A comparative study of the influence of modernity theory and unified architectural theory on the realty of contemporary Egyptian architectural design

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Abstract

People's responses to architectural forms and blocks vary according to their backgrounds and according to their understanding of the theory on which the building design is based, and the assimilation process often differs from the fact that the recipient is an ordinary person or an architect, so it is often affected by the reaction based on his performance and comfort in the case of the average person, while the architect is often ignored These feelings and the architectural work receives through a unified theory that respects standards abstract from feelings, this unified theory called by some theorists to restore the lost meanings of the intangible architecture that modernity concealed its features and produced forms that are not connected without meaning, and the current Egyptian architecture has become a continuation of the international style that concealed the features of identity In countries and their features erased their traditional building materials, hence the research raises an important question about the extent to which the Egyptian architectural reality was affected by modernity and the extent to which contemporary architects resorted to the unified architectural theory that was established by the mathematician and architectural theorist Nikos Salinger's, the research is based on the analytical approach to trace the influence of both theories On the Egyptian reality through a quantitative analysis to measure the language of architectural design and regional adaptation, to reach the final output The study indicated that most of the buildings follow the international style of modernity, which calls for a mechanical study to work with the unified architectural theory in Egypt.

Keywords

Modernity Theory Unified Architectural Theory, The Reality Of Contemporary, Egyptian Architectural Design.

Introduction

The loss of the identity of contemporary Egyptian architecture in a way that threatens the expression of our culture, and most of the traditional Egyptian building materials are not used The research is based on an analytical methodology that takes a quantitative analysis method to arrive at the results, through a basic material, which is the questionnaire and general lectures given to explain both theories and refute the selected buildings as case studies as follows:

1- The research follows the analytical approach in studying both the theory of modernity and the unified architectural theory, then the case study methodology is used, which are the main buildings in the New Administrative Capital. The sample was designed on the basis that it is an intentional "purpose" sample in which the researchers selected the sample members to serve the objectives of their study Based on their knowledge without restrictions or conditions, members of the architectural community were targeted.

2- Questionnaire The questionnaire for the research was presented to an intentional sample of architects. The questionnaire questions included the checklist designed by Nikos Salinger's. The test language for the architectural design of the building in addition to the regional adaptation and the number of words and prescription according to the Chitin-Calmo Grove scale. The data was then analyzed through the answers of the questionnaires, where The number of questionnaires answered is 500 questionnaires, 50 questionnaires were answered for each of the ten selected buildings, each one of them was designed on the two aforementioned parts, and the form is designed to measure regional adaptation and the complexity of the shape to suit the country in which the building is designed and it is included as a measurement tool within the work of Salinger's.

2. Tracks of architecture theories Architecture theories take several paths:

Including modernity and not being bound by any determinants, one of them relies on developed vocabulary for borrowing from traditional architecture with original ideas that suit the era and conditions of the region in which the building is designed and built, and a regional adaptation to this quality occurs whenever the borrowing vocabulary approaches the traditional country architecture and its building materials available in it, while it is based The other path on the scientific method that refers to shapes to biological, physical and other elements that emerged through this organic theoretical point of view and simulation of natural forms Bio-mimicry, as well as the borrowing from biological forms on which the traditional building systems are based and mentioned many in the studies and books of the architectural theorist Christopher Alexander Among them is the writing of nature systems, which in this path the designer intuitively designs healing buildings due to its connection with nature with lighting and natural texture, confirming positive reactions of its users and making us feel good, and this theory puts the assumption that traditional buildings were built on foundations far from being Only functional utilitarianism, and neuroscience has proven that motifs and objects inspired by nature elicit positive reactions. And a better effect on the nervous system than buildings without expression and that do not elicit reactions from their users, which turn this quality into machines to perform the function and in which it is difficult to interact with the building, a concept established by Le Corbusier before under the name of the building is the machine Modernity theory (verb): Some researchers trace the garden architecture back to the middle of the eighteenth century when rational thought dominated man. While some others trace back the modern architecture to the nineteenth century with the building of the crystal palace in 1851 AD, and the beginning of the use of iron frames and glass, this period produced buildings that were stripped of meanings and became expressive of the function clearly and simply. Modern architecture has sought to simplify the forms and architectural formations while omitting everything It has nothing to do with

the construction purpose such as the false decorations with an interest in functional performance, and with the beginning of the twentieth century a generation of pioneers appeared, including Frank Lloyd Wright, Allocorbusier, Mies Van de Rohe and others, all refused to quote from the past, and turned to a new architectural thought that left clear features that established Principles of modernity architecture through the philosophy of the desire to break tradition and reject the past.

There were many schools of thought within the philosophy of modernity theory, among whichthe functionalist school appeared, in which the architects tended to assert that corrosion is a natural reaction to the job, so the architectural blocks came to be abstracted without decorations and formations, and attention was paid to the shape in the third dimension and the overlapping of geometric shapes with each other without meaning Or a message that the dead carries to its users and visitors. Among the pioneers of this trend was also Louis Sullivan, who adopted the idea that form must be produced from utility and that the civil must express his function. Another pioneer dealt with the thought of modernity, which is Le Corbusier, but he was interested in aesthetics as well, so that unique and distinctive buildings appeared, and then emerged through what His architecture distinguished him from the frankness of construction and the emergence of the structural structure of the building, and his motto was less is more, less is much.

His Bauhaus school is considered one of the most important schools that contributed to the spread of the functional school ideology, which supports the economic use of materials, whilethe direction of organic architecture is based on the compatibility between nature and architecture, and one of its most prominent pioneers is the architect Frank Lloyd Wright, whosearchitecture is distinguished as a unique architecture, and Frank Lloyd worked I wanted to make the mini a part of nature, as in the house of waterfalls, as he was keen to allow air and light to permeate the entire building and for the architectural envelope of the mini to form the internal space. As for the construction trend, the architects tended to think in a fast architecture without paying attention to aesthetic values, and it seemed that the architectural form was originally an engineering form to serve the construction

process, and that thought was a suitable prelude to the emergence of the international style coinciding with the functional school, where he called the pioneers of modernism architecture, including Le Corbusier and Philip Johnson called for the design of a unified building suitable for all people and all different environments, given that the world has become unified and technology reads distances, so the buildings were

clearly expressed through straight lines in addition to asymmetry, and their buildings were devoid of regional characteristics, rejecting all elements of decoration and assortment.

Postmodern trend (reaction):

Architecture that is concerned with the surroundings and the region in which the building is located in addition to the use of historical styles. My modern approach is to emphasize the territoriality of the place, and among its most important principles:

1.   Combining the old with the new through the use of heritage architectural elements directly or through reformulating them in a modern way.

2.   Interest in decorations inspired by old styles. Intellectual pluralism and the rejection of unified systems such as the international model.

3.   The trend towards regional architecture instead of global, which resulted in a visual appearance of the architectural product.

4.   Postmodern architecture has taken several directions (the historical trend ... the local trend - the direction of renewal (departure from the norm: deconstructive architecture).

5. The direction of renewal took a new turn in the architectural calibration, as it was called to draw attention and illogic in architecture, and the use of unfamiliar shapes of blocks, and also one of its most important features was the work on structural dazzling and the use of the latest construction methods and construction materials in a sophisticated way, among the renewal trends towards the deconstruction at the hands of its pioneer Jacques Derrida, who started the application of this thought in literature 10, then the architect Peter Eisenman applied this idea in architecture, even if the first to implement this idea in buildings was the architect Frank Jahry. Deconstructive

architecture calls for breaking the traditional rules of formation based on unconventional geometric shapes, They also used flying building blocks and dispersed formations, switching to highly abstract blocks, as well as using digital design in construction and building.

Unified Architectural Theory (Evolving Contemporary Reaction):

The trend of postmodernism did not spread as the trend of modernity did, so buildings continued to be devoid of regionalism, hence the call for a unified architectural theory in which integrated architectural systems begin with the environment to respect natural systems and harmonize with them, so that humans remember that they are part of the Earth's ecosystem, and therefore It is imperative that architecture be based on a theoretical basis that draws its principles from the natural ecosystem. The architecture that is designed arises preferably arranging its building materials in a specific pattern and coordinated arrangement, and the building process with traditional natural materials differs from building with modern materials created such as glass and iron due to what the manufacturing process needs to consume energy High, and the impact of this on the environment because of its negative effects, the architectural theory is defined as a framework that studies the architectural phenomenon using scientific logic and experimental method, so that the theory allows comparison between the different types between buildings, and to evaluate their performance and mutual influence between man and nature, and to understand the unified architectural theory must Studying the language on which the architectural design is based, from a stylistic and formal language, as well as studying responsible regional adaptation On distinguishing the subordination of the architectural product to a specific region or region, the requirements for adapting to the original living environment of the region in which the building is designed are sometimes replaced by the global outcry that appeared at some point in the Mayan period, which is what happened in the stage of modernity that formulated most of the buildings' shapes in one intellectual mold It resulted in unified architectural models. Specialists cannot distinguish that these buildings are in naked or foreign countries, or even that they are in cold or hot regions, and this

substitution of architectural theories is what led to the emergence of patterns that were interpreted as a new theory while it reflected you with a thought linking modernity and keeping pace with The era with strange and fractured forms, and among these deconstructive products that some critics see that they produced illogical forms in architecture, as Derrida produced in literature illogical texts that became meaningless, and some attributed the deconstructive liberation from classical restrictions to intellectual poverty resulted in unified architectural theory as a response He did so to advocate the necessity of a style language linked to the cultural, social, and economic dimensions, and to achieve an adaptation that characterizes the architectural output of each film by the audience, whether specialized or non T specializes in architecture.

The formal language is intended to express the architecture of the extent to which the architectural design elements of the building are expressed in volumes, floors, walls, building materials as well as openings and other forms of form, so that all these elements are reconfigured in a different way, so that each time it can produce a different work and its language becomes formal because it is the product of engineering formation possibilities, The language of shapes may create an architectural preference that generates an emotional response to its users, after which the method of expression used in the synthesis of shape is preferred by repeated preference for everything similar to this design. A wide range of administrative buildings whose outer envelope is separated from the vocabulary of their architectural and construction design, separating the perception of the language of the building's formation from its problem, and some critics attribute the success of the port not to the quality of its formal language, but to the users' sense of comfort and success in performing the job, and the typical language is the scenario that meets It contains the elements of accusative language and the degree of complexity in the language varies according to the development of its use, the extent of its adaptation to the language of its pattern and the consistency of its forms, as this language determines In people with buildings, buildings have not been adapted to nature, which is what Nikos Salingiros learned from his mentor Christopher Alexander, an architectural theorist who

dealt with the style language and composition systems from nature through multiple architectural versions, the first of which began from the seventies until now.

The architectural product becomes better in a state of harmony between the two languages together, and when the formal language is removed from the language of the style, buildings with commercial tendencies that do not have a specific form or identity appear, and the more architectural works derive their formal language from nature, they succeed more, as the formal language depends on Frequency of use and commonality and spreading the idea of modern building materials is a repetitive language, and formal languages can develop to divide the stages of the development of the spoken language, but it must be developed so that it does not lose its expression and logic with regard to the formal language developed from an ancient formal language and that follows the path of Improved metaphor.

Architectural regional:

Since the first architectural ages that created persecuting civilizations and issued buildings that reflect the thought, climate and materials of their countries, so that the building, its construction method and its materials appear as it is located in Egypt or Greece, and whether it follows the Arab or foreign culture in the shape of its openings, drinks and other things. The architectural region is defined by places that have the same characteristics, materials and culture that make every place in a country or state have features that are difficult to replicate in others, expressing a unique identity, and specifically on the land of Egypt, the traditional building appeared since the inception of civilization, so that the seeker of specialists and others can distinguish Cairo's buildings are from Rashid from Nubian and all of them are on the land of one country. Since the emergence of the theory of modernity, which established the principles of liberation from classicism, some understood it that liberation includes the abandonment of identity and that architectural regionalism is an obstacle to progress and keep up with the times. Hence the internationalization of the architectural product and the appearance of buildings with similar simple characteristics that are read in all buildings in the same way.

A term called ikophobia appeared to explain that modernity thought reflects the significance of hatred of the indigenous culture of countries, to discard national loyalties and sacrifice identity for the sake of globalization. Theories of architecture under a unified system in a way that does not oppose expanding its information, integrating different knowledge and establishing a mechanism for easy retrieval, with a design methodology within the unified system, where the limitations of contemporary theories of architecture are due to Marxist thought, because this thought considered that the universe is simple systems and that the past and previous legacies stand as an obstacle For the sake of progress, and from here arose out of the pillars of Marxist thought the Frankfurt School, which established Mada'i in the thirties, its ideas that ignore civilizations and necessitate the rejection of the past and call for the construction of an urban creation environment that is a new world without links with the local heritage, so the unified architectural theory came with a call to abandon The universality of architecture styles and a return to these legacies that reflect the culture of societies instead of modern buildings that transmit through their forms poverty strains A hand in information that is based on a low-complexity design that is not suitable for human use and life experiences with which humans are supposed to interact with buildings.

In order to test the complexity of the language, here is the complexity of the set of intellectual details that are exerted to produce the figure, which can be measured via the Kolmogorov complexity scale, which counts the number of words that can express the drawn figure, so that the more words, the more complex the language of the form is, reflecting Its depth is less than the surface shape that can be described in a word or two, while regional adaptation is measured on a scale of 1: 10 for each of: the use of local materials, respect for the local culture, climate adaptation methods developed in the design 1. The elaboration of a person in his description may affect the result of the measurement, Despite the scientific imprecision in this method, it can confirm or track the results from these graphs through a list of the elements that Nikos Salingirol identified in his unified architectural theory, which were used as the questionnaire questions as previously presented. By using the word count to describe "complexity" after documenting a specific form

language, adaptation is measured at the regional level on a scale from 0 to 10, with 0 considering that 0 is the least adaptive of the place and cohesion and does not adapt climatically through the architectural design with the region. From the relationship of the two axes together, as in (Figures 1 and 2), it shows the appropriate rates of the building for its region and the strength or weakness of its language, and the more the computational value of the axes numbers, the more the architectural product expresses its region and the lower the building reflects a trend that does not reflect the identity of a particular country. These diagrams and questionnaire form determine the elements responsible for the strength or weakness of the language and regional adaptation, so that this results in arranging the criteria for how to issue an adaptive regional design with a language appropriate to the architectural thought of a region through its culture, function and philosophy of the building.

Study status: The New Administrative Capital:

The New Administrative Capital was designed with a philosophical idea that combines thirteen valleys in the middle of them are a river that represents the suggestion of the River Nile, the lifeline of the capital, Cairo, and the buildings spread around it in a focal form in the oasis, each of the thirteen valleys in the capital is a residential neighborhood with integrated services, and the new administrative capital was designed to be A green city in which the per capita share of green and open spaces is in accordance with international standards for the quality of life, which is fifteen meters per capita, as the United Nations Organization reports state development programs, and is sustainable based on the idea of rationalizing energy consumption and sustainability, in addition to developing a system of recycling waste, even if it is This was not taken into account in choosing the proposed building materials, in which glass and metal frames occupied most of their designs, and the silence of the buildings was also done so that 70% of the roofs of their buildings were covered with solar energy units to provide the energy needed for self-operation. The city's architecture was also planned to be a pedestrian city and take into account the continuity of neighborhoods. The city through a network of pedestrian and bicycle paths to support this European culture and

benefit from it in Egypt, which spread before in some of the Mughal residential communities It is located in New Cairo and the 6th of October City, with the aim of creating a higher quality of life for the city's residents. The gradient of transport checks has been designed to cover all areas in the capital and link them to neighboring places. The design of the city was proposed to be a smart city that provides all its electronic services to citizens in a manner similar to its counterparts in the countries of the world. Designed for business and finance to achieve economic location. The capital's buildings were designed through an architectural competition through the Tahaluf

+5 office, which is an alliance consisting of five professors of architecture at the Faculty of Engineering at Ain Shams University, and some of the buildings that were designed follow the Intellectual School for Architecture of Haddah while a few of them follow the After Hudaydah School 2 and the selected sample of buildings was chosen For the study of the most famous buildings that were announced on the official website of the New Administrative Capital, as shown in Table 2, some buildings are similar to existing buildings, such as the Gate building, which is similar to it in Dubai, while the Ministry of Defense building is similar to the American Pentagon building, as well as for For the Parliament building, which is a similar version of the American Congress building, so the designs were completely far from the Egyptian identity and did not take into account most of the regional architectural except for the attempt to design the shape of the administrative building by projecting the symbolism of the Egyptian obelisks on its formation, so it became the only building in which the attempt to achieve Egyptian identity appeared on contemporary buildings in the capital The new administrative.

Results:

The study dealt with many points that imitate the vocabulary of the architectural language for the formation of buildings, which were identified by Salingeros and formed the Astian questions as stated in Jolol No. 1, and did not analyze the various data. The following is a presentation of the most important results of the study through the following graphs: Discussion of results The results previously presented in previous graphs can be interpreted as **follows**:

1- Most of the buildings did not achieve the consolidation of the Egyptian identity by using traditional materials in the finishing of the outer shell of the mini, while all the buildings shared the use of modern materials, mostly concrete, glass and iron frames.

2- The administrative tower building appeared individually in the analysis with high rates of the existence of a relationship between its design vocabulary and the local culture, as the shape reflects the symbolism of the ancient Egyptian obelisks in a distinctive formation, while the buildings of the Medical City and the Ministry of Defense achieved the highest rate of design inadequacy of the vocabulary of local Egyptian architecture.

3- With regard to formal and stereotyped languages, low rates of use of the stereotypical language appeared, which must necessarily have a mini-scenario to show its depth, while the formal language appeared more clear due to its lack of association with specific meanings, but its goal to reach a specific formation.

4- None of the designs for the selected buildings neglected the necessity to confirm the entrance, so it was easy to distinguish visual from the blocks, which is considered one of the basics of the design.

5 - All buildings were assembled on the absence of any aesthetic elements that highlight vocabulary from the architectural region to which the building belongs, when the sample members unanimously agreed on the faltering aesthetic elements of the new capital buildings. 6- The formation of the sky line formed by the buildings was empty of formations. Rather, most of its surfaces appeared flat, with the exception of the administrative

building, whose top took the shape of the ancient Egyptian obelisk, which was placed at the entrances to the Ma'id before the edifice that confirms the entrance to the re-institute.

Conclusion and recommendations:

Al-Pure dealt with design reactions that take two basic directions, one of which follows the minimalist thought that approaches the international style as much as it moves away from identity, and the other calls for the necessity to design buildings that achieve regional adaptation through design vocabulary and the various elements that convey meanings in architecture, which was a major reason for the emergence of the architectural theory. The unified view of Nicole Salingeros, which calls for emphasizing the identity of countries and not flattening the process of architectural formation, the research was based on the methodology of analytical research through case studies, which is a group of buildings that were designed in the new administrative capital, and the capital was chosen due to the newness of its era and being one of the most important gatherings that Established by the Egyptian government for an administrative purpose, Al-Bahr relied on an intentional sample of architects whose questionnaire data were analyzed, to come up with main results that refer to the architectural design of the selected buildings of modern thought with the emergence of simple features of postmodern thought, as the search for these buildings has proven about regional architectural and Egyptian identity And accordingly, Al-Bahr recommends supporting the architectural design based on the unified architectural theory through the most important elements that The analysis dealt with the use of traditional materials present in the scope of the buildings that are being constructed, and the reliance on the local culture in transmitting symbolic meanings through the vocabulary of the architectural work that is being designed, balancing the use of the stereotypical and formal language whereby whenever a higher supremacy of the formal language is achieved, the design moves away from the complexity that reflects The depth of formation, in addition to the interest in the aesthetic elements inspired by the thought of Egyptian architecture to correct the path of architectural design and link it to identity while respecting architectural regionalism and achieving the required adaptation.

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