

The Impact of Mathematical Logic and Philosophy in Contemporary Architecture

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Abstract:

This paper aims to shed light on the current conceptual vision that has crystallized since the end of the twentieth century and the beginning of the twenty-first century. This is to identify the intellectual and philosophical features of this period and the conceptual differences that occurred as a result of the great scientific and technological revolution. The research will discuss in some detail the expansion of linguistics and mathematical logic that resulted from the great development in the twentieth century through the encoding of the mathematical language to become a unified language of science. These attempts ended with the emergence of "digital" technology, which succeeded in converting all symbolic patterns into digital patterns. The research assumes that architecture today is a direct product of the digital revolution brought about by the great development in mathematical logic and the subsequent cognitive revolution. The paper also focuses its study on identifying the intellectual and conceptual influences that shaped architecture and the influence of mathematical logic and the philosophy of language on the formation processes. The research also presented an inductive critical vision of contemporary architecture based on monitoring and studying the intellectual and philosophical influences that influenced the formation of the intellectual and material propositions of contemporary architecture. The paper also sought to monitor and identify the architectural trends that resulted from the change in conceptual vision by monitoring and analyzing changes in form and concept in contemporary architecture.

Keywords:

Logic, Contemporary, Mathematics, Philosophy.

References:

- 1- A. Ali. Author, Editor · C. A. Brebbia. Editor (2006). Digital Architecture and Construction Abstract by S. Hatzellis, University of Technology, Sydney, Australia. page 51, 54.
- 2- Barker, Chris. The Sage Dictionary of Cultural Studies. London Sage Publications Ltd, 2004.
- 3- Brower, Michael; Cool Energy, (1990). The Renewable Solution to Global Warming; Union of Concerned Scientists.
- 4- Collins Jeff, Mayblin Bill, (2014). Introducing Derrida, Icon Books; 4th ed. edition, London, UK.
- 5- Derrida, Jacques, Eisenman, Peter. (1997). Editors Jeffrey Kipnis, Thomas Leeser, Publisher Monacelli Press.
- 6- Derrida, Jacques, (1998). Of Grammatology, Johns Hopkins University Press, Baltimore, USA.
- 7- Douglas, Christopher, (1997). Glossary of Literary Theory". University of Toronto English Library.
- 8- Gypel Jan, (1993). The Story of Architecture from Antiquity to the Present, Konemann, Imago publishing L.T.D., Hong Kong.
- 9- Hamlyn, Paul, "The Life & Times of Michelangelo", (1967). Published by The Hamlyn Publishing Group Ltd, Verona, Italy, P.16.
- 10- Iris Murdoch, (1992). Metaphysics as A Guide to Morals, Published by Penguin Books. U.K. P.185.
- 11- Irving M. Copi. (1978). Introduction to logic, Macmillan, New York, 5th ed. P.264.
- 12- Jencks, Charles, (1988) Deconstruction: The Pleasure of Absence, in A. D. Profile 72, "Deconstruction in Architecture, Vol. 58, Nos 3/4.
- 13- Jencks, Charles, , (1999). Ecstatic Architecture, Academy Edition, UK.
- 14- Kostof, Spiro. (1995). "History of Architecture setting and Rituals", second edition, Oxford University Press, New York, USA.
- 15- Lenartowicz, J. Krzysztof. "Architecture of Terror", Published by Website: <http://www.zowje-scrolls.com/zwoje40/text25p.htm>
- 16- McGrath, Brian. (2013). Resilience in Ecology and Urban Design, Springer Dordrecht Heidelberg New York London, pp. 230-235.
- 17- Popper, Karl, (2005). "The Logic of Scientific Discovery", Taylor & Francis. P.15.
- 18- Russell, Bertrand. (1959). Wisdom of the West: a historical survey of Western philosophy in its social and political setting, London: Macdonald, U.K.
- 19- Steele, James. (2001). Architecture Today, Phaidon Press Inc., New York, 2001.
- 20- Zellner, P., (1999). Hybrid Space, New Forms in Digital Architecture, Thames and Hudson Ltd, London. <https://www.britannica.com/science/axiomatic-method>

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