

The role of decorative design to face societal changes and reshaping the visual scenes in new cities

Kholoud Ahmed Amien Hamed Elabd

Decoration department, Faculty of applied arts, Damietta university, Lamaison_domyat@yahoo.com

Abstract:

Urban space is the place that contains things, people, and activities about the path of its three dimensions, as it has the character of evolution over time, whether it evolves ,Urban or human development (human development here means behavior and activities,. movement and everything related to human behavior) ;Thus, the urban space inspire its shape and form through the relationships between lines formed spaces that vary from wide to narrow, and from simplicity to complexity. Opening to closing. Voids vary in their shapes, sizes, and treatments to take on infinite spatial properties to serve human functions and different activities. **Problem:** Some locations have recently been exposed to architectural chaos, possibly due to absence of laws which has led individual efforts to re-employ residential buildings. These non-considered interventions may be aimed a financial profit, even if the result is abuse and distortion of urban vision of these sites and so that cities. Architecture has become a loss of identity by losing its components caused by societal values and reflecting natural, social and even climatic environment, i.e. architecture has lost sustainability, continuity and created a sense of isolation and dissatisfaction among the population. With these changes which still growing in new cities, appearing their impact on reformation of architectural visual scenes is beginning to appear negatively or positively. Unplanned activities affecting the form and architectural function were expanded with these societal changes, the building lost its basic role, neglected and worn out. **Objectives:** Study of this chaos and its reflection on the environment of contemporary architecture ;specifically on residential architecture in new cities through extrapolating the architectural facts at these cities and identifying what these systems achieve in order to create architectural forms that have the characteristic of sustainability and achieve needs and requirements of population and society in the city. **Significance:** The revival and re-employment processes reflect two different concepts of advancement and development in general and In particular, in our daily practices and life activities. **Methodology:** descriptive analytical and experimental

Keywords:

façade decorative design –visual chaos – design processes of revival and re-employment processes

Paper received 11th November 2021, Accepted 15th January 2022, Published 1st of March 2022

Introduction

Urban space is the place that contains things, people, and activities about the path of its three dimensions, as it has the character of evolution over time, whether it evolves ,Urban or human development (human development here means behavior and activities,. movement and everything related to human behavior) ;Thus, the urban space inspire its shape and form through the relationships between lines formed spaces that vary from wide to narrow, and from simplicity to complexity. Opening to closing. Voids vary in their shapes, sizes, and treatments to take on infinite spatial properties to serve human functions and different activities.

Problem

Some locations have recently been exposed to architectural chaos, possibly due to absence of laws

which has led individual efforts to re-employ residential buildings. These non-considered interventions may be aimed a financial profit, even if the result is abuse and distortion of urban vision of these sites and so that cities.

Architecture has become a loss of identity by losing its components caused by societal values and reflecting natural, social and even climatic environment, i.e. architecture has lost sustainability, continuity and created a sense of isolation and dissatisfaction among the population.

With these changes which still growing in new cities, appearing their impact on reformation of architectural visual scenes is beginning to appear negatively or positively. Unplanned activities affecting the form and architectural function were expanded with these societal changes, the building lost its basic role, neglected and worn out.

Objectives:

Study of this chaos and its reflection on the environment of contemporary architecture ;specifically on residential architecture in new cities through extrapolating the architectural facts at these cities and identifying what these systems achieve in order to create architectural forms that have the characteristic of sustainability and achieve needs and requirements of population and society in the city

Significance

The revival and re-employment processes reflect two different concepts of advancement and development in general and In particular, in our daily practices and life activities.

preserve architectural treasure in new cities,

Methodology

descriptive analytical , experimental

Urban spaces can be divided into:

A- Linear spaces of various shapes: straight, curved, and zigzag ;their shapes are related to their axes and the way they are connected together that determine their primary function.

B - The collected spaces: are also related to their axes and the way they are connected, but that is not the case defines its primary function, but is mainly related to the overlapping and interaction of activities ,humanity is in the space, and therefore this section of the void which is basically related to users to give the greatest opportunity for people to interact and meet in groups so practicing of joint activities, as this type of space is considered grouped Content for people and activities. we are concerned here with the grouped spaces, those that are related ,Closely connected with people and users to carry out common activities and collective. A large group of users has been influenced in its composition by the needs of individuals ,Society, which relied mainly on the characteristics of society (Yoshinobu 1981)

Architecture not only carries distinctive architectural features, but also reflects a culture and civilization as well as a distinct personality and character that distinguishes its inhabitants and neglected buildings, which over time constitutes an inappropriate visual focus that leads to the neglect of the visual landscape of the city and its migration to new centers outside the urban scope of the region, causing loss of a huge amount of architectural and urban treasures in addition to the apparent waste of economic, cultural and civilization resources that are misused. Therefore, the redesign of the architectural facades leads to the physical rehabilitation of the urban scene as well as the restoration of life in a way that suits the renewing social reality of that area and adapted to the contemporary urban web of the city.

the formation of architectural facades with its elements and characteristics must confirm the artistic sense and taste In the form of buildings, in general, which record on the their facades elements reflecting several environmental and cultural variables. It carries also meaning the sincerity of expressing its environment and society that created it to satisfy its needs automatically and without artificial cost or expression. (Taher octobre ,2002)

The formation of facades as blocks , architectural and decorative elements must also confirm the principle of simplicity in their formulation, and the depth of their expressive contents, which are the product of a cognitive accumulation of a series of experiments.

The previous one was an explicit building that expressed the job for which it was created, and despite the multiplicity of The artistic elements of the architecture, however, all combine to create a common language that confirms the design unit by homogenizing with each other through a unified language

Man and environment

The environment in its general sense is the environment or the media that surrounds a person. It is the place or framework in which a person lives, obtains the necessities of his life and practicing his relationships with his fellow humans. The environment in which humans live includes three basic environments:

- 1) **The natural environment**: It is the environment created by Allah for man to live in. It represents the earth and its seas, oceans, rivers, forests, deserts, mountains and the creatures it contains that have live together for thousands of years in perfect harmony.
- 2) **The urban environment**: It is the environment that man began to create thousands of years ago in order to help him live on earth. It includes housing, buildings and facilities in villages, small and large cities.
- 3) primitive, simple, developed and advanced urban communities. And as Ibn As Ibn Khaldun said , “because of man, due to his innate thoughts about the consequences of his conditions, must think about what will ward off harm from heat and cold, such as taking houses surrounded by roofs and walls from all sides.”
- 4) **The human environment**: It is also called the social or psychological environment, and it means all that is related to the human being in terms of behavior, individual and social relations, customs, traditions and cultural concepts that dominate his vision of what is around him, himself and his relationship with others. (mahgoub 2019)

These three environments influence each other to

form the general framework of human life. While the natural environment affects the formation and development of the urban environment and thus the form of human relations, man affects the natural environment directly through his activities that lead to a fundamental change in the system of that environment, such as changing the shape of the land or transforming waterways or removing forests, the urban environment affects the urban environment. On human behavior, character, customs and traditions.

Dr. Hamdi Ali Ahmed indicated that there are several principles that are considered as a basis when trying to understand the nature of the relationship between man and the environment on the one hand, and the nature of the ecological system on the other hand. these principles:

- 1) The complexity of the relationship between man and the environment, this complexity increases, and these relations are always subject to change, modification as a result of cultural and technological progress achieved by society.
- 2) All the changes that humans making in the natural environment can only be properly understood on spot of the strong relationship exists between man, society and the environment.
- 3) Man is part of the ecological system and that he does not exist and lives far away and isolated from ecological systems so that he affects them externally without being affected by them or interacting with them.
- 4) The impact of the environment on the entire social life, so it is necessary to identify the impact of environmental factors on the social organization and thus on the overall social structure. (Dr. Hamdi Ali Ahmed Ali in d. Magdy Ahmed Bayoumi. in d. Gharib Mohamed Sayed Ahmed and d. Nadia Omar and Dr. Nagy Badr Ibrahim and d. Hamdy Ali Ahmed and Dr. Mr. Shehata Mr. 1997)

Existing problems occurred to architecture in new cities

1. According to the climate (shading – ventilation- lighting)

Building systems often ensure existing recoils are left around the buildings, these recoils have some disadvantages because the side recoils that were originally found to ventilate the house separated the houses from each other and thus increased the areas of the walls exposed to the sun turning concrete houses into ovens at summer in hot areas, in addition to the side windows that were placed for ventilation and for which the laws of side recoils were always closed to cover the house from the eyes of the sergeants. These buildings, which are

exposed in all aspects to the summer sunrays, had to be adapted, which of course is costly for the community

2. .economic aspects

Any wrong treatments at the environment and the architecture, whether it is design, the materials used or the way they are used, as well as the facilities and other factors leading to economic problems,.

3. Social aspects

Building systems led to openness of buildings to outside and this type became the dominant scene of architecture in the contemporary city, and this type does not help the social cohesion of the population but helped to smash social relations and thus lost social connections based on the principle of social solidarity, as the buildings did not provide minimum social relations between individuals and thus social isolation resulting in the loss of the human concept to be part of a social system Integrated within the neighborhood or city and linked to a human relationship within the framework of the values and principles of community control.

The design of housing as a result of the application of these systems has also led to their social isolation from each other, as The exterior spaces - the streets - became ready for the movement of cars, which led to social isolation in Modern neighborhoods and poor communication of the population that helped to divide them, and researches indicated that the denial of mixing with people is directly related to mental illnesses,

4. Visual chaos

Some of the problems may be titled as" Visual pollution" this includes all elements of the environment that society finds inappropriate or unacceptable. Visual pollution is a variable value of the environment that depends on the cultural background of the viewer and society. Dr. Magdy Radwan and others pointed out that visual pollution arises due to neglect, misuse, and irrational individual, social and economic behaviors, especially in developing countries, due to lack of social and cultural awareness. There are many sources of visual pollution in cities, and they range from juxtaposition of different architectural patterns to distorting visual vision with many banners and advertisements, in addition to the dazzling use of lights, colors and shapes. Visual pollution appears in the urban environment in general, including buildings, streets, and landscapes. It is easy to notice visual pollution in cities, especially large and crowded cities in the third world countries, where visual pollution has become a common factor.

The features of visual pollution can be identified in the following points:

1. Dissonance of shape, proportions, color and

movement.

2. Everything that is missing from cleanliness, safety and authenticity.
3. The presence of an element that contradicts the environmental parameters and appears as an intruder on the environment.
4. Everything that offends public taste, whether by drawing, pointing, or speaking.
5. All factors that reduce the integration of the aesthetic sense of the environment .(Amer 1989.)
6. Loss of identity and the distinctive nature of architecture

Building systems reflected on the environment of architecture and led to the heterogeneity of the architectural character in terms of heights and chaos of advertisements and banners, this found that the building systems did not deal with the exterior of the buildings or adhere to a certain character or visual image of building as one of its specific objectives because there are no restrictions controlling the exteriors and thus the visual image of the city

The construction systems also led to the existence of a building that does not achieve many of the requirements of user and his needs, the result was an unidentified Western building associated with a broken urban vision opened to outside - as a result of the application of those systems - does not reflect the inherent human relations, the social isolation appeared and the bonds between population weakened , lost privacy within the buildings , repeated in a boring way and not related to the surrounding environment, in addition, this type of building systems does not help to find a building that meets the human requirements of our society but A similar western architecture was created because it was associated with Western concepts that succeeded in developing a general policy of architecture changing architectural thought once and for all, making it difficult to change the situation, which inevitably led to an unidentified building that did not reflect the values and customs of the associated population

7. .Loss of privacy .

The application of building regulations has led to the directing of buildings to the outside, therefore lacking external privacy.

The high-rise residential buildings permitted by the construction systems overlook outside, it eliminated the external privacy of residential units as they became exposed from nearby buildings ,especially since these buildings are close to each other and the openings are opposite, which made the population use Different means of achieving privacy, construction systems have led to the following:

- Using large openings with openness to the

outside helps eliminate privacy.

- .Loss of internal privacy of the apartment.
- Loss of sound privacy with the openness of buildings on the outside (- Ahmed Hilal, Ammar Sadiq Dahlan. 2008)-
This had bad effects on the building of apartments, both in terms of form or the job and that's leading to the following :
- These laws gave buildings the largest number of facades.
- The separation of buildings from each other in certain dimensions and in certain proportions shortened the distance between the buildings and opened on the outside.
- The dimensions of the buldings are almost equal and the proportions of protrusion ,due to heights are therefore similar.

Through these regulations, it is noted that there are appropriate lack of residential buildings to accommodate the necessary needs , such as privacy; building systems have not been exposed to the location of

openings to achieve the necessary privacy of the population but were only exposed to the dimensions and places of the recoils

the height and number of roles, and were not in any way exposed to the identification of the internal skylights to ensure sound privacy and the number of units that can share elements of vertical and horizontal the movement,

The importance of reviving and re-designing the architectural facades of the architectural groups

For the process of redesigning architectural facades at least the important of civilization, history, social, economic and others, as well as the necessity for the comprehensive reform of architecture, the surrounding environment the cultural coordination of residential areas , and rehabilitation due to the changes of society emerging periodically.

The proper reuse process is difficult to succeed unless combined with the redesign of buildings or their facades, at least according to contemporary functions that are consistent with the requirements of the contemporary city and interact with the potential of the building and the region itself. This re-employment means restoring origin to a state of use through maintenance and changes that enable the provision of modern and contemporary use of the building while maintaining and maintaining those elements and components that possess importance, value, architecture and civilization .. (Al-Banna (2002))

The proper re-use of architectural values is reflected in the achievement of several objectives, the most important of which are:

- The moral aspects of maintaining the visual scenes at the site that cannot be replaced.

- Cultural factors in terms of maximizing the use of the cultural concepts in city and adapting its use Present and future to contribute to the activation of urban communities in thought, culture and art.
- Environmental aspects that are presented in improving the physical environment of dilapidated areas and buildings as
- The correct redesign contributes essentially to improving its physical environment. (Jinan Abdel-Wahhab Kazem and Hisham Adnan Al-Azzawi (2000))

Protection from surrounding environmental disadvantages: this includes thermal and acoustic insulation, wind, rain and various pollutions

- Social aspects where the re-design of the right areas while preserving its character and personality preserves the city's visual harmony and memory as well as the memory of its people from melting in an era in which cultural architectural concepts are shrunked at the global level , identity is lost and the personality of cities and populations is drawn in the taste and form of the new world order, which sees only its color and shape, although pluralism, variety , difference traditions and an exquisite advantage in the horizons of universe from the beginning of creature
- Economic aspects, which are represented by achieving the right use of design and protecting resources from waste and degradation in proportion to the consular feasibility of the place (Reffat (2004))

This has led to the possibility of achieving facades for a large number of jobs at the same time, which in itself is a successful economic direction such as:

- **Connecting or isolating between inside and outside:** it includes providing lighting, natural ventilation, looking outside, living in the natural environment and communicating between the population and can provide visual and acoustic privacy when needed.

- **Expression of the function of building:** In ancient history the facades of buildings were similar despite their different functions, then the facades began to express the function of the building and the development of this direction so that today it became a basic requirement in design.

- **Achieving the attraction:** There are buildings that need to be in the appearance or formations that attract the public, such as commercial, recreational or cultural buildings, such as the facades to be completely transparent to allow to identify the shops or entertainment inside them or can be facades of public libraries or museums aimed at attracting passers-by and raising the knowledge and cultural level of the population.

- **Distinguishing the building:** There are buildings with high or important functions such as religious buildings or national functions or need to distinguish themselves in the area where they are located or to distinguish themselves from the surrounding buildings.

Study elements and characteristics of forming the facades through analytic vision

The analysis is done through two axes .

The first axis: elements of traditional modulation, the second axis: the characteristics of the formation

The first axis: elements of the formation of the exterior of the buildings:

The facade of the residential building is similar to the formation of a tale the elements of its formation should tell the story of building composition, and planning the features of its structure, through these elements of the architectural and decorative facade we can recognize the quality of the function of each space of the building, the elements of the architectural and decorative facade determine the quality of environmental or structural treatment and read the facade of the building means identifying its components and elements and represents a large part of these elements requirements of the building code of walls, facades, openings, windows and external doors ,as well as architectural decorations, balconies and inter-windows

Functional aspects:

- Protection from weather and external conditions by designing the facades of buildings that ensure this
- Design the facades in a way so as to prevent the pooling of water in the layers of walls using a water insulator.
- The facades should also be designed to resist impact loads, including wind loads, and also meet emergency protection requirements.
- It is often preferred that the materials used in front cladding be water-insulating materials behind the facades of the exterior wall. Such as the use of stone facades, marble and metal or materials treated against atmospheric factors,
- Using of other materials: the possibility of using acrylic, technical panels and cement fibers to building facades Located in certain areas where the wind speed does not exceed 160 km/h and the height of construction is less than 12 meters. Metal materials can also be used in the facades of outdoor buildings, balconies recoils and prominent windows.
- D- Maximum height of the building: The total height of the building does not exceed a number of authorized roles according to

the height of the authorized role

Openings :

Openings are of great importance in influencing the properties of the visual formation of the facades and have differed ,expressed in different buildings. In Egyptian architecture the openings took on a dynamic character that gives

A sense of freedom as a result of the multiplicity of openings and their diversity and change of positions

Windows

This element is considered one of the oldest elements used in architecture

the height of the window session is common to not less than 80 cm and not more than 110 cm this appears on the exterior and to occupy a large area of the building cannot be ignored in the decorative and visual formation of the facade

The windows are one of the elements that connect outside and its function is essential in ventilation lighting

The internal environment should be considered when designing the facades to provide the appropriate interior environment in terms of ventilation, lighting, interior spaces, skylights, heat control and sound transmission.

For ventilation: Natural ventilation or artificial ventilation of the building must be provided, the natural ventilation of the elements of the building must be carried out through windows, doors, skylights or any other openings to outside these elements cannot be ignored in visual formation

The dimension of the opening is not less than 4% of the horizontal area of the space to be ventilated. In the case of adjacent areas that do not have ventilation directly at outside and are ventilated through other rooms connected to them

For underground spaces, they must be ventilated through a space that opens onto an outer space perpendicular to the hole at least once and a half times the depth of the underground hole.

For Lighting: Provides natural lighting through outdoor openings and the openings look directly on the road or on the patio or outdoor yard so that the glass opening area is not less than 8% of the room area to be lit (Dr. Ammar Sadiq Dahlan Dr. Ahmed Hilal Mohammed n.d.)

For sound transmission: walls, cutting, surface and floor combinations that separate housing units, should be no less resistant to air-borne sound transmission than 50dsable.

Entrances - :

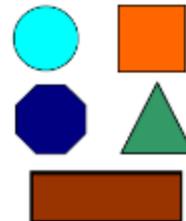
The entrance represents the most important architectural elements in the formation of the façade because it is located at the axis of the facade, which in order determines the organization of its elements within different levels, often ranging from 30 to 50% of the entrances to the building to be

easy to use and access. And the final door opening should not be reduced about 82 cm. (Dr. Ammar Sadiq Dahlan Dr. Ahmed Hilal Mohammed n.d.)

Decorations: (aesthetic formations)

The decorative forms used in architecture have symbolic meanings that express inherited beliefs which basic reference is religions and traditions, the forms used must be abstracted and in line with our cultural beliefs and contemporary construction has separated from simulating the real form.

The decoration in architecture is of great importance and enjoys great care as it is the characteristic of tower buildings, the most dominant element in the architectural web and architectural style, its elements and themes vary in the variety of its elements and decorative units, as well as its themes and positions at the facades of the building, increasing the density and complexity of the facades as the building rises upwards, as well as according to the importance of the use of space and its functional type)



Patterns of decorative solutions for facades

Classification of shapes:

Shapes are classified as general how they can be identified, they are divided according to their properties into the following:

Two- and three-dimensional shapes.

Organic and geometric shapes.

Simple and complex shapes.

Central, linear, radial, reticular and aggregate forms.

. 2D and 3D shapes:

1 Two-dimensional shapes:

They are shapes that are formed by a group of Lines and points located in one plane, the smallest number

Of the lines required to form a shape is three lines

They result in a triangle, and there are four-sided shapes

Including square and rectangle, and finally multiple shapes

Polygons such as pentagon, hexagon, etc. (Wayne, William,, , 1981.)

.2 -3D shapes

The second type is three-dimensional shapes that contain points, lines surfaces and polygons as spaces, including solid forms, which is considered one of the strongest forms because it is a block that is dealt with by carving, removing or adding,

It can be called a structured form or a complex compound based on a group of connected bars With each other in the horizontal, vertical, diagonal direction or any other direction to form the final



A, B, C three-dimensional shapes (a. Structural form of the Contemporary Hotel building - Disneyland - United States of America. NS. The solid form of the Great Pyramid of Giza c. The surface of the Museum of Modern Art - Mexico City) (Salah Zaytoun 1993)

B Organic and geometric shapes:

1 Organic forms:

They are the shapes that nature make, and they have some common features such as abundance ,Smooth flowing lines, the adaptation of shapes to their environment and harmony with it, the rule of principle usability as the main dominant of fcomposition of form, and sometimes inspires the architect In formations of free-flowing natural forms that resulting in a sculptural form that often separates completely About the laws and rules of engineering, the mass eventually appears as an organic sculpted mass natural, as if the main problem for it is nature and erosion factors (Raafat 1997))

2 Geometric shapes:

The figure that is subject to geometrical measurements and the proportions of its governing equations is the geometric figure

Man resorted to make his tools and his dwelling in primitive forms until he realize engineering sciences and his formations tend to be geometric shapes that are governed by specific controls and rules.

c. Simple and compound shapes)

1 Simple Shapes:

The more simple of shape and clear lines is the easier for the viewer to understand it. Human mind in general always tries to abstract or simplify any complex formations

On simple forms, primary or compound forms that pass over it. The initial forms can be pronounced which generally fall under two main sections, a group of rotational shapes such as a circle and the oval, which results in the sphere, cylinder, and cone after adding the third dimension to them.

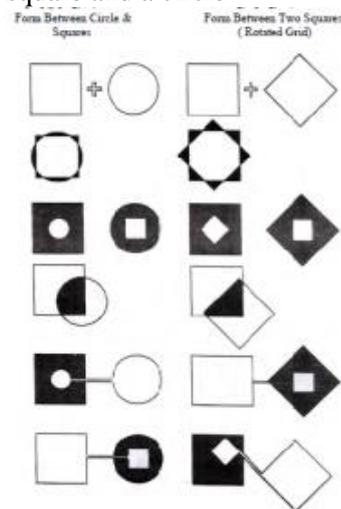
A set of polygons made up of straight lines and planes (Chin 1979)

2 Compound shapes:

Complex geometric shapes have many new final formal results, they do not remain the same from Simplicity, or abstraction, when the architect exposed to; a set of processors, eventually obtains

shape, and finally A surface consisting of a set of horizontal, vertical, inclined, or rotating surfaces that can be separated from each other or in the case of tangle(Wayne, William., , 1981,)

new forms belonging to the same family, although they differ from it in the plan and sections and It is possible to make a successful formation of two squares, a square and a circle



Formation manifestations among the primary forms (Chin 1979)- Form Between Two Squares(Rotated Grid) Form Between Circle &Squares

For example, the processes that the designer resorts to in order to obtain many new and changing forms, as it is

It can differ in its form and is within the limits of the following set of architectural processors:

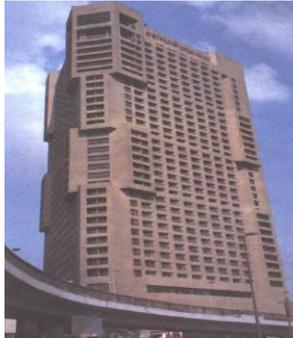
- Addition
- Accumulation
- Subtraction
- Addition and Subtraction
- Articulation 5 Compilation
- Repetition
- Transformation

These treatments can be reviewed as follows:

Addition :

It means adding one geometric shape to another vertically and horizontally so that the resulting mass will eventually be one continuous compound unit considering the participation of both blocks or decoration units in one base, as they share one vertical or horizontal axis, or both .The most

common examples in this direction are found in the form of the Greek temple, which is composed of an inclined surface in the form of an added prism on a base in the form of a cuboid, this shape was repeated in the classical Greek and Roman eras and its revival In the nineteenth and twentieth centuries, it also produces horizontal compound shapes by adding cylinders, halves, or parallelograms Rectangles to others, solid blocks or open courtyards



Design by adding blocks to basic blocks(.
Ramses Hilton Hotel - Cairo, Egypt

Accumulation

Accumulation is produced by placing a group of blocks on top of each other rebound or protruding, one on the other, overlapping or Isolated like the Semiramis Hotel on the Nile Corniche in Cairo and perhaps a pyramid - Saqqara and Ziggurat are almost the earliest examples of this mass treatment, as was the installation of the dome on the cylinder and a half cylinder on a cuboid of configurations common in roman .

architecture, and it is important here to consider The relationships of proportions between the blocks and each other so that they follow in cases in which each block confirms the other block



Semiramis Hotel - Nile Corniche - Downtown Cairo The design is clarified by accumulating blocks. Above each other, worn or protruded

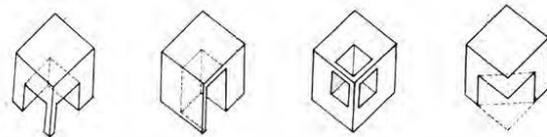
Subtraction

The architect and designer may intervene by subtract a part of building whether it is, facade, or architectural form sector Where it does not conflict with the structural configuration of the building to create a contrast between the positive mass and the negative void resulting from the subtraction, in the place of the arabic dwelling: A middle or side part of the block is removed to produce Inner

courtyard, from which the sky is enjoyed beyond its advantages ,other utilitarianism is also omitted for cylindrical courtyards contrasted with the mass of a cuboid, and in the facades are partly emptied to form terraces open, as in the Saudi National Bank in Jeddah (Chin 1979)



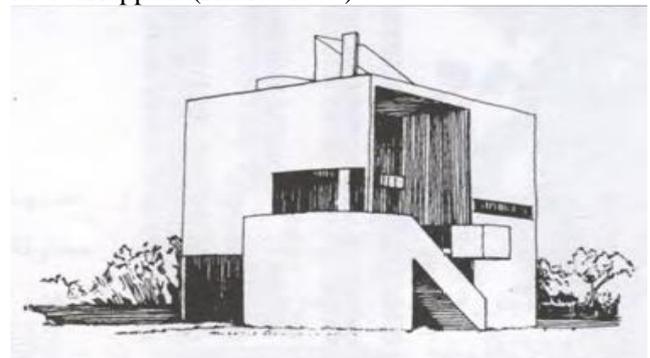
Design by removing blocks from the building to create voids. Interior for ventilation and lighting in the National Bank building – Jeddah. Source: Ali Raafat - Artistic Creativity in Architecture(



Some design patterns by subtraction (Salah Zaytoun 1993)

Addition and Subtraction

This direction means the formation of a single block by deleting parts of it, and adding complementary or adjacent blocks as is its Gwathmey Residence, New York, which is a repeated direction in Islamic architecture to create a united mass composition configuration without the direction to singular simplification, This addition and subtraction, and what we can call positive and negative gives a contrast in the form treatments, This treatment has become a trademark of Contemporary architectural formation in combining extremes, addition and subtraction may be overlapped. (Raafat 1997)



The design is clarified by deleting a block of - figure number (1).
The edge of the building and the addition of the

ladder block. Gwathmey Residence, New York
(Raafat 1997)



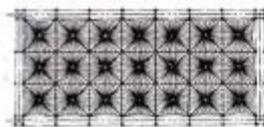
Shows the Articulation of blocks Cylindrical and semi-cylindrical headquarter President of Disney California (Raafat 1997)

Articulation

This direction works to shape the building through its fragmentation into several blocks separate, then grouped together with links as roads or entrances, this separation is justified by the proportions and function of each block and its construction, such as the headquarters of Disney, California Architects Disney Headquarters, Arch : Michael Graves

Repetition

In this case the mass is formed as a result of sticking a number of certain units Complete as a cube or parallelogram In horizontal or vertical repetition or both Together, or cut so that they can be stuck on different axes, such as assembling parts of cubes, spheres, or hemispheres, or a group of cones cut vertically or horizontally



Repetition in the construction unit of Al-Hajjaj Hall – Jeddah (Raafat, , Artistic Creativity in Architecture, 1997)

Transformation :

Sometimes vertical accumulation requires shifts in unit formation, the original forms that make up the overall formation, these formations which are architect resorts to them to transform the shape into its last approximation, Perhaps the closest examples to that are Islamic minarets when Its square base

turns into an octagon, then into a cylinder, Finally, to a dome, and as another example, we find the dome carried on Octagonal or square, these transformations take place through stalactites or others. Squinches or spherical triangles, stalactites The formal direction based on transformation are found in

Most of the buildings of Islamic architecture in its various Islamic eras as we find it in the Gothic towers, where it is transformed from large squares to smaller and smaller than

Corner cone way to end the tower with a cone ,It is called a base, as we find it in contemporary architecture,



When the engineer Hassan Fathi used it in building at the village of Al-Qurna, and Ramses Wassef in the clay building in Al-Harraniyah, as we find them frequently and in pictures different in architecture, such as reinforced concrete architecture

From the above it is clear that many plastic operations can be performed on simple geometric shapes

To convert them to compound shapes, these compound shapes can be regular when they are between

Its components are regular relationships, and they are often balanced, static, or irregular when the relationships between

Its parts are unfamiliar or complex, often asymmetric and dynamic.

The transformation in the minaret of the Qaitbay School - Cairo (Islamic Architectural Heritage Journal n.d.)

D -Central, linear, radial, reticular, and aggregate shapes)

-1 Central shapes:

The formation is about a single point centered in the figure, and the formation depends on the concentration of secondary shapes around one main

block located in the middle, or the shape itself is symmetrically central around the point located in the middle of it, (Chin 1979)

2 Linear shapes:

Its axis is straight or refracted, and it is formed as a result of elongating a shape in the direction of an axis by the modification in its dimensions or a group of successive shapes, and the linear axis may be straight, refracted, or curved in one direction

3 -radioactive forms:

The radial shapes are formed by meeting or combining several axes at one point and they are .Linear forms emanating from a point representing a center in several radiated directions away from this center Its direction is straight or curved,

4 - grid shapes

It is based on its growth in the direction of repeated or parallel axes that can be perpendicular or connect them another angle, and in this case it is organized by regular or irregular modular networks. Networks are formed by intersections between lines at specified distances in a two- or three-dimensional frame

5 Aggregate forms:

In these forms, it is difficult to determine the ruling axis to form them, as they are forms that were assembled as a result of the requirements of certain utilitarianism or plasticity without following certain engineering rules. It can be grouped together or in series

In any specific or indefinite direction, symmetrical or asymmetric shapes can be grouped (Ahmed Abdel-Moneim Hamed Al-Qattan, Prof. Dr. / Mohamed Zakaria Al-Dress, Prof. Dr. / Mohamed Mohamed El-Sayed SirajAhmed Abdel-Moneim Hamed Al-Qattan, Prof. Dr. / Mohamed Zakaria Al-Dress, Prof. Dr. / Mohamed Mohamed El-Sayed Siraj 2006)

Decoration forms:

There are many decoration forms (horizontal - vertical) and added decorations to the structure, it is presented as geometric ,plant forms and sometimes in animal forms that work in decorations added to the structure, all these shapes are united to be a common language appearing homogeneous with each other to give the building a distinct shape at the individual level of the building, and with what around it buildings at the level of the residential group to plan a single image of a special character.

This is due to the dimensions of the fixed design unit of block type, which is used to make creative formations in the production of multiple and varied forms in the same spirit.

The shapes used in the decorative compositions should be ; abstract, suited to general culture, and have symbolic connotations and expressions.

There is a harmony in all the elements of the

formation through a sense of harmony and constant connection between them so that each element is aligned with the other to create the final image.

The decorations are divided in terms of modulation technique into structural decorations :

It is divided into, low , high, and forms with the main construction material has been carried out horizontally and vertically

A- Horizontal decorative formations:

Horizontal strips called "belt" wrap around the building in decorative shapes, often carried out in cement for example.

The prominent parts of them are covered with plaster (shear) to distinguish them more. These decorations may be placed as intervals between floors and thus identify the building's structural features belt is a functional element in addition to its plastic role

Decorative formations should increase from the bottom to the top in density, space and decorative formations and this is considered a visual treatment. The upper roles are far from the level of consideration and therefore the view of size of things decreases so the treatment is by enlarging the size of the belts and enriching their formations until the building appears consistently

B- Vertical decorations:

These are decorative vertical ribbons and are signed in custom spaces so that they are consistent with the rest of the other elements and are often signed in the middle roles, because of difficulty of forming traditional tools in the lower floors, and for the lack of deaf bodies in the upper floors(where the openings are large) which are not enough to put heavy decorative formations

2 Added decorations:

These are decorations added to the structural structure, for example, with gypsum or GRC and otherwise placed sometimes around the openings to highlight and confirm them.

3. Fenders

Horizontal strips, for example, of wood or ceramics- above the windows stand out from the construction wall by about 30 cm Its purpose is to protect the wooden windows from rain, shading them from the sun and adding more beauty to the façade because of its decorative formations. (Reffat (2004))

4-Protrusions –

In the case of a protrusion work whether it is a balcony or a tower it is preferable to not less than 4 meters below the height of the protrusion of road level

If the recoil is less than 3 meters away, and if there is a protrusion from the neighborhood, the recoil system is applied If the building is protruding, the regular construction rate and mass factors must be

considered. (Dr. Ammar Sadiq Dahlan Dr. Ahmed Hilal Mohammed n.d.)

The second axis properties form in the facade:

The formation of facades as blocks and architectural and decorative elements must confirm the principle of simplicity

In its formulation, the depth of its expressive contents, which come as a result of a cognitive accumulation of a series of social needs and a representative of an explicit architecture that expresses the job for which it was created.

Despite the explicit function of architecture, it must finally give a great aesthetic composition On the following automatic bases: (Dr. Muhammad Al-Dali 1989)

The presence of consistency in the technical composition of the interface through two basic considerations

The first is the relationship of the elements of the form to each other, and here we mean the elements of design with its tools of windows, doors, accessories, decorations ... And others. This relationship between the elements is achieved in a way that each element comes together to create a sense of harmony and a constant connection between these elements.

Second: the relationship of each element to the architectural building as a whole, which is important as we find that there is consensus also between these elements and the total area of the facade.

1. The presence of a diversity between the architectural elements that create with unity excellence in plastic work, Unity and diversity have not abolished each other.
2. The presence of a rhythm using the unit and the elements that follow regularly, without boredom.
3. The presence of sovereignty in the general formation, because despite the previous rules of unity and repetition and change and relationships, but there must be a dominant form in control of all

And to study the characteristics of the form in facades

- Comprehensive awareness of the roofs of buildings through the overall visual impact of them.

- Molecular perception of the roofs of buildings through a sense of fragmentation of paved buildings.

- Cognition by horizontal sequence of surfaces through the homogeneous materials of the buildings, bottom stone and upper brick.

- Cognition through vertical sequence of surfaces through the sensation of vertical divisions of the module

Visual impressions of the façade:

A. Visual processing of interfaces:

Processing the visual composition of facades (buildings/fences/shops) in terms of aesthetic proportions and character,

The relationship between open and unopened parts, balconies, entrances and gates, protrusions and retrusions

The resulting shadows and colors as well as the addition of new functional elements of the facades Identify and use the standard unit in the expression of these treatments in accordance with the guidelines of the character and the proposed style for the region

- The overall and overall impact of the buildings.
- The molecular effect of vacuum blocks.
- The vacuum effect of building blocks
- The facade of the buildings on gardens or roads

And to realize the architectural composition in the facades of architecture

It not only examines the elements of formation without a conscious understanding of the characteristics of the form that will gain the form new values, the elements of this beauty gained as a result of the interaction of several variables aspects the most important of which are:

Scale:

The human measures is the relative relationship between buildings and human dimensions, and this relationship has been In cities of earlier times a logical relationship through which man felt belonging, as he felt that these buildings are for him and he controls them.

The scale in architectural designs here is the human rhythm used throughout the configurations, Which determines consensual relationships and distinct proportions and the construction adopted the human scale in the production of the work, whether in the form of architectural spaces or decorative forms or in the production of building materials, processing, and furnishing.

Since the relationship between man and emptiness is relative, this relationship changes with the change of man location in the space, this change is expressed by movement. man relationship with space is a prespective view therefore; Moving details appear if you get close to the level of vision and its features fade away if you get away from it., a sense of scale, change in height and emptiness can play an important role in providing visual contrast (Hassan 2002)

Ratios and proportionality

Architecture in general with its rich facades and formations confirms that construction must take care of the principle of descent and proportionality when formulating its building, the proportions of

the elements used to achieve good relations.

Golden ratio presents in most elements, and relationship of the elements with each other achieves harmony. Harmony and relationship of the elements with the building are visually good, and proportional.

The organization of the composition in architecture facades of the visually and sensory expresses the unity and consistency of the components of the interface at a partial and total level

The relationship of mass and void

This relationship in the dwelling varies from floor to floor according to functional and construction considerations (Ibrahim 1987)

Colors and color configurations

Color is an energy perceived by the eyes of man, and during ancient history he realized human importance of this element, its distinctive characteristics especially natural color, where colors change in nature from one region to another. The color phenomenon of the place is part of the visual and color impression of the city as a whole, reflecting the nature of the materials used. (Al-Dhiyab undated)

This phenomenon goes beyond individual housing to residential groups, which (sometimes it is difficult to differentiate between the boundaries and levels of adjacent houses, the natural building materials used in construction may achieve color graduated contrast of it which confirming homogeneity, harmony and also accuracy at the choice of them Urban composition for the total facades in general, which appears as a single painting of a special nature because of the expression of the structural material that appeared in its natural color automatically.

Light and shadow

Light and shadow are the two means through which we can recognize the architectural composition, sunlight is the dynamic source that determines the character that the designer intends to do, where The outer limits of the molds and breaks of material appear through shadows

for the light and shadow in Architecture is an important aesthetic value that comes as a production for the design process, using the construction Light and shadow as an aesthetic value in the formation of architectural spaces to determine differences of contrast between ups and downs of the main architecture or to the blocks of architectural elements, as well as to the blocks of decorative architectural formation units and their structural and added decorative protrusions, Functional such as mashrabyya, coolers, etc., contribute to good contrast.

prominent and dark elements and luminous surfaces located at shadows, all of which and others lead to

the vital visible surface that characterizes the character of the city

The natural texture of traditional building materials contributes to the unique character of the buildings. And it turns out texture grades through the exposed surface of the building material, and the diversity of its roughness) (Dr. Abdul raqeebTaher n.d.)

Symmetry:

The architectural composition in some architectural works achieves symmetry. All buildings are the same In its general composition, the buildings lose some freedom in the automatic formation that achieves the sincerity of expression and freedom. The principle of asymmetry from - the strict rules that produce a distinct special character aesthetic architectural characteristics in the behavior of architectural composition and this as a product of forms of elements that appears automatically without cost to achieve several requirements, but shows the artist's and architectural prowess in distributing the elements of the interface in order to balance the imaginary axis of the interface despite the asymmetry.

Harmony and contrast - :

Harmony achieved in the composition of the facades of architecture despite the large number of materials Used, However, the interface reflects the unity in the formulation of its elements, because the materials used are consistent naturally and compatible with each other, Architectural elements achieve unity and also diversification, the elements of form t collect them, most of the openings showing The contrast in the architectural composition so it is clearly shown to highlight and show elements, such as openings and also the frameworks around the openings to highlight and confirm them

Sky line and the ends of blocks - :

The mass composition of buildings is characterized by its distinct sizes and stems from taking the square shape

The rectangle is close to the square in the horizontal plan, when the buildings rise from 5 to 9 floors sometimes The graceful mass appears to confirm the vertical direction of the building, and the composition is terminated by the releaser, which is a block back inside from three sides - for the building - and sometimes from all sides which Contributes to the creation of visual movement of the eye that ensures no boring, in addition to the exposed upper surface Which is used as a balcony. The city suggests a kind of harmony between buildings because of their acceptable convergence and varying heights, which gives It's like one unit.

Honesty of expression

The sincerity of the expression is shown through the external mass that reflects the projection of the

building with specific flat surfaces

The method of formulating the elements expresses the architectural spaces that have been developed to automatically confirm it clearly, without artificial cost or expression, and sincerely express the environment

Natural, cultural, religious, customs and traditions prevail, showing a building that meets all the requirements ,And they express their makers. Building materials used from the surrounding local environment

Case study

Residential buildings in Damietta new city

-The first generation of new cities is determined between the mid-1970s and the early 1980s. These cities have varied from independent cities planned

to accommodate half a million people in a year, and other satellite cities planned to accommodate 150,000 people at the target year and the most important characteristic of this first generation represents a framework of urban attractions around the Greater Cairo region and Delta

Due to the planning of new cities first generation the city was divided into residential areas and commercial and administrative areas (service) and industrial area this division occurred defect in the 1990s(less than thirty years after the construction of these buildings)

The current state of the economical residential group of buildings scene in new Damietta city



Figures illustrating the current state of a part of the building facades and their relationship to the surrounding environment



Figures showing some signs of damage and problems of the buildings facades

Description of the location

natural environment:

The city is one of the coastal cities as it lays on the Mediterranean Sea, as well as one of the industrial cities because of its association with Damietta and its industrial fame. Buildings are characterized by the good quality of planning for the urban space and the presence of some green spaces spread in the city as an outlet for the population, in the mentioned area.

climatic factors:

Because of the coastal climate buildings are exposed to strong winds in the winter and the scorching sun in the summer, so it is necessary to take care about both the influence of the sun and wind, whether it is loaded with dust or rain, must be considered in the design of the facades of these buildings.

Social factors :

Buildings with an economic nature located in the center of the city, the origin of its function is housing for low-income people, some of which have been used for administrative services and others .they are a natural extension for the residents of Damietta city and its employees with their cultural and intellectual references

Design problems:

- Monotony of design
- Unregulated and open exchange pipes
- External taxis are worn out as a result of atmospheric factors
- Commercials and administrative offices
- Design incompatibility with the new surrounding environment

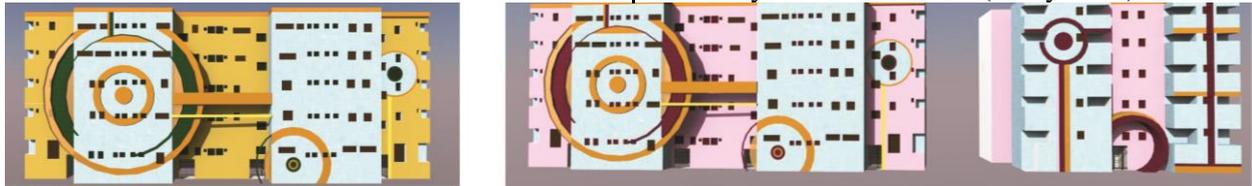
The design of these groupes does not belong to

any identity



Decorative designs with addition : on the right light protrusions to confirm the decorative formation of the facade using lines at diagonal angles to treat the boredom and monotony of the design ... The external cladding is made of cement raw materials to face weather factors.

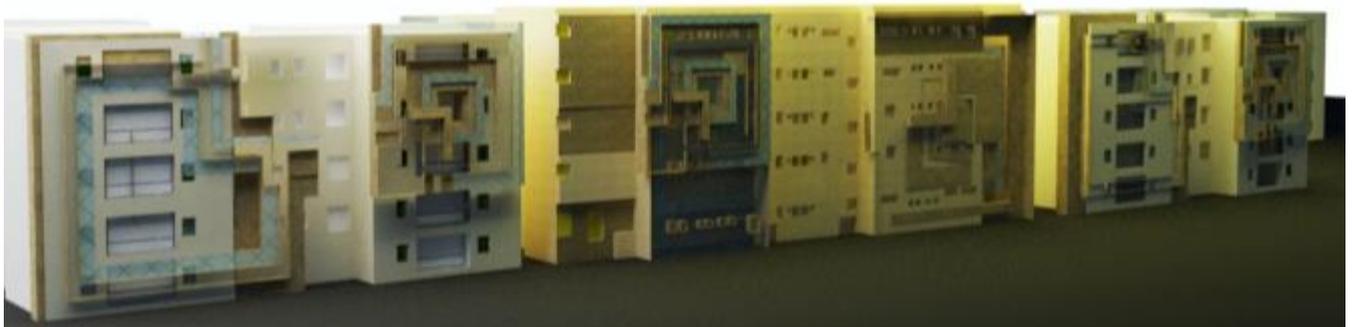
And on the left, the design is more prominent, but using transparent materials of treated glass or acrylic to reduce the feeling of heavy mass The use of light colors in both two designs to overcome the heat of the atmosphere and the intensity of solar radiation (debsy 2018)



A decorative design to treat the facades with circular lines to reduce sharpness of straight lines and repetition in the same style, but with a variety of sizes and colors to maintain unity (debsy 2018)



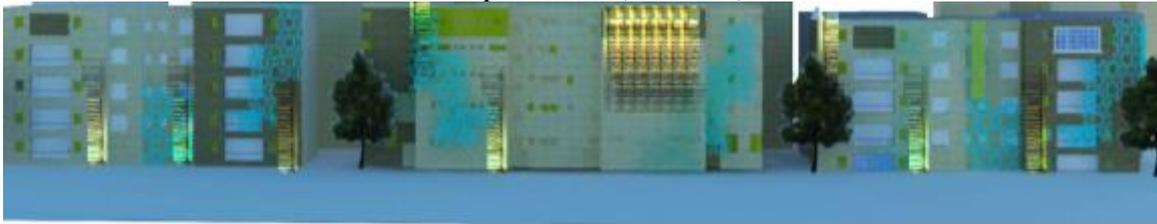
The designs above use vertical and horizontal straight lines to deal with the problem of pipes in the facade and add shapes to them prominently with changing of colors matching with surrounded environment (debsy 2018) .



Design in a way of Accumulation and overlapping using prominent decorative formations with straight lines and neutral colors in order to match the surrounding environment easily and repeating the shapes in different arrangements and colors enriches the scene (tabl 2018)



Designs with simple additions to the facades with the use of light colors and the relationships between solid and open blocks (tabl 2018)



These decorative designs are an attempt to reach an Islamic design identity by adding gypsum or GRC or GRB raw materials with paints and decoration with paint colors and considering the economics of design (tabl 2018)



The design with variety of material textures of the external cladding and the use of stone materials to overcome the weather conditions and environmental factors also using of color in simple decorative forms (elmougy 2018)



Designs using decorative tiles with a change in the shape of windows, architectural openings . Tiles made of natural materials in their natural colors. The design comes from the arrangement of these tiles, as well as variety and the possibility of making grouped formations (elmougy 2018)

All previous designs are produced as practical | design of course of "design of architectural facades

arts " decoration department level 4 2018

Results and recommendations

- The visual chaos occurs in some new cities as a result of societal changes
- Design can change some scenes of chaos considering of function, population ,and economic
- Redesign of architectural facades contributes to the revival and reconstruction of the architectural mass

References:

1. Ahmed Hilal, Ammar Sadiq Dahlan. "The crisis of privacy in architecture with a focus on contemporary architecture" in Jeddah as an example". Journal of Engineering Sciences, september 2008.
2. " Islamic Architectural Heritage Journal." n.d.: 159.
3. Ahmed Abdel-Moneim Hamed Al-Qattan, Prof. Dr. / Mohamed Zakaria Al-Dress, Prof. Dr. / Mohamed Mohamed El-Sayed Siraj Ahmed Abdel-Moneim Hamed Al-Qattan, Prof. Dr. / Mohamed Zakaria Al-Dress, Prof. Dr. / Mohamed Mohamed El-Sayed Siraj. Architectural Complementarily between Existing and new Treatments in Building, Case study- Architectural additions. cairo: al azhar university, 2006.
4. Al-Banna, El sayed Mahmoud. ", Historic Cities: Plans for Building and Maintaining them." In , Historic Cities: Plans for Building and Maintaining them. Cairo: , Zahraa Al-Sharq Library, ., (2002).
5. Al-Dhiyab, M. Jihad. ", Ideas in Architecture and Urban Design." Department of Town Planning- Abu Dhabi, undated: 56.
6. Amer, Dr.. Ismail. " The causes of pollution sources and its impact on urbanization." Egyptian Society of Engineers, - March 1989.
7. Chin, Francis D.K. " Architecture, Form Space & Order,." In Architecture, Form Space & Order,, by Francis D.K Chin. Van Nostrand Reinhold Company,, 1979.
8. Dr. Abdul raqeebTaher. "architectural characteristics and values aesthetic of the style of Yemeni-Sana'ani architecture." n.d.
9. Dr. Ammar Sadiq Dahlan Dr. Ahmed Hilal Mohammed . "Urban legislation and its impact on the formation of the environment of contemporary Saudi architecture - a systems study Construction in the city of Jeddah as an example." n.d.
10. Dr. Muhammad Al-Dali. " Characteristics of Islamic Architecture and the Distinction of Yemeni Architecture." Journal of Yemeni Studies,, Yemeni Studies and Research Center,), march 1989: 285,286.
11. Hassan, Dr. Nobi. " Vertical Urbanism and Human Diseases, ." In Vertical Urbanism and Human Diseases, , by Dr. Nobi Hassan, 76. cairo: Dar Nahdat Al-Sharq for printing, publishing and distribution., 2002.
12. Ibrahim, Dr. Abdul Baqi. ", Building Architectural Thought and Design Process, ." Center for Planning and Architectural Studies), 1987: 43.
13. Jinan Abdel-Wahhab Kazem and Hisham Adnan Al-Azzawi. ", the re-employment of historical buildings and its role in improvingThe physical environment - a case study: the experience of the historical centers of the city of Baghdad,," the second Jordanian Architectural Conference,, amman: , Royal Cultural Center, Amman, (2000). 217-231.
14. mahgoub, yasser othman muharam. "Visual pollution in urban environment." 8 2019. <https://kenanaonline.com/users/YasserMahgoub/posts/135017> (accessed 9 2021).
15. Raafat, Ali. , Artistic Creativity in Architecture,, cairo: Etreconsult Research Center, 1997.
16. Raafat, Ali. ", The Trilogy of Architectural Creativity - Artistic Creativity in Architecture." In , The Trilogy of Architectural Creativity - Artistic Creativity in Architecture, by Ali Raafat, , p. 298 - p. 306). Cairo: , Dar Al-Shorouk, 1997.
17. Reffat, Rabie. "The future of traditional Arabian city center in the digitalage between restoration and reutilization,," the Future ofTraditional Arabian City Center. homs, syria: , Arab Urban Organization, (2004).
18. Salah Zaytoun. the architecture of the twentieth century. cairo: Center of Planning and Architecture Studies, 1993.
19. Taher, Dr. Abdul Raqib. " the meaning of the form in the facade of the Al-Sana'ani building, "An analytical reading of the facade of the residential building in sanaa)." By Dr. Abdul Raqib Taher, 19. yemen ,sanaa, octobre ,2002.
20. Wayne, William,, . Architecture and you. al Whitney Library of Design, , 1981,.
21. Yoshinobu, 1 Ashihar. "Exterior Design In Architecture". new york: Van Nostrand, 1981.