harmonious designs. Dr. Salingaros builds a bridge healing the void between practical architecture and architectural theory.

For a number of reasons, we live in a world that has unfortunately glorified anti-architecture for 100 years. Since the inception of Modernism there has been an increasing body of architectural schools, practicing professionals, real estate investors, publications and architectural media who individually, and in cooperation, used pseudo-intellectual posturing and often false applications of abstract geometry, frequently in tandem with an utterly insufficient knowledge of constructional engineering and architectural laws. We have seen a misuse of mathematical terminology such as fractals (the term most often adopted by the practitioners of Deconstruction

in a pseudo-intellectual attempt to describe their proposals).

If one considers, as Dr. Salingaros states, that the Universe's "wonderfully rich complexity is ignored and suppressed by a contemporary design canon that seeks plainness and a false purity, while at the same time promoting disorder rather than coherent structures", one comes away from the lecture series with a deep cognitive understanding of how to generate "life" in structures and the built environment. In addition, one is left with a fresh appreciation of how buildings and cities can be drastically improved, by the incorporation of this knowledge, in the way they relate to people. Dr. Salingaros's lectures cover material not found elsewhere on the subject and certainly not taught in architecture schools today. This lecture series establishes a significant educational counter-attack to anti-architecture. It is a powerful reference source for students (and professionals) interested in learning humanistic architecture. By following Dr. Salingaros's lectures in a logical and methodical progression, one is provided a comprehensive and universally clear understanding of humanistic architecture that will counteract all the destructive teaching of architecture schools, the media, and most architecture books.

Dr. Salingaros's lecture series, for the first time, creates a complete program of algorithmic sustainable design. His program is one that may be utilized in the development of a new kind of architect (as well as a new architectural training program). Dr. Salingaros's series brings both practice and education back into the realm of true higher knowledge, with solid ethical principles, enabling the creation of

an honest architecture and architect. An honest architect is one who encompasses an intellectual understanding of humanity, universal laws, mathematics, geometrical constructional principles, and who has the tools and knowledge to create timeless, humanistic designs in architecture and urban planning.

With its many answers and no lack of "Eureka" moments, this lecture series will leave its pupils with a true grasp of the world around them. It gives them the tools to critically analyze and learn from the failures of architecture and urban design in the 20th century, while maintaining a love affair with real, human architecture, and with humanity itself. This is not the love affair with a false image of progress based on the ideas of a few egocentric designers, but one that leads to a better understanding of our deepest connection with nature and the world within which we live and upon which we depend.

References

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Nicola Giacomo A.G. Linza IV

Nicola Giacomo A.G. Linza IV is the founder of Nicola Linza & Partners, an intelligence consulting group specializing in the areas of policy, analysis, corporate environmental management, environmental design, and security planning. Linza served as board director of the AIA, Palm Beach, and is the 1997 recipient of their award for "Outstanding Contributions to the Membership." He has also served on the President's BSA Best Practices Research Subcommittee, as well as the boards of five other organizations. Linza is a graduate degree candidate in National Security with an Asian Studies concentration, is trained as an architect, and educated in environmental science.

Anna Grasso-Gay

Anna Grasso-Gay is currently an architect intern in San Antonio working for Michael G. Imber, Architect. She studied architecture at the University of Notre Dame where she received her Bachelor's of Architecture. In addition to her formal education Ms. Grasso-Gay lived in Queretaro, Mexico for part of her youth and has traveled extensively through Europe, both of which have helped shape her interest in urban and sustainable design. She aims to create living spaces that will be in harmony with the human body and its environmental surroundings.

William D. Gay

William D. Gay received his Bachelors of Science in Architecture from the University of Texas San Antonio. While attending UTSA, Mr. Gay spent a semester in Castiglion Fiorentino, Italy. His goal is to create architecture which will be as timeless and in-tune with the environment as the buildings that captivated him as a young photographer. Currently Mr. Gay is an architect intern for the firm of Michael G. Imber Architect in San Antonio.