

Mutations and their Impact on Furniture Design: Insights from Neighbourhoods in Iraq

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Abstract

Mutation is an unconventional kinetic behavior of systems that seeks to exceed the supposed correspondence at the level of places and then times in order to achieve pre-determined goals. It is the moment or period in which old design elements and relationships change to new ones as a result of the accumulation of quantitative and qualitative variables relatively quickly. Mutations have a role in furniture design as well as in many other designs.

This research poses the question, as to what is the factor of mutation and its aesthetic impact on the design of furniture. It examines the aesthetic aspects of furniture using mutations and its reflection on interior spaces and furniture design. It employs a case study of interior spaces and TV unit furniture in Iraq.

The aim of the research is to find out the impact of mutations on furniture design. It is part of furniture design that leads to new designs and opens up new horizons. It looks deep into the rules that must be followed when designing sophisticated furniture, especially the spatial and temporal boundaries represented in internal spaces and TV unit furniture in Iraq for the period from 2022 to 2023.

The paper concludes that mutations have a significant impact on the aesthetic appeal of furniture. Therefore, it can be employed effectively in Furniture design to bring about complex and sophisticated aesthetic outcomes.

Keywords: Mutations, Furniture, Aesthetic impact.

Introduction

Mutation represents a state of radical changes that occur in interior design, which is the moment or period in which the old design elements and relationships change to new ones as a result of the accumulation of quantitative and qualitative variables relatively quickly. This enables to conceptualize unusual products that in turn depend on the nature of the phenomenon or the conditions that create it.

They are divided into two types as follows.

1. Design elements and relationships in a sudden and comprehensive manner, resulting in a change in the qualitative image at once in a previously unusual way.

2. Design elements and relationships change gradually (the micro level of the phenomenon), to produce successive partial changes that appear in the surface structures or qualitative image (Rosenthal, 1981).

The philosophical dictionary points out that it is "a sudden behavior taken by effective systems (biological for example) producing an unexpected difference in the nature of the final outputs of those systems, depending on the effectiveness of the system in the face of variables of internal elements and external influences surrounding it. Mutation is characterized as a process with a long or short time-span period, depending on the concrete conditions in which the dependent transformations take place and on the specifics of the phenomenon itself. For example, the process of disintegration of uranium and its transformation into its primary elements (lead and helium) takes millions of years, but in artificial conditions (technology as a catalyst), it takes place within fractions of a second due to a qualitative leap in the transformation process (Philosophical Dictionary, 1983).

This raises the following questions

What is the mutation factor and its aesthetic impact on furniture design?

In this context, the objectives of the research are as follows.

1. To ascertain the impact of the mutation factor on furniture design, which evokes new designs and opens up new horizons.
2. To ascertain how to achieve it and the problems associated with its solutions to reach the rules that must be followed when designing sophisticated furniture.

Definition of terms

- Mutation factor: Mutation represents a state of radical changes that occur to something or a phenomenon, which is the moment or period in which the old qualitative characteristic changes to another new as a result of the accumulation of quantitative and qualitative variables and relatively quickly, to take different unusual products that in turn depend on the nature of the phenomenon or the conditions that create it. (Rosenthal, 1981:286).
- Aesthetic effect: It is the set of design relationships of the internal environment that arise in the recipient's sensory impressions associated with pleasure, reflection and proper perception of the meanings implicit in the design work (Al-Imam, 2020).
- Furniture: All fixed, movable and transportable needs that benefit a person in his home, workplaces and public places and meet his daily needs of sleeping, sitting, resting and keeping things. It is one of the applied arts and is one of the most important elements of interior design that begins with design and ends with the product, which contributes to supporting human activities (Abdul Khaleq, 2010)

Theoretical Framework

Furniture in interior design and their aesthetic values

Furniture is an intentional innovative intellectual work that comes out in an aesthetic form to achieve a function and a human need through a specific material, and in specific ways and components. In order for furniture to be a source of enjoyment, it must have elements of beauty and comfort. In other words, it should achieve shape and function polar artwork. Furniture are the main elements in the design of interior spaces. They affect both the visual image of the interior as well as the performance of these spaces. They integrate the required functions occupied by the furniture through their shapes, colors and textures. They achieve relations between the users and the interior spaces, and by choosing the appropriate visual elements, it is possible to obtain successful designs with acceptable aesthetic values (Khalaf and Qasim, 2006).

Aesthetics experienced by individuals, regardless of their backgrounds, culture and social environments, depend on two factors. One is a subjective factor arising from the

individual himself and his/her previous aesthetic experiences. The other is a subject related to the characteristics of the visuals. Al-Husseini (2008) says that in most philosophical studies, the values of beauty have been associated with the values of the forms that face the person at first glance, which means its apparent value. Its moral values or practical values are associated with the content, performance or benefit. In fact, the appearance of a design product and the aesthetic value of it, which is consistent with the public taste, the technical level of it and the side of practical performance are the ethical, practical and utilitarian values and continues aesthetic values in design with the functional aspect of performance. It is consistent with the aesthetic experience in design which is inseparable from function. If that happens, it means the loss of design which is one of the most important reasons for its existence (Al-Husseini, 2008)

It is thus argued that furniture mixes beauty and functions, and its aesthetic value depends on the experiences of individuals and visual factors. Design succeeds when it harmoniously combines visual appeal with practical performance.

Breakthrough Factor and Evolution Strategy

Al-Alawi (1988) discusses the concept of mutation and says that it opens a window into a new understanding of movement and evolution. Mutation is a mysterious process that enables a body to directly bypass from a place to place without having to cross intermediate places. This concept involves the idea of shortening distances and places unconventionally. On the other hand, it refers to the strategy of evolution as a method of creating innovative changes in design. This method relies on the use of mutation as a driving force to produce a new design content. Although this new solution may sometimes be less efficient compared to the traditional solutions, it allows the development and discovery of innovative designs that respond to the needs of the society (Al-Alawi, 1988).

Mutation theory and evolutionary strategies can be applied in multiple fields of design. Mutations represent an unconventional transformation that can bring about dramatic changes, while the evolutionary strategies represent incremental improvements and technological developments that contribute to the development of design solutions. These two processes reflect continuous research and discovery in multiple fields and the pursuit of improving and developing existing ideas and concepts (Berg & Gold, 1989).

However, innovations rely on mutations to find new solutions, as evolutionary strategies encourage the acceptance of unconventional solutions, whether they are entirely new designs or modifications to existing ones. Indeed, these are the strategies that promote developments in interior design and furniture.

Types of Mutations in the Design Environments

1. Deletion mutations

According to Jaber and Hadi (1989), these are localized mutations that occur as a result of the loss or removal of part of the design elements of an interior environment. They can be understood as changes and modifications directed towards removing or reducing specific parts in furniture design. They can include the removal of unnecessary elements and can also include the removal of redundant or unnecessary elements in furniture design, creating simpler and more functional designs. In fact, deletion mutations can be achieved by simplifying design details to deliver a more elegant and smooth design. Deletion booms can be a way to highlight key elements in furniture design, such as clean lines or high-quality materials. They can also be used to improve functionality of furniture by removing barriers to use or items that do not meet needs. They may help guide furniture designs towards simplicity and originality by reducing complexity and excess detail.

Deletion booms in furniture design expresses a design process based on simplicity and a focus on essential elements and functionality, creating innovative and functionally effective designs as seen in the Fig. 1.



Fig. 1: Source deletion mutations

Source: <https://2u.pw/mnbIVhY>

1. Addition Mutations

Addition Mutations are a term used in the field of furniture design and interior design to refer to changes or improvements made by adding new design elements to the interior environment. These additions can be design-elements such as new pieces of furniture, additional decorative details, or a different arrangement of existing elements. An addition boom aims to improve the overall appearance of a place or increase its functionality in new and innovative ways. Success of these mutations depends on the ability to integrate new elements aesthetically and functionally with existing elements in an indoor environment. ‘Addition spikes’ are touches of beauty and new functionality in furniture design and interior design.

These extras come as great supplements to improve the appearance and performance of a place. Success of these mutations requires the ability to harmoniously integrate new elements with existing elements in the interior environment, making the designs more impressive and functional, as shown in the Fig. 2.



Fig. 2: Mutations of the source addition

Source : <https://2u.pw/UXSkJXt>

2. Compensation Mutations

These are the changes or improvements that occur when replacing existing design elements in the internal environment with new elements. These new elements can be new furniture, different décor details, or replacement of specific building materials, as compensation mutations aim to improve the performance or appearance of the internal environment by replacing existing design elements with other elements that are more suitable or attractive. This requires the careful selection of alternative design elements to ensure that they match the overall style of a place and the needs of a client.

Compensation mutation is a term in furniture design and interior design that refers to improving a space by replacing part of the design with a new and better element as shown in the Fig. 3.

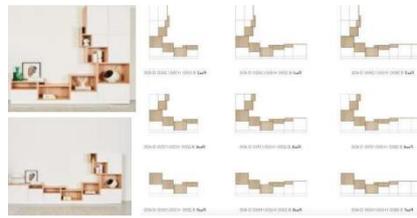


Fig. 3: Mutations of the source compensation
Source: Journal of Architecture and Arts, No. 12, Vol. 1, pp. 696).

These mutations (deletions, additions and replacements) change the designed environment so that they cause radical changes in the rest of the design elements. Such designs may lead to desirable or undesirable results due to the inability to control what will happen from the change. Mutations are classified on the basis of origin into the following.

Autologous Mutations

In the world of furniture design, self-transformations may arise when an opportunity comes to renew or improve existing designs or when a new discovery emerges in building materials or techniques. Environmental factors can have a big role in promoting these transformations, such as changes in fashion trends or changes in the market needs. In addition, subjective transformations can be the result of a desire to innovate and introduce something new and innovative in the world of furniture design. Success of these transformations depends on the ability to exploit design motivating factors and deal with influencing design factors intelligently to bring about effective and exciting changes in the world of furniture design.

It occurs suddenly, as there are various factors that affect the rate of mutation, including environmental control. This involves the presence of design elements that stimulate the mutation or the presence of design elements that inhibit the mutation as shown in the Fig. 4.



Fig. 4 : Autologous mutations
Source : <https://2u.pw/W5LeSBj>

Novel Mutations

These mutations arise when the furniture design industry is exposed to unusual circumstances. These conditions include technological advances and the use of new materials that stimulate the process of developments in design, and in the world of furniture design, new developments can come from a new technical discovery that allows the creation of innovative designs using innovative materials. For example, three-dimensional printing techniques can be used to produce unique furniture that is difficult to be achieved by traditional means. Modern materials, such as light and durable materials, can also contribute to the possibility of designing new pieces of furniture in innovative shapes and sizes, as new developments give designers the opportunity to explore the boundaries of design and create pieces of furniture that combine practical and aesthetic functions in advanced ways. Modern technologies and materials play a

major role in facilitating these new mutations and stimulating the development process in the field of furniture design.

Thus, it is argued that the new breakthroughs in furniture design occur as a result of technological progress and the use of new materials, which contributes to the creation of unique and new designs, as shown in the Fig. 5.



Fig. 5 : Mutations

Source : <https://2u.pw/IUhPbl6>

Deletion Mutations and their Design Products in Reductionist Thought

According to Kamel (2006) the reductionist doctrine in interior design seeks simplification and simple style in the formation of interior elements and in this context, the element of the mutation is added as an important element in furniture design. Understanding the mutation in this context is concerned with searching for new changes and innovations that contribute to improving interior designs. The element of the mutation reflects the designer's ability to innovate and use new ideas in furniture design. For example, a mutation in a furniture design can be a new formation of a traditional piece of furniture that combines practical and aesthetic functions in a unique way. Mutations can also emerge through the use of new materials or innovative manufacturing techniques

In this context, the mutation can be considered an essential element that enhances the distinction of furniture designs and adds an element of uniqueness and creativity to the reductionist doctrine in interior design as shown in the Fig. 6.



Fig. 6: Deletion mutations

Source: <https://2u.pw/HhIEWgZ>

Twentieth century was characterized by many scientific and technological events, which has had a direct impact on the form of architecture and interior spaces. In the design of furniture, which reflected the emergence of several doctrines, the most important one is reductionism. The most important of these factors is the emergence of open horizontal projection, which is characterized by flexibility and standard spaces as a result of the use of modern technologies in construction and the smallness of internal spaces to the minimum extent possible to meet basic needs. The distance from decorative methods, representation, metaphorical similes and historical suggestions, and Kalk function are expressive physical design goals, which reflect two important characteristics: the standard proportion of the practical function and the control of the material thought of the material. This is especially so in modern materials, as the discovery of plastics has had a major role in changing the style of design and production as shown in the Fig. 7, where these materials allow a great deal of flexibility and formation for furniture (Mahfouz, 2001).



Fig. 7: Mutations of reductionist thought on the design of the furniture
Source: <https://2u.pw/f5QCHpm>

Here we see the great convergence between the deletion mutations that aim to have new design solutions that are not tracked away from complexity and the principles of reductionist thought, as they aim to achieve their purposes away from the details and search for the true essence of things, regardless of the different functions, as it was characterized by distance from excess details.

Condensation, Addition and Substitution Mutations

Condensation is based on being effective and has a clear impact by studying the details of the function to be achieved in the design production, within a design space. In fact, condensation is one of the technical variations. It uses one of the pressing conditions within design construction through two aspects.

1. The study of a single space to draw attention by studying the design of the illusion of movement, time and space depth, as well as multi-directional multiplicity and perspective treatments in addition to sequencing, proportionality and optical illusion, creating new mutations added to the design value, especially in furniture design.
2. The study of coordinates with high mutations and multiple color value, through which condensation can be achieved through the multiple idea in the style of excremental and manifestations (color, space, texture etc.). Everything achieved through intensification as an act is done with a diverse technical performance in which all the above details and the results, they imply are within the goal of the comprehensive organizational plan for diversity in aesthetic values in order to achieve functionality in design (Al-Saadi, 2013).

In furniture design, condensation means improving designs by carefully analyzing form and function, studying movement, time, depth, color, texture and visual balance, as well as considering design styles and aesthetic aspects such as colors, spaces and texture.

Surge and Upgradation Factor

Mutation and evolution represent two related aspects that cannot be separated from the process of evolution. In this regard, Al-Dabbagh (2010) proposes "evolution is a drawn plan", as evolution represents the result of partial (positive) transformations that accumulate during phenomena. Mutation represents a sudden behavior taken by systems to reach that end (evolution) and due to transformations. As Al-Dabbagh (2010:17) also points out, "the explanation of mutation and evolution is like introducing a supernatural element in a purely mechanical situation". From his point of view, as the law of natural evolution is characterized by its inability to explain the sudden process of evolution, it was replaced by a new law they called the law of sudden transformations or mutations, to come up with the idea of coincidence (Clark, 1992).

In furniture design, mutation and upgrading are integral parts of evolution, as upgrading comes from the accumulation of partial transformations while mutation is a sudden change that the system seeks to achieve. Al-Dabbagh (2010) points out that mutation is an

unexpected factor in design. Thus, the law of natural evolution has been replaced by the law of sudden shifts or mutations to explain sudden and accidental developments.

Breakthrough and Creativity Factor

According to Musa (1996), creativity is defined as "the original, flexible thought associated with the content of forms and sensory perceptions, where creativity seeks to redefine and organize things in new ways and methods that give them meanings that differ from what is circulating and agreed upon among the people. This is done by combining novelty, uniqueness, and originality in furniture design. In Arabic, creativity is understood as a source of the verb "create", which means innovation and invention. Creativity can also be described as "producing something or formulating elements that already exist, but using methods that go beyond sequential logical solutions." (Musa,1996:20). In creative vocabulary, creativity is defined as "the ability to find a new shape, tool, artistic effect, or new style that contributes to solving problems" (Razouki, 1996).

In the world of furniture design, novelty emerges as a bridge of time that connects the heritage of the past and the spirit of the present, as it is a unique combination of originality and innovation. Novelty gives us the opportunity to draw inspiration from the old and beautiful design techniques and ideas and make them part of our modern creativity. Originality is the magic touch that makes furniture design unique. By seeking to avoid imitation and independence in thinking and design, we innovate and create in a way that expresses our personal identity and make each design carry our own imprint, all the way to uniqueness. This is the moment when we start thinking outside the box, that is, it is the moment of inspiration that makes us innovate and create in a unique and unconventional style.

We use new materials and design shapes with distinctive details that make each of our furniture stand out with pride. This combination of novelty, originality and uniqueness creates an exceptional design experience. It takes us on a journey through time, combining a bright past with a creative present to create a future that radiates uniqueness and creativity (Raafat, 2007).

In the context of furniture design, architectural creativity is produced by a process known as "boom", "creative intuition" or "moment of enlightenment". This process contributes to the interconnection of the design elements, as the deep and hidden relationships between them are revealed. This is done by combining opposing and different concepts to produce unique designs that bear the signs of novelty, originality and uniqueness. This creative effort is called the furniture creative effort, as it aims to produce exceptional pieces of furniture that go beyond traditional designs and carry tradition and excellence in their design (Razouki, 1996).

It is clear from the above theoretical discussion that creativity in furniture design depends on novelty, originality, and uniqueness, with the addition of the breakthrough factor that constitutes the moment of inspiration and reveals the deep relationships between the design elements, and stimulates innovation and new thinking.

Indicators Derived from the Theoretical Framework

Through the foregoing, it is clear that:

1. Mutation is an unconventional kinetic behavior of systems that seeks to transcend the supposed congruence at the level of places and then times in order to achieve pre-determined goals.
2. The evolutionary strategy and programming depend on the mutation factor as it is the driving force for creating new design content. It can accept a new solution in society even if the new solution is less valid compared to the original.
3. Mutations appeared in the design environment as a result of the marriage between the design elements, and they are of three types (addition mutations, deletion mutations and compensation mutations), while in terms of origin, they are divided into self-mutations and new mutations.
4. Reductionist thought is characterized by flexibility and standard spaces as a result of the use of modern technologies in construction and the smallness of internal spaces to the minimum possible to meet the basic needs, as well as the distance

from decorative methods, representation, metaphorical similes and historical suggestions.

5. The function appears as an expressive physical design goal, which reflect two important characteristics: the standard proportion of the practical function and the control of the material thought of the material, especially modern materials.
6. Condensation mutations are considered one of the technical diversities as they are some of the pressing conditions within the design construction through the following.
 - Studying the single space area to draw attention by studying the design of the illusion of movement, time and space depth, creating new mutations added to the design value, especially in furniture design.
 - The study of coordinates with high mutations and multiple color value, through which condensation can be achieved through the multiple idea in the style of directorial and manifest manifestations (color, space, texture).
7. Representation of mutation and upgrading is the introduction of a supernatural element in a purely mechanical situation, based on a new law called the law of sudden transformations or mutations, to come up with the idea of the mutation factor.
8. Creativity depends on the ability of objective and subjective factors in the production of unique designs that represent intellectual and material leaps with multiple characteristics, the most important of which are originality, novelty and uniqueness; in other words, creativity can be the feature of the mutation.
9. The aesthetic value in design mutations continues with the functional aspect and is consistent with it, as the aesthetic experience in design is inseparable from its function, and if this happens, it means the loss of design is one of the most important reasons for its existence.

Research Methodology

This research adopted a descriptive approach involving content analysis to identify the mutation factor and its aesthetic impact on furniture design, relying mainly on the theoretical framework and the resulting indicators. The research examined the interior spaces and furniture design, represented by interior spaces and TV unit furniture in the province of Najaf in Iraq. This community was chosen as a result of the urban and design developments witnessed by the design of interior spaces in the Najaf Governorate after it was opened to the outside world and the diversity of cultures.

Research sample

The non-probability intentional selective method was adopted for selecting the sample represented by the original research community. This involved 4 internal spaces and TV unit furniture in the Najaf Governorate in four neighborhoods. They were Al-Ghadeer neighborhood, Al-Amir neighborhood, Al-Zahra neighborhood, Al-Qadisiyah neighborhood. They were selected according to the following conditions and reasons.

1. The level of their interior and architectural design for the houses of Najaf Governorate.
2. Opinions of experts in the field of scientific and professional specialization.
3. Adopting diversity in choosing the geographical location of the submitted models.
4. Effectiveness of the level of awareness based on the design ability, including a taste of the levels of spatial reality related to formative formulation, according to design data.

These spaces in the neighborhoods are as follows.



Fig. 8: TV unit space in Al-Ghadeer neighborhood (first model)

Source: <https://2u.pw/g6dtAhr>



Fig. 9: TV unit space in Al-Amir neighborhood (second model)

Source: <https://2u.pw/FwDdaHe>



Fig. 10: TV unit space in Al-Zahra neighborhood (third model)

Source: <https://2u.pw/ZokJbDh>



Fig. 11: TV unit space in Al-Qadisiyah neighborhood (fourth model
Source: <https://2u.pw/VskaULi>

Research Tools

The research used the following tools in collecting information.

1. World Wide Web of the sites (interior spaces and TV unit furniture in the province of Najaf).
2. A form specifying the analysis, in the light of the following.
 - a. The indicators derived from the theoretical framework
 - b. The researcher's personal opinion by adopting the photograph to choose the designs of the research models.

Authenticity of the Research Tool

Validity of the tools used was verified through discussions with the experts. The analysis form was presented to a group of experts to indicate their opinions on its validity in the light of their sound scientific observations. The form gained its credibility for the analysis in this research, due to its comprehensiveness and its validity in achieving the research objective.

Stability of the Research Tool¹

The stability of the research tool is a prerequisite for the method of content analysis. The researchers have adopted the method of consistency between analysts. This means that analysts individually reached close results when analyzing the model itself according to the rules of the analysis and its steps. If external analysts were selected who have experience in the field of interior design and furniture design, and after the analysis used the equation (Cohen, 1960). to determine the percentage of agreement by calculating the stability coefficient between the analysis of researchers and external analysts has been the rate of the ratio of the coefficient

The stability is established as follows:

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Table 1: The stability coefficient
Source: Researcher planning

Stability ratio between the first analyst and the two researchers	Stability ratio between the second analyst and the two researchers	Stability ratio between the first and second analyzer	Stability rate
%78	%84,5	%81,25	%81,25

Thus, the ratio of the average stability coefficient between the first and the second analysts and the researchers reached 81.25%, which is a very good percentage that can be relied upon, which prompted the researchers to analyze the second model.

Results

- The concept of the mutation factor in furniture design emerged through the following.
 - Addition mutations, deletion mutations and compensation mutations were achieved by 100% in all the models.
 - Origin-based mutations such as autologous mutations and novel mutations were also achieved 100% in all the models.
 - Evolutionary programming represented by a novelty of design with new solutions was achieved by 100% in all the models.
 - As for the design with adapted solutions, it has appeared to be achieved by 50% in all the models.
 - While confirming the goal of the breakthrough in the design process through adding design elements which was achieved by 100% in all the models and adding a new function which was achieved at 0% in all the models.
- Reductionist thought is characterized by flexibility and standard spaces depending on several factors, which are:
 - Use of technology, which was achieved by 100% in the first and fourth models, while it was relatively achieved at 50% in the second and third models.
 - Small internal spaces were not achieved in all models.
 - Distance from decoration and representation was achieved relatively at 50% in the first and second models, while it was not achieved in the third and fourth models.
 - Distance from metaphorical analogies was relatively achieved at 50% in the first, second and fourth models, while it was not achieved in the third model.
 - Distance from historical suggestions was achieved by 100% in the first and second models, while it was relatively achieved in the third model at 50%, while it was not achieved in the fourth model.
- Upgrading the aesthetic perception of the concept of the mutation factor, represented by the law of sudden transformations through the introduction of a supernatural element, which was unrealized in all models. The coincidence factor was also unrealized at 0% for the first and fourth models, while it was relatively realized at 50% in the second and third models.
- The design goal to achieve the aesthetic value in the design breakthroughs based on standard proportion of the job and the control of the material thought of the material (modern material) was achieved by all the models.
- Condensation mutations are considered technical diversities and subject to requirements within the design construction:

- The study of the single space area to draw attention through illusion of movement was achieved by 100% in all the models. The time factor was achieved relatively at 50% in the first and second models while it was not achieved in the third and fourth models. Space depth emerged was achieved by 100% in the first and third models while it was relatively achieved at 50% in the second and fourth models.
 - Study the coordinates with high and multiple mutations on color was achieved at 100% in the first and fourth models, while it was relatively achieved 50% in the second and third models, while texture and area appeared achieved by 100% in all the models.
6. Creativity represents the feature of the mutation in the production of unique designs and depends on the factors of:
- Objectivity represented by originality, which was achieved relatively at 50% in all the models.
 - Subjective represented by novelty and uniqueness, were achieved by 100% in all the models.

Conclusions

Mutation is an unconventional kinetic behavior of systems that seeks to exceed the supposed congruence at the level of places and then times in order to achieve predetermined goals represented by addition mutations, deletion mutations, and compensation mutations. Mutations based on origin are self-mutations, and new mutations while evolutionary programming has emerged represented by the evolutionary strategy and evolutionary programming depending on the mutation factor. As it is the driving force for creating new design content, it can accept a new solution in the society even if the new solution is less valid compared to the original such as a design characterized by novelty with new solutions as well as a design with adapted solutions, while confirming the goal of the breakthrough in the design process by adding design elements and new functions.

The designer took into account that the design is a reductionist thought of flexibility and standard spaces as a result of the use of modern technology in construction and the smallness of the interior spaces to the lowest possible extent to meet the basic needs, as well as the distance from decorative methods, representation, metaphorical similes and historical suggestions.

Representation of mutation and evolution is the introduction of a supernatural element in a purely mechanical situation, based on a new law called the law of sudden transformations or mutations, to come up with the idea of the mutation factor, as well as deliberately on the coincidence factor.

The function is a design goal to achieve an aesthetic value in the design breakthroughs, as the function appear as an expressive physical design goal, which reflect two important characteristics: the standard proportion of the practical function and the control of the material thought of the material, especially modern materials.

Condensation mutations are considered one of the technical diversities as they are one of the pressing conditions within the design construction through two.

- Studying the single space area to draw attention to the design of the illusion of movement, time and space depth, creating new mutations added to the design value, especially in furniture design.
- Studying the coordinates with high mutations and multiple color values, through which condensation can be achieved through multiple ideas in style of directorial and manifestations such as color, space and texture.

One of the elements of interior design and furniture is creativity depending on the ability of objective and subjective factors in the production of unique designs that represent intellectual and material leaps with multiple characteristics. The most important is originality, novelty and uniqueness. In other words, creativity can be a feature of mutation.

References

- Abdul Khaliq Samin (2010) Developing new linking treatments for the design of ready-made office furniture units, (unpublished master's thesis), University of Baghdad, College of Fine Arts, Department of Industrial Design, Baghdad, Iraq.
- Alaa Al-Din Al-Imam (2015) Aesthetic values between simplicity and complexity in interior design, *Journal of the College of Basic Education* Volume 4, Issue 4, pp. 284
- Al-Alawi, Hadi (1997) "Non-Worried Personalities in Islam", Beirut, Lebanon: Dar Al-Kunooz Al-Adabia.
- Al-Husseini Iyad Abdullah (2008) *Design Art, Part 1*, Sharjah: Department of Culture and Information.
- Ali Ahmed Raafat (2007) *The Trilogy of Architectural Creativity Form and Content*, Interconsult Research Center and Al-Taqni Journal, Vol. 1, Issue 2, pp. 78-98.
- Al-Saadi, Ikhlas Abdul Salam (2013) *Allegorical Form in Interior Design* (Unpublished Master's Thesis), Baghdad, Iraq: University of Baghdad, College of Fine Arts, Department of Interior Design,
- Al-Samarrai, S. (2006) *The Semantic and Emotional Meanings of the Urban Scene*, Master's Thesis Submitted to the Department of Architecture at the University of Technology: Baghdad.
- Al-Sheedy, Asim bin Salem (2022) *Amman Magazine*, Amman, available at <https://2u.pw/ZokJbDh>
- Bandar Al-Jaloud, (2017) *The Amiri Diwan, The State of Qatar*, available at <https://2u.pw/g6dtAhr> & <https://2u.pw/FwDdaHe>
- Berg, C.C. (1989) *Classification and Distribution of Ficus*. *Experientia*. Vol. 12, Issue 3. pp.12-18
- Hala Ahmed (2018) *Tips for choosing the appropriate lighting in interior decoration*, *Madam Magazine*, Saudi Arabia, available at <https://2u.pw/HhIEWgZ>
- Khalaf, Namir Qasim, (2006) "Alif Baa Book of Interior Design", Ph.D thesis, Baghdad, Iraq: Diyala University, Dar Al-Kutub and Documents,
- Khaled Mahfouz, Marwa (2001) *Following the Bauhaus Thought on Contemporary Interior Architecture*, MA, Faculty of Fine Arts, Egypt: Alexandria University.
- Laila Saleh, (2021) *Al Arabi Magazine*, Smart or Electromagnetic Glass, Kuwait, <https://2u.pw/W5LeSBj>
- Mahmoud Al-Marmaji, (2021) *Cladding Alabaster Facades*, Baghdad, Iraq, available at <https://2u.pw/VSkauLi>
- Mahmoud Al-Marmaji, (2021) *Cladding Alabaster Facades*, Baghdad, available at Iraq <https://2u.pw/UXSkJXt>
- Noha Ahmed Hanifa, (2018) *An-Nahar Newspaper*, Arab Decorations, Kuwait, available at <https://2u.pw/mnbIVhY>
- Philosophical Dictionary - Academy of the Arabic Language*, 1983 Amri Presses - Cairo.
- Prince Ahmed Shawky Arabiya (2020) *Aesthetic Philosophy of Repetitive Patterns in Nature and Application in Furniture Design*, *Journal of Architecture, Arts and Humanities*, Volume V, Issue 20. pp.18-29.
- Razouki, Ghada Musa (1996) *Creative Thought in Architecture*, Unpublished PhD thesis, University of Baghdad, College of Engineering, Department of Architecture.
- Rosenthal and Yudin (1981) *The Philosophical Encyclopedia*, translated by Samir Karam - Dar Al-Tali'a - 4th Edition - Beirut.
- Sarah Ahmed, *Decorations for men's councils*, *Al-Mowafir Magazine*, 2022. <https://2u.pw/f5QCHpm>
- Saad Jaber and Abdul Nabi Hadi (1989) *Genetics*, Iraq: Dar Al-Kutub for Printing and Publishing, Mosul,
- Samir Kamel, Ahmed (2006) *Integrated Use of Space in Egyptian Housing with Small Spaces*, M.Sc., Faculty of Applied Arts, Egypt: Helwan University.
- Wikipedia, the free encyclopedia, 2015. <https://2u.pw/IUhPbl6>