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The Impact of Random Thinking on Contemporary Iraqi Architecture: Architectural Production in Baghdad as a Case Study

أثر التفكير العشوائي على العمارة العراقية المعاصرة: النتاج المعماري في بغداد كحالة دراسية

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Random Architectural Product, Random Thinking, Design Process, Architectural Design Methodology.

ABSTRACT

The contemporary architectural reality in Iraq has witnessed a set of phenomena that led it to the apparent deterioration and decline of the architect's role in formulating designs with sound architectural features generated through a clear architectural design methodology carried out by the designer and resulting in the emergence of the so-called random architectural product through a group of individual experiences that led to increase the urban chaos. Accordingly, the research problem was determined by the ambiguity of scientific knowledge about the concept of random thinking and its relationship to the design process, which in turn led to the emergence of architectural products that do not go beyond being irregular experiments subject to individual trends not belonging to a specific scientific thinking style within the recognized methods of thinking. The research seeks to clarify the concept of random thinking and its relationship in architecture by building a theoretical framework for the concept, beginning by reaching a procedural definition of the concept of random thinking in architecture and its relationship to the architectural design methodology used by the designer, leading to an explanation of its characteristics, causes and most important repercussions at the level of the local architectural product.

الكلمات المفتاحية

المنتج المعماري العشوائي، التفكير العشوائي، العملية التصميمية، منهجية التصميم المعماري.

الملخص

شهد الواقع المعماري المعاصر في العراق مجموعة من الظواهر التي أدت به الى التدهور والتراجع الواضح لدور المعماري في صياغة تصاميم ذات ملامح معمارية سليمة متولدة من خلال منهجية تصميم معماري واضحة يقوم بها المصمم وأدت بالنتيجة الى ظهور ما يسمى بالمنتج المعماري العشوائي من خلال مجموعة تجارب فردية أدت الى زيادة الفوضى العمرانية. ولهذا تحددت مشكلة البحث بالغموض المعرفي العلمي حول مفهوم التفكير العشوائي وعلاقته بالعملية التصميمية والذي أدى بدوره الى ظهور نتاجات معمارية لا تتعدى كونها تجارب غير منتظمة تخضع لاتجاهات فردية غير منتظمة الى أسلوب تفكير علمي محدد ضمن أساليب التفكير المتعارف عليها. يسعى البحث الى اكتشاف دور مفهوم التفكير العشوائي وعلاقته بالعمارة من خلال بناء إطار نظري للمفهوم بداية من خلال الوصول الى تعريف اجرائي لمفهوم التفكير العشوائي في العمارة وعلاقته بمنهجية التصميم المعماري التي يستخدمها المصمم وصولاً الى بيان خصائصه وأسبابه واهم تداعياته على مستوى المنتج المعماري المحلي.

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1. Introduction

The random use and irregular selection of elements by contemporary architecture fulfills formal aspects of architectural work. Despite many calls from, and attempts by, specialists, this cannot be considered an effective achievement of architecture in its contemporary form. Some recent architectural works are characterized as disorganized, subject to the individual trends and opinions of their designers, and representing their own culture and thought. Hence, each presents what they see as "Beautiful" and are not guided by certain criteria or binding principles when formulating creative thought.

On many occasions, architectural elements transform mere veneers that decorate the exterior of a building, but at other times they transform it into an entity alien to the context in which it is located. Thus, the end result is architectural chaos or architecture with no identity or personality. It also acquires the concept of randomness, not only in its shape, but in the thinking of its designer. The thinking concept is generally traced to architectural and non-architectural literature, from which a theoretical framework for the concept of random thinking is built, and following which its relationship with the architectural design methodology is outlined. Finally, its features, reasons, and effect are explained in terms of the results for contemporary Iraqi architecture.

1.1. Research Problem:

The ambiguity of scientific knowledge regarding the concept of random thinking and its relationship to the process of thinking and design at the level of architectural outputs represented by architectural buildings led to them being unorganized experiences characterized by chaos and subject to individual trends. In addition, it does not belong to a specific scientific and systematic way of thinking within the accepted scientific thinking methods.

1.2. Importance of The Research:

Literature in the field of architecture generally agrees on the need to produce designs that expresses the designer's commitment to the rules of scientific thinking and that are adopted by most architects around the world; this would result in the emergence of buildings that reflect these rules.

1.3. Aims of The Research:

- To build a theoretical frame for random thinking and its relationship to thinking processes in architectural design.
- To understand the reasons for the emergence of a random architectural product that is not subjected to the foundation of scientific thinking, as commonly known in contemporary Iraqi architecture.
- To set general boundaries for the results of random thinking by the designer to avoid the trap of random thinking in the future.

1.4. Hypothesis of Research:

Applying the rules of scientific thinking and adopting an effective approach to architectural design leads to the reformation of rules and thought in Iraqi architecture, particularly in the general formation of buildings. This will gradually inform the final product effect, which is currently characterized by randomness in contemporary Iraqi architecture.

2. The Concept of Thinking:

Thinking is a complex cognitive mental process; when considering types of thinking, its elements, and tools, we search for commonalities among human beings regarding the nature of thinking, its means, and its goals, which thereby inform a general framework. Individuals differ in their thinking methods and when judging events, phenomena and objects due to the social culture in which they grew up (Zumthor, 2010). Thinking, in its general and broad sense, includes all mental processes that overlap, cooperate, and integrate. When a person contemplates a particular situation, they realize its components and the relationship between them. He also remembers the past and related experiences, and takes a future picture of the changes he under goes.

3. Types of Thinking:

Thinking is considered to be the language of the mind and includes a wide range of mental activities. From a cognitive point of view, there are three types of thinking, which depend on the entities of the thought and its nature, namely:

- **Hypothetical Thinking:**

Incorporates key components, known as concepts and classification. The concept is a representation of a complete class, and involves a group of features that are paired within this class. Concepts serve mental lives and help to build the knowledge economy. The process of attributing something to the concept to which it belongs is called classification. Reasoning is considered part of hypothetical thinking. A human uses two types of reasoning (induction and deduction) when explaining problems and phenomena (Groome et al., 2013).

- **Dynamic Thinking:**

Occurs in children; dynamic thinking represents the second type of thinking from a cognitive point of view. However, the research will not address this type of thinking since it is irrelevant to this research (Zumthor, 2010).

- **Visual Thinking:**

Takes the form of mental visual pictures and the thoughts depend on the personal impressions of an individual. The mental picture includes visual details, and the processes performed by a human to develop those mental pictures are similar to the processes a human performs on real visual objects. It is widely recognized that imagination represents the foundation of visual thinking used by many architects (Zumthor, 2010).

- **Intuitive Thinking:**

Is the direct, non-emotional perception of the potential and the possibility inherent in the entities we are aware of, whether internal or external. Intuitive thinking represents an entirety process, and its results emerge from the perception that it carries the character of certainty, and other mental functions, which contribute to its modification (Witteman et al., 2009).

- **Creative Thinking:**

It is difficult to identify a single specific definition. Sometimes it is defined as the readiness and ability to produce something new and valuable, while at other times it is understood to be a process through which unique production is achieved (Newell et al., 1962).

- **Critical Thinking:**

Is contemplative, logical and runs from introduction to generalization. It includes cognitive activities, such as logical reasoning, the examination of discussion, and the identification of assumptions (4). Critical thinking includes many skills, including: The identification of assumptions; interpretation; inference; conclusion, and argument evaluation (Zumthor, 2010).

- **Divergent Thinking:**

Is defined as thinking that takes the individual out of the boundaries set or limited by the classical methods of summative education. People often resort to divergent thinking when solving problems and intractable scientific events and facts (Zumthor, 2010).

- **Scientific Thinking:**

Is defined as the organized thinking that a person uses in daily life or the activity when practicing professional work. This type of thinking needs to be organized and based on a set of principles that are applied through the subconscious. The most important features of scientific thinking are: Accumulative, organization, searching for causes, comprehensiveness and certainty, and accuracy and intonation (Kuhn, 2010).

4. Thinking And Its Relation to The Process of Architectural Design (Architectural Theses):

4.1. Thesis of Yousif, Ali Khalid (2019):

This study adopts the idea that the thinking process occurs during the design process; thus, the process of creating mental perceptions deals with the inputs of the design process, and aims to impart the design with an opportunity to go beyond the limits of the typical architectural solution to achieve added qualitative values, whether at the environmental, formal, functional, formative, constructional, economic, or social level. It is worth noting that the thinking process deals with the design hypotheses, aims to achieve quality objectives, and includes the presence of tools to test hypotheses during the various design stages as shown in Figure (1).

The study describes the stages and names of the architectural design process and classifies them into four main stages: the first is pre-design activities, the second is preliminary design, the third is design development, and the fourth is the final design.

It is important for the research to focus on the second stage (preliminary design), which includes the activities associated with the design problem formulation, the preparation of alternatives, the testing of the best options, and the preliminary plans to employ spaces. This also entails the determination of the character of the building and the treatment of its facades. Hence, this stage is important because it verifies the objectivity of the initial design (Yousif, 2019).



Figure (1): The Design Process, Source: (Yousif, 2019, p. 39).

4.2. Thesis of ALdahwia and Neama (2016):

This study discussed the act of thinking in architecture, which is centered on the design problem, where the designer thinks through a behavior, which aims to understand or perceive the phenomenon and determines the methods of thinking about the problems of the surrounding environment and social context. The designer's thinking is linked to the resolution of a design problem through organizing his ideas according to the appropriate logic and approach to the nature of the problems faced. From this, he produces appropriate results and solutions for the core of the problem. The study classifies the thinking process into two basic styles: The first style (non-scientific) is not based on evidence and includes several forms of thinking, such as: superstitious, authoritarian, consensual, metacognitive, creative, and imaginary thinking. The second style (scientific thinking) is based on evidence and experience. It is used by humans to deal with unavoidable situations and investigates problems with a sound methodology within the scope of realistic mental axioms. It consists of several types of thinking: Critical, reasoning, retrospective, meditative, experimental or evolutionary, comprehensive, speculative, high-rank and conceptual thinking.

The study also found that the thinking process cannot occur if the most important elements (language and image) are not available. Moreover, all types depend on the experience with and knowledge of the situation (which is influenced by memory) and what can be obtained from external information. It also

relies on calibration, comparison and judgment, which takes place at the evaluation stages. This process culminates with the formal representation of judgments issued from the previous stages (ALdahwia and Neama, 2016).

4.3. Thesis of Giedion (2016):

This research pays great attention to the architect's psychological influences on the thinking process. The specificity of thinking for an architect consists of three assumptions regarding the research topic: Firstly, as a form of perception, secondly, as a mental activity, and thirdly as part of the social phenomenon. The architectural thinking process begins when the basic categories of architectural thinking enter the field of "space-time" and lead to the emergence unified thinking that considers "the spatial image and the temporal image". However, the temporal and spatial image functions as a unit of thinking that does not necessarily reflect the unit's environment on which the architect's creative thinking is focused. Meanwhile, the structure of the conventional thinking unit is three-dimensional (space, time, image). The addition of space-time adds a fourth dimension to the architect's thinking, which thereby forms comprehensive phenomena in fields of human activity in general and the field of consciousness in particular (Giedion, 2008).

4.4. Thesis of Saghafi et al. (2015):

Logic in an architect's thinking is represented interchangeably between the thinking processes and design methods and form the basis for each architect's development. The study also adds that discursive and intuitive thinking are two opposing components in the thinking process, which take place in the mind of an architect. Thus, the thinking process in architectural design is multi-layered yet the arrangement of these layers partly reflects the sequence of the thinking process (Saghafi et al., 2015).

4.5. Thesis of Afifi, (2014):

This study defines thinking in the design process in which the designer deals with mental images, and processes, such as problem identification, functional analysis and environmental analysis. The method of thinking is expressed through the language of drawing, writing and photography, and represents an idea, cause and/or goal. The thinking capabilities of practitioners vary, and focus on the formation of relationships between elements and information. As a practitioner's ability to benefit from the thinking stage increases, their ability to conclude, and hence invent a new idea or method also increases. The most important features of the thinking process are:

Organization, classification, and integration conceptualizes the relationship between the general view to parts of the analysis and the detailed view. The study addresses the thinking model that the architect follows (Afifi, 2014), according to the model shown in Figure (2).

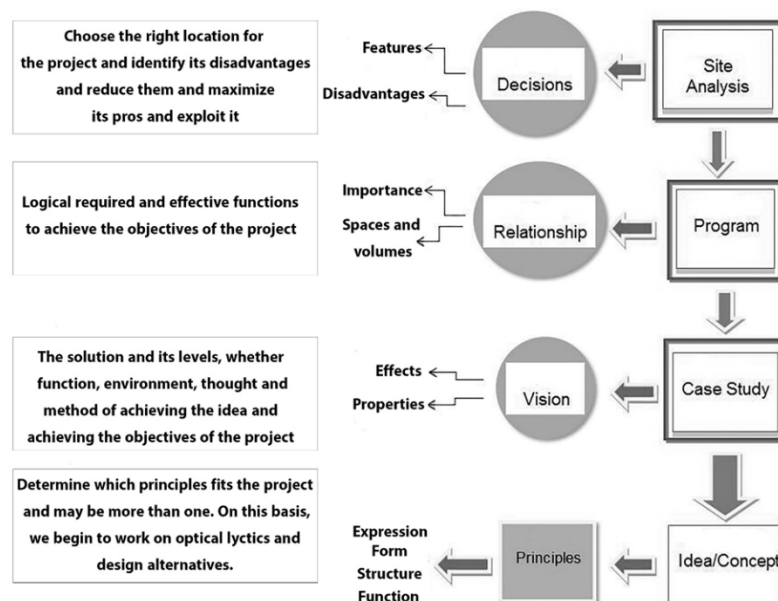


Figure (2): The sequence of thinking during the design process towards the design idea, Source: (Afifi, 2014, p. 55).

4.6. Thesis of Abu Auf (2014):

This study defines the thinking process as the mental activity that the brain performs to respond to life requirements, in which the human brain generates an endless number of thoughts by converting reading, audible speech and visual images into meanings, thoughts and actions, and vice-versa. It can convert thoughts and meanings into a drawn image, expressive symbols, short equations, or representational movements, and so on. The study suggests that thinking is a process that takes place in three steps. Firstly acquisition represents the input of information, data and knowledge related to the topic that a person thinks about. These are added to information accumulated in memory. Secondly, interaction represents the transformation, overlap and intersect between the plethora of data carried within intellectual cells. Thirdly, expression represents ideas external to the brain, such as freedom drawing, speech and writing, in an understandable manner to the recipient, as shown in Figure (2).

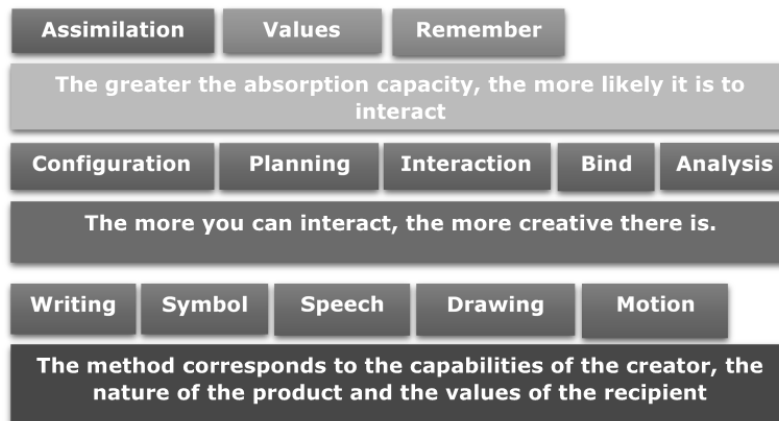


Figure (2): Explains the steps of thinking, Source: (Abu-Auf, 2014, p. 110).

The thinking process is also classified into multiple types and levels, such as critical, logical and persuasive, as the architect has a high creative thinking skill level, which the study defines as a complex and purposeful mental activity. The architect is directed by a strong desire to search for new solutions to problems that may be well known (Abu-Auf, 2014), as shown in Figure (3).

Thinking Type	Role
Scientific	Proof and experience
Critical	Logical inference
Creative	Innovation
Superstition	Illogical achievement
Deductive	Extracting a verdict from a verdict
Logical	Applying rules
Reflective	Looking at the world
Associative	Repetition and attempt

Figure (3): Explains the thinking styles, Source: (Abu-Auf, 2014, p. 113).

5. Extraction of Vocabularies from Architectural Thesis:

In this section, a group of terms related to the thinking process and their relationships to the methodology of architectural design will be extracted. Moreover, the section will address the influential factors between them.

5.1. Architectural Thesis Analysis:

This sub-section analyses the following architectural proposals to identify the inclusions and exclusions:

- Studies agree that thinking takes the form of different types; thus, the designer can choose one or more methods of thinking during the design process.
- All proposals agree on the close relationship between architectural design methods and the thinking process, as it is the foundation of the design process.
- The proposals agree that thinking is a mental activity that the designer performs through which spatial and temporal problems are solved within the design context.
- Studies classify the designer's thinking process as scientific at some points, and creative at others, according to the position within the systematic architectural design stage.
- Studies agree that the final result of all systematic intellectual processes in architectural design ends with expression (architectural form).
- Studies describe thinking as an acquired skill that can be learned.
- Studies agree that the architectural product is typical during its passage through the systematic design work and subject to forms of thinking that may vary according to the stage. The studies did not address the random architectural product, nor did it diagnose defects at any stage of the systematic architectural design, or in all types of thinking processes.
- The studies did not address random thinking, which may lead to a random architectural product with arbitrary characteristics.

After discussing the architectural thesis, the research problem was revealed, namely 'the ambiguity of scientific knowledge concerning the concept of random thinking and its relationship to the design process, which has led to rise of architectural outputs that represent disorganized experiments, and are subject to individual trends. Moreover, they do not belong to a specific scientific thinking style within recognized thinking methods.

The following sections describe the construction of a theoretical framework of random thinking that represents one thinking style. Its place in the design process was investigated, which in turn impacted the shape of the architectural product and its description of randomness. Furthermore, some models were analyzed whose characteristics match those of the random product. Finally the process ends with a procedural definition for random thinking in architecture and identifies the reason why designers follow this type of thinking.

5.2. Idiomatic Definition of Randomness:

Randomness, as a word, derives from the verb 'blur', 'blurred' and 'blurry' in Arabic, which means one who has poor eyesight night and day, or only at night. In science, this word is used to refer to the lack of purpose or intention. Hence, 'random' expresses the non-existence of purpose, cause, or arrangement, meaning that randomness is the absence of planning. The term is used with many terms related to measurable statistical properties, such as the loss of correlation or bias (Levitin, 2014).

6. The Term 'Random Thinking' In Previous Literature:

Previous architectural literature has not mentioned the term 'random thinking'. The term random thinking will be discussed in literature outside the field of architecture. Its features will be applied to architecture as a new branch of thinking that was not previously mentioned in the architectural field. Existing literature agrees that people do not think in one way; rather, the ways in which they practice thinking varies, and it is possible to distinguish between two basic groups of thinking styles, namely structured and random. Random thinking styles are widely practiced by many individuals and groups, although an individual may not recognize when they are thinking randomly, but rather believe they are thinking creative, soundly and drawing correct conclusions. The following methods can be observed among the most important random thinking styles: emotional, superstitious, mythological, fanatical, nihilistic, and Machiavellian thinking (Swartz and Perkins, 2016).

7. Attributes of Random Thinking:

Previous literature identified some of the following features of random thinking: The predominance of emotion over thinking; the prevalence of myth in the process of investigating causes; the mixing of ideas and their lack of sequence; jumping between ideas in an irregular manner; the absence of logical questions; the domination of intolerance, and nihilism and the absence of purpose (Swartz and Perkins, 2016, p. 4). Table lists the differences between organized scientific thinking and random thinking, as shown in Table (1).

Table (1): The differences between organized scientific thinking and random thinking, (Source: Authors).

Organized scientific thinking	Random thinking
Determines the subject of the problem to be solved	Determines the subject of the problem to be solved
Determines the start and end points	Undermines the start and end points
Asks logical questions	Does not ask logical questions
Determines the required stages and their sequence	Disperses the stages and their sequences
Avoids randomness in thinking	Avoids a logical sequence in thinking
Decreases subjectivity and intolerance trends	Increases subjectivity and intolerance trends
Requires organization	Requires less or no organization

Although organized systematic thinking represents an important shift towards scientific thinking, it can be used to cover some patterns of random thinking. This is achieved by using organized thinking steps in sequence without content, which should be objective. Thus, organized thinking should avoid subjective, emotional or intolerant influences and the legacies of superstitious and mythical thinking. In particular, it should eschew the influences of exculpatory tendencies associated with Machiavellian thinking. The domination of these influences and tendencies mean that organized thinking can shift towards random thinking, despite following a formal sequence of ideas and steps (Levitin, 2014; Warfield and Staley, 1996).

A large number of signs indicate the existence of a random mentality, and among the most important are those we automatically and simply integrate within our daily lives. Although we believe that these have no direct impact on our lives, they are intimately connected through processes, such as random planning, random thinking, and ill-considered, random decisions. Some of the most important signs of disorganized and random mentality are:

7.1. Random Thinking:

Many researchers or scholars believe that behind every random act or thought lies a disorganized and random thought that prompts this action. The most prominent reasons for random thinking are:

- Incontestability: making decisions without referring to a rational basis and sound methodical thinking, which means assumptions may be wrong, fragile, and difficult to address or exit from.
- Expectations: high expectations and the lack of consideration of possibilities results in random and more unpleasant results.
- Perceptions: the presence of many perceptions can result in a large amount of random, disorganized thinking which means an individual may live within an persistently random, distracted state.

7.2. Random Planning:

Can occur with no specific vision and fixed goal, and normally leads to random and completely unsatisfactory results. Among the most prominent signs of random planning are (LaValle et al., 2001):

- Goals: multiple goals lead to the failure to achieve all goals, which can result in a closed circle of ideas that cannot be achieved. Those that can be achieved may not have a clear vision or plan meaning that the subject may fail completely.
- Priorities: the absence of priorities, where you find an individual is unable to arrange what he wants and/or his priorities overlap, can result in a state of chaos and extreme randomness.
- Choices: clear goals and plans are not normally written in an orderly manner, which can mean the choices identified are incorrect or even wrong. This is because randomness cannot provide introductions on which we can build real or sound results.

7.3. Random Decisions:

One of the consequences of thinking in a disorganized and random manner is random decisions. This can be explained by the assumption that random thinking leads to random planning; hence, many random decisions are made. The most important signs indicating randomness are:

- Speed: Rapidly taken decisions cause lots of unpleasant and random results because
- random planning always leads to the wrong mandatory decisions.
- Short-term decisions: Short-term decisions result in a high rate of randomness .

7.4. Narrow-Minded Decisions:

These are not based on all available factors and causes. They are called random decisions because they cause many exaggerated problems and crises and lead to damage beyond repair. These decisions may lead to complete destruction and the need to keep paying for damage over a long period of time.

8. Random Thinking and Its Relationship to The Stages of The Design Process:

In his proposal concerning the methodology of architectural design, Al-Najaidi notes that the difficulty with the design process lies in the fact that designers are forced to use available information to anticipate a future state that may not occur unless the predictions are correct,. He also states that the final outcome of the design process is defined or assumed before the

methods to reach or to achieve it are studied. Therefore, designers must work in reverse to identify the events that will create this effect (Howard et al., 2008).

When a designer thinks about a given topic more than it deserves, or does not understand the surrounding circumstances, his ideas can become impractical. In comparison, the traditional method of design deals with complexity by using a primary solution as a quick way to study two factors. The first factor concerns the conditions that the design is supposed to suit, while the second is the relationships between the design elements (Lu, 2015).

It is possible to rely on two basic types of thinking in the design process. Firstly, the rational model requires the analysis of all design problems and situations within a group of simple problems and elementary particles, which are easy to sub-divide into basic components in order to separately solve each part. From this point, it is then possible to recollect these parts in a better form that represents the best solution.

Secondly, the intuitive model requires a change from the intellectual approach, which is based on a logical design process, to another approach that represents the development of the flow language formulated by Christopher Alexander. This can be more flexible and compatible with the designer's creative thinking, where the most creative ideas take place involuntarily in the designer's mind through his own subjectivity, which includes storage and prior experiences, and lies outside the range of administrative control.

One of the most important features of modern design methods is their attempt to announce the designer's thinking, namely, to make it public and not implicit, through openness concerning the design process. This aims to control the design process, while the openness of design thinking allows other people to see what is happening, to experience it and enrich it with information or perceptions that may be outside the designer's knowledge and experience.

The most important modern design methods are: Firstly, the closed box, where it is not possible to observe what is happening inside the architect's mind during the design process and the product has no explanation. Secondly, the glass box, where successive logical processes can be observed (Nguyen and Zeng, 2012).

As in Figure (4), it is noted that the third stage, called 'Analyzing and Decision-making', is the stage at which the important design decision-making processes are revealed so that they can be developed within the later stages. According to the architectural proposals previously discussed, research suggests that this is the stage at which the type of thinking used by the designer effectively determines the characteristics and specifications of the architectural product. Research also suggests that the closed box pattern corresponds to the highest probability through which the random thinking method is used. This is because the design decision for the architectural product and its characteristics are determined without declaring or revealing the reasons that led to it.

Moreover, research can adopt the following procedural definition for a random thinking style in the design process, which is: “A type of improper thinking that is not founded on sound study for the subjective reasons and indicators in the early stages of the design process, it is featured by being illogical and resulting from closed box style in the design process, and its results are characterized by the presence of problems in the characteristics of the final products of the design process.

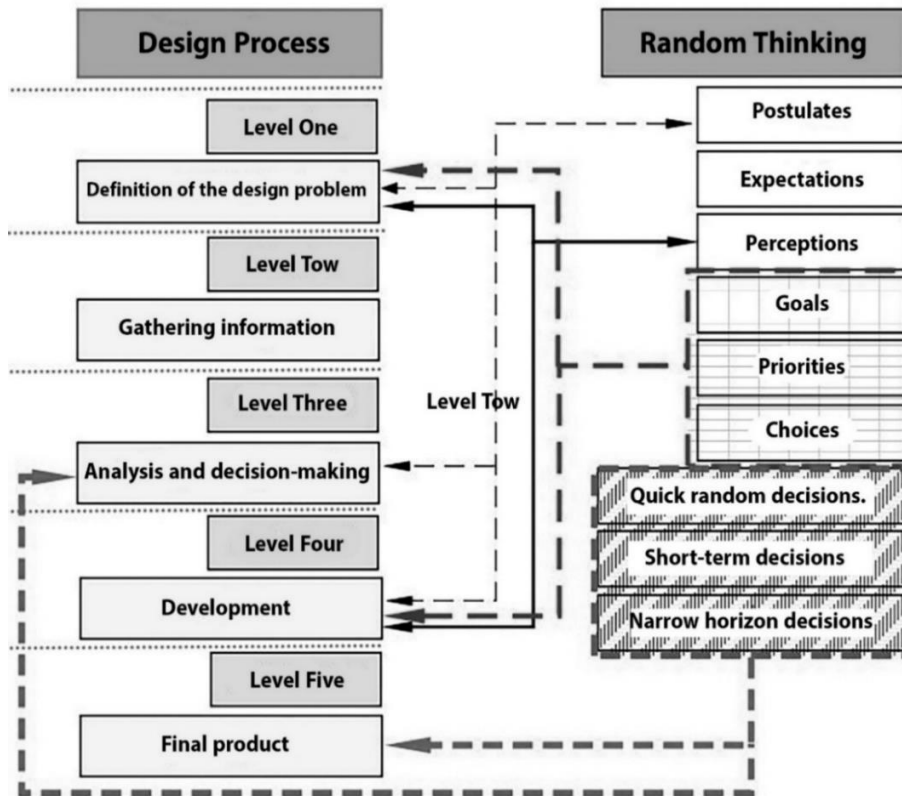


Figure (4): Represents the relationship of random thinking to the design presses, (Source: Authors).

9. The Relationship of Random Thinking to Some Product Examples:

The process of producing architectural work in Iraq depends on creativity at the level of individuals or offices within the private sector, or within so-called offices or companies for design and engineering consultancies. Iraqi society, at a cultural level, contains many contradictions and different cultural and intellectual trends that contrast and do not interact to enable a common language or collective formation. This reflects the extent of the contradiction that characterizes intellectual life in Iraq, which incorporates a fundamentalist trend that confronts Western trends and raises questions about originality, temporality and heritage.

This contradiction also appears at the cultural level amongst members of society, where there is diversity at the level of public culture, amongst its specialized elite, and within its architecture, which is perceived as a product of cultural civilizational that is affected by existing cultural contradictions and reflects the cultural crisis within Iraqi society. Recently, a group of contemporary architectural products have appeared in Iraqi architecture, which is characterized by randomness and likely to have emerged from the designer's random thinking at the design process stages. To determine the scope of the research boundaries, the analysis of architectural facades will be only be considered as products of random thinking, leaving other qualities and characteristics as prospects for future research:

- The first level is where the architectural form appears outside the rules and principles of architectural formation in general, as shown in Figure (5).
- The second level denotes the elements of the architectural form; these appear unconnected and distributed in an ill-considered manner, as suggested through the random juxtaposition of the elements, as shown in Figure (6).

- The third level concerns the materials for finishing the architectural form, where the shape shows the rules of engagement with the generally accepted rules of architectural formation. This is accompanied by randomness in the selection of finishing materials for the architectural form, as shown in Figure (7).



Figure (5): Random thinking on the level of the architectural form as a whole, (Source: Authors).



Figure (6): Random thinking at the level of elements of the architectural form, (Source: Authors).



Figure (7): Random thinking at the level of finishing materials of the architectural form, (Source: Authors).

10. The Negative Impact of Random Thinking on Architecture:

The most important negative impacts of random thinking on contemporary Iraqi architecture are as follows:

- The emergence of a (distorted) model that does not belong to the rules of architectural formation, which may be considered the architectural legacy of future generations.
- The emergence of a style that does not belong to recognized architectural styles, and is not based on specific and sound architectural foundations.
- Contradiction to the identity of local architecture, which make it confused and unchangeable.
- In many cases, architectural elements are transformed into an empty shell to decorate the exterior of a building. However, in other cases it entirely refers to an entity that is outside the context in which it is located. The end result is architectural chaos, products with no identity or personality, and architectural alienation, which has become an integral part of civilizational alienation.
- The prevalence of disorganized experiences that are subject to the individual trends and opinions of designers and represent their own culture and thought.

- The interference of non-architects in the design process, which has resulted in simple outcomes and impacted the range of implementation; these models can be popular among those engaged at a less demanding intellectual level.
- Confusion amongst recipients who are aware of the architectural image of the city.
- Exaggeration and excitement arguably draw attention in dazzling ways; however, they often carry no other meaning or indication.
- The predominance of the idea over creativity means we are captivated by what is created but do not necessarily discuss or understand the nature of the contextual era and its requirements in terms of creativity and innovation. This instinct stems from a need to keep pace with our time. There is a big issue with creating an innovation that involves the spirit of adventure if the intellectual revolution does not follow what was already there.
- Weak imitations of poor architectural models by non-specialists exist.

11. Conclusions:

- The term "random thinking" can be added to the list of types of thinking that the designer does during the design process, as it represents one of the products of the closed-box approach to the design process, which has a significant impact on contemporary architecture in Iraq.
- The random architectural product is the result of several effects, including the lack of a decisive role for specialists, the absence of building laws and weak control over the local architectural product, and we find that architectural education is implicitly responsible for the designer's adoption of random thinking as it continues to encourage individual tendencies based on irrational causation. The local community is a fertile ground for the emergence of the recipient who interacts with the outputs of random thinking carried out by the architect, and the use of new, cheap and fast building materials explains the spread of random thinking. - Random thinking lies in the analysis and decision-making phase of the systematic design process. In this way, it is as much a part of the architectural design methodology as other types of thinking, such as creative, critical, conceptual, and deductive thinking.
- Since modernity, Arab architecture has been influenced by western trends and adopted its various styles, forms and schools. Hence, it is natural for this architecture to continue to receive new and rapidly evolving architectural and urban changes, especially in light of the continuation of civilization between Arab and Western societies, which led to the emergence of random thinking.
- We conclude from the foregoing that in order for Arab architecture to play a positive future role in the advancement of the culture and civilization of Arab society, it must communicate with the civilized roots of society and be linked to contemporary technology and science and information development, This would help accommodate the future needs of its occupants, and secure a familiar base from which they could regulate their lifestyle and behaviors in accordance with the new circumstances, thus creating a sense of belonging.

12. Recommendations:

- There is a need to integrate and link architectural foundations and sound thinking methods with contemporary local architecture by taking advantage of the information revolution and without abandoning its original, widely recognized architectural values to create a sound architectural formation. Thus, serious architecture will support the behaviors of individuals and groups and help them to adapt and adjust to these new developments, which will create a sense of belonging to this new serious architecture.
- There is a possibility of researching and investigating the relationship of random thinking in the horizontal plans of the architectural form.

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