

Deformation and visual pollution in the commercial streets of the old city of Mosul

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Received: June 4 , 2017

Accepted: August 20, 2017

Online Published: September 1, 2017

doi: 10.23918/eajse.v3i1sip44

Abstract: The ancient city of Mosul suffers from several problems on the level of urban and architectural situation which causes them in the first degree to enter the modern techniques wildly ill-considered, and this in turn led to the so-called phenomenon of visual distortion, as well as the phenomenon of Urban Treating which is the other led to a lack of care residents Molder this phenomenon in the digging and the loss of a lot of residential and other service installations, as well as the neglect of the competent official authorities to put the preservation of what remains of the old city, and determine the preservation and restoration mechanisms laws. All this has led to the transformation of the old city to the visually distorted city and a mixture of ancient architecture and heritage, which only ruins left of them, and modern architecture, which entered its technologies to solve the structural Problems of intimidation. And the emergence of high buildings that do not fit with the buildings of the old city, particularly through the rise and inconsistencies of these buildings and the use of modern architectural styles that do not fit in with the old city and its ancient history, so the appearance of high buildings has led to the disappearance or block optical elements in the city and in particular that are on the movement axes

Keywords: Visual Distortion, Preservation, Optical Elements

1. Introduction

Theoretical Framework

1. Visual Pollution

Intended visual pollution all the distortions caused by the architectural and organizational errors, irregularities architectural and construction, in addition to the phenomena that is in itself a manifestation of negative detrimental to the surrounding, and often have bad effects on the environment and society, while the word deformation of architectural errors committed against limited buildings for many reasons may be economic, or social, or cultural, the word pollution includes things and concepts more general (Khalid, 2009, p. 9).

2. Manifestations of Visual Pollution

In general, frequent manifestations of visual pollution cities, divided these aspects in to two types:

first, a physicist by buildings and planning, and these appearances (Edilbi, 2008, p. 1) as following:

- Poor urban planning of some of the buildings, in terms of the shape of the open space or built area
- Incompatibility of the new with the old parts, and through the use of glass and aluminum, which leads to increased heat sensation high-altitude buildings.
- Spread of destroyed buildings.
- Poor city planning surrounded the area.
- Block of vision of the landscape.
- Shrinking green open spaces in the region led to lose its glory.

The behavioral manifestations of visual pollution that is through the actions of individuals, it can be:

- differing painted facades of buildings, and lack of consistency.
- laying air conditioning external parts in facades.
- the existence of cars loaded with goods is inconsistent appearance.
- banners and paintings hanging on the street ads conflicting colors.
- random spread of trash bins, and the proliferation of trash outside.

It can be noted a difference in the visual landscape of urban city where it is known urban landscape as whatever emerges from the city, and meets the eye, and perceived by the senses, and interact with the urban body through the sense of unity and the place and the experience of humanity through several concepts such as harmony, integration, and sensory and visual organization.

Colin assures it (to organize the urban landscape and the sense of it, is linked to the regulatory outlook inclusiveness for each scene, which consists of the interdependence of these elements with each other and elements that contribute to the drawing personal urban landscape (Razzaq & Surrey, 2008).

3. Mental Perception

The concept of mental visualization in architecture is used to express the mental image of individuals, as well as to express their surroundings, whether existing or that they want to be created in the future. (Khalid, 2009, p. 12) as following:

- totalitarianism (total)
- transformations
- regularity or self-control

4. Visual Perception

The visual perception process is one of the stages that govern human behavior, the process of psychological issue and functional role in human help to adapt and understanding of the environment through three operations are (Lang, p.98, 1974):

A) sensory perception (Perception)

B) knowledge or cognitive (Knowledge)

C) spatial behavior (space) (Spatial behavior)

5. Visual and Cognitive Dimensions

a visual dimension Is One important dimension in the formation of urban planning dimensions, and in the formulation of urban spaces from the streets and squares ... etc., has evolved the concept of visual dimension through the stages coincided and coincided with the historical development of cities, and with the large differences between the configuration of the various models of cities, especially from a historical perspective and technical, and related developments on urban planning theories.

6. Visual Law

The laws that help the architect and urban designer in the design process come from psychological perception and, more particularly, from the Gestalt theory. This theory was followed by some researchers who, despite their support, had their views and attitudes of visual perception such as Gregory and Gibson, And visual theories, which have become the subject of interest for us to the ideas and topics that are preferred and that work to identify the elements of aesthetic theory in architecture.

7. Previous Studies

Through previous studies it can be concluded that there is a problem of visual distortion, especially in the old city, which is added by the new buildings and the entry of technological developments and progress in building materials, as well as the use of some primitive elements in buildings leading to the optical distortion in the city and dis-harmony old parts with new parts. And we show that through the following table:

Table (1): Previous studies and their conclusions

Previous Studies	Conclusion of the factors and elements participates in the visual deformation
Lynch - 1960	He did not speak of visual distortion in itself, but explained the elements of the mental image, including the paths
Zbadi - 1997	The difference in the facades between the old and modern in terms of height and difference in building materials.
Tuhala - 1999	The various formalities in terms of scale, style, detail, color and texture of buildings and streets.
Alfran - 2004	Visual distortion is the result of the lack of interest in street furniture, landscape and flooring, where the difference is reflected in the flooring materials and the presence of advertising boards placed on buildings, which leads to deformation.
Alrazaq - 2008	The distortion caused by the use of colors and different building materials and the distortion between the old and modern parts and the different facades of the buildings in terms of the different use of architectural elements and how they interconnect with each other.
Alkam - 2009	The causes of visual deformity are the wide width of the street, which causes loss, narrow sidewalks and distortions in surfaces, blocks, building materials, texture and color. The inconsistency between the old and the new illustrates the distortion of the sky line, the use of different materials for flooring, visual activities on the streets and sidewalks, The presence of advertising signs covering the facades of buildings on buildings and walls without regard to coordination in the urban areas, the presence of shaded elements as above shops in different shapes and sizes, the deformity of the infrastructure (like drainage networks) The lack of rainwater drainage networks, the appearance of exposed electrical wiring and the lack of adequate street lighting).

We conclude from previous studies is also a range of factors affecting the optical distortion and the elements that contribute to the visual distortion; hence the problem of the study and their objective are as following:

8. Research Problem

There are several problems plaguing the city, including: the suffering of the city in the visual pollution, and lack of proportionality between the architectural building masses, the impact of urbanization has led to the creation of the problem of traffic congestion, population-enrollment in commercial markets that are originally designed to serve the big city, and the demise of open areas within the city, and the direction of the city to the loss of its history of civilization.

9. Research Hypothesis

The local government and municipal continued to grant licenses for the construction of buildings and the introduction of models do not fit the nature of the city and its history, leading to the loss of the city's identity and affiliation of cultural and architectural and historical.

10. Aim of the Research

To identify factors affecting the optical distortion and the elements that contributes to the visual distortion commercial streets.

11. Research Methodology

Commercial streets studied from a historical perspective and to study the case and what the visual distortions that have occurred.

12. Practical Framework

12.1. Visual Composition of the Main Paths

According to urban studies, any urban scene is a visual composition taught through visual organization of its components and the formation of spatial reflects the reality of spaces holographic define qualities of the properties of the harmonic to block spaces, as well as being an area of human activities reflects this technical activities and social structure of certain era (Mnonh 0.2008, p. 110), and some of them regarded as visual sequences representative of the composition of the optical paths which constitute a major component of urban fabric and keep track of a row or visual pillars of their relationship to the processes of sensitization and awareness and make sure of it (Touhlh, 1999, p. 40).

12.2. The Main Streets

For the purpose of the study of the optical distortion of the streets in the old city it has taken several streets in the city and studied in many ways and these streets are (al-Janabi, 1982, p. 105):

a-Farouk Street: pierce the ancient city from the south to the north it has begun created in the mid-thirties and ended at the beginning of the fifties and the effect on the internal structure of the old area is clear when it broke nine residential neighborhoods which extends the street about 2.5 kilometers.

b-Nineveh Street: Nineveh Street penetrates the old city from east to west and extends from the hadidy bridge to the head of the Avenue and at a length of about 2 km.

c-Almakawy Street: Opened at the end of the forties for linking Al-naby Jarjis

Street and Farouk and the movement of transport in which a few versus focusing especially in the western part of business.

d-Al-naby Jarjis Street: the third-longest modern streets in the old city which connects the south-eastern city to its north after going through several residential neighborhoods which are so dominated residential function and has a special department central and northern The southern edge is the commercial area.



Figure (1): Form shows the streets of the old city of Mosul selected for study

Through field visit realism and observations show that the road network within the city suffers a lot of problems, which cause some confusions and problems in traffic, especially in the city where the crowded and traffic in the rush hours of morning and afternoon, and most of these central problems are:

- narrow streets when parking on both sides, and the lack of adequate parking lots, which lead to confusion and irregular traffic.
- In the current times some streets leading to the sub-streets of the dead ends.
- lack of signboards and traffic.
- the large number of fossils and bumps in the streets and poor asphalt layer and tiling.
- the lack of sidewalks in the road, but is found unfit to seize the shopkeepers to display their products.
- infringement of deflections of most secondary roads.

3- Visual Distortion in the Ancient City of Mosul

The ancient city of Mosul, suffering from visual distortion, were numerous aspects of visual distortion and varied by the need to progress or evolution sometimes, or for economic reasons, these appearances became the salient features and famous landmarks without the slightest regard for the character of urban and lacked these features to the order and consistency in shapes and sizes.

There is a number of visual deformation vocabulary and will be addressed to classify a group of vocabulary, namely:

Poor urban planning for some buildings: both in terms of the blanks or form of construction.

Infrastructure: The large electricity and tangled wires and there is no system in the underground and connected to be in the air and overcrowding in several areas leads to the formation stock mischievous visually.

Waste: The waste pose a big problem in the region, random spread of trash bins and the spread of garbage outside.

Material and texture and colors of the facades of buildings: there is a difference in the diversity of building materials, which diversifies the texture and color of these buildings, and lack of harmony between the modern and the old for non-observance of old buildings.

Activities visible: the existence of wagons loaded with goods is inconsistent appearance where wagons loaded with various types of Products and vegetables spread as is customary and familiar daily, and are sometimes either on the sidewalks or in the street, and this creates a visual of the place distortion as well as they lead to the visual and noise pollution and hinder traffic and transportation movement.

Bulletin boards: the signs that cover the facades of buildings, structured huge and their lights and animated colors dissonant without taking into account coordination in the areas of urban and aesthetic connection between them and the facades of the surrounding buildings, and the use of materials , sizes and different scripts.

Shaded tools (Altskifaat): Above the shops forms and different sizes and sometimes infringe on the street, with its aggression on the overall shape and the surrounding area, and the lack of harmony with its surroundings as well as what makes them prone to collect dirt and waste, leading to hide architectural profile behind.

Streets: narrow streets and crowded by cars, and the lack of parking lots within the overall planning of the city where virtually no pedestrian spaces, caused by the presence of narrow streets and cars in large numbers, which reduced private individuals spaces, violates the vacuum for each individual person, and this mixing led to General view of the streets of distortion.

Footpaths (sidewalks) shows a lack of interest in the pavement at all, is opposed to the movement of pedestrians with vehicular traffic, and this became the sidewalks, became place to display the vendors wares or sometimes becomes a sidewalk as a shop or same sort of store, where prefer the personal need to public right and overwhelm him.

Walls of buildings: a manifestation of deformation which is painting the walls with slogans and graffiti and become walls like paper written with a mixture of pens heterogeneous lines and dissonant, and over this landscape complex and distortion so as not to show the original features, it causes distortion and contamination of optical New over shadow the attribute Special interfaces.

The deterioration and poor façades of buildings due to lack of maintenance: Affecting factors of rain, heat and humidity affect the construction in general and on the facades of buildings in particular, until they become in a deplorable condition.

Elements							
		Al Farouk	Nayawwa	AlMakkawi	Nahj Jariis		
1	Poor urban planning of some buildings	Difference in height between old and new contiguous buildings	20%			●	
			40%			●	
			60%	●			
			80%				●
			100%				
	There is a new building next to an old building	20%			●		
		40%		●			
		60%	●				
		80%					
		100%				●	
2	Infrastructure	The existence of poles and wires of electricity	20%				
			40%				
			60%				
			80%		●	●	●
			100%				
	The presence of air conditioners in the facades	20%	●		●	●	
		40%					
		60%					
		80%		●			
		100%					
3	Waste	20%				●	
		40%	●		●		
		60%					
		80%		●			
		100%					
4	Materials, coatings and colors for facades of buildings	Colors	20%	●		●	
			40%		●		●
			60%				
			80%				
			100%				
	Materials in finishing facades	20%					
		40%			●		
		60%					
		80%	●	●		●	
		100%					
5	Visual Activities	20%				●	
		40%	●			●	
		60%					
		80%			●		●
		100%					
6	Billboards	20%					
		40%					
		60%					
		80%					●
		100%					
7	Shadings (Suspensions)	20%					
		40%					
		60%					●
		80%					
		100%					
8	Shadings (Suspensions)	20%					
		40%					
		60%	●	●			
		80%			●	●	
		100%					
9	Pedestrians	20%					
		40%	●				
		60%			●	●	●
		80%			●	●	●
		100%					
10	Building walls	20%					
		40%					
		60%	●	●			
		80%			●	●	
		100%					
11	Poor and poorly constructed buildings due to lack of maintenance	20%					
		40%					
		60%					
		80%				●	
		100%	●	●	●		

Table (2): Research conclusions

6. Conclusion

1-There is a large distortion in Al-Farouq Street in terms of visible infrastructure and a very large degree of deterioration and poor façades due to lack of maintenance. There is a lack of integration between the facades and their compatibility is very large and there is about 60% Poor streets are misused and there is a deformation in the overall appearance and deformity of buildings and billboards.

2- On Nineveh Street, there is a large distortion in most of the vocabulary, especially the infrastructure and visual activities, and in the indiscriminate bulletin boards and pedestrian paths and the deterioration and poor facades of buildings due to lack of maintenance and the lack of integration of interfaces and harmony between them.

3-We note in Al-Makkawi Street that the degree of visual distortion is very large, we see in the deterioration and poor interfaces of buildings due to lack of maintenance and a large extent in the infrastructure and streets and pedestrian paths and walls of buildings and poor deterioration of the facades of buildings due to lack of maintenance and the general appearance of the street and

buildings and the integration of facades and harmony and less deformation waste materials and raw materials are in the finishing facades, billboards and shading tools.

4-Al Naby Jarjis street, There is a large distortion in most of the vocabulary and to a large extent, almost 80% according to the classification in the general appearance, the existence of a new building beside the old building, the appearance of wires and poles of electricity and distortion in materials and raw materials in the finishing of facades, visual activities, billboards, Streets and sidewalks, walls of buildings and the deterioration and poor facades of buildings due to lack of maintenance and 60% deformation in the difference in the height between the old and new adjacent buildings, shading area, inconsistencies and interfaces.

The optical interconnection between the various buildings of the region is almost non-existent. This can be attributed to the lack of a study of the architectural nature in a holistic and coherent manner, where there is more than one architectural character that dominates each of the historical character of the old conductor and does not fit well with its buildings.

5- The factors that have contributed to distorting the study area, including advertising boards and advertising irregular and random and scattered there heavily on the facades of buildings and large ads on the outskirts of the streets, as it obscures the architectural style of buildings.

6- Existing sidewalks work to limited movement on it, and the citizen's descent into the street, which leads to traffic congestion due to the use of sidewalks for display of goods.

7- Lacking green space water elements , and urban spaces in the study area.

8- The study area lacks to a unified personality and architectural character, where the design patterns resulting from its rapid development and changes have been carried on

9- The technological development and commercial competition witnessed by the old city of Mosul reflected its visual appearance, became great sources of distortion of commercial street spaces in particular, which are mainly aimed at attracting attention. Rather than being an attraction, elements become a kind of sensory and cognitive pressure, and Visual City.

7. Recommendations

1- Need to reconsider the laws and regulations in the construction of the old city of Mosul issuance of laws that would compel citizens and visitors special rules it deems appropriate to achieve the municipal visual appearance of the city, commensurate with the nature and characteristics, so that these laws are consistent with the conservation of historical and archeological sites and the laws of the housing laws and need to work out a future strategy to deal with planning problems that exist in the city and work to avoid them in the future, and the development of the visual perceptions of the image that the municipality aims to be implemented in the near and distant future through the master plans for the city.

2-Work on the rehabilitation, restoration and use of the old buildings in the city, training and qualification of cadres and specialization in the field of design. Also removing slums, which are a source of visual distortion and built cheap building materials.

3- Clean the external and internal interfaces of commercial buildings which cause visual pollution and urban blocks and scripts and remove electrical wiring to show the beauty of interfaces and

cooling devices and wiring, billboards, images and structures added.

4-Re-maintenance and restoration of facades to preserve its original construction resources, and maintenance of the old city markets and permanently with the studies to prepare for the start of the buildings threatened demolition.

5-Municipal is responsible for the planning and organization of the city, the municipal interest, including the following: the redesign of the facades of shops, select a style and a system for each street, uniting billboards style, finding parking, regulate the movement of vehicles and pedestrians, guiding plates, put the garbage dumps, remove the visible activities that are a source of visual distortion, remove power cords hanging hide, street lighting, the restoration of old buildings.

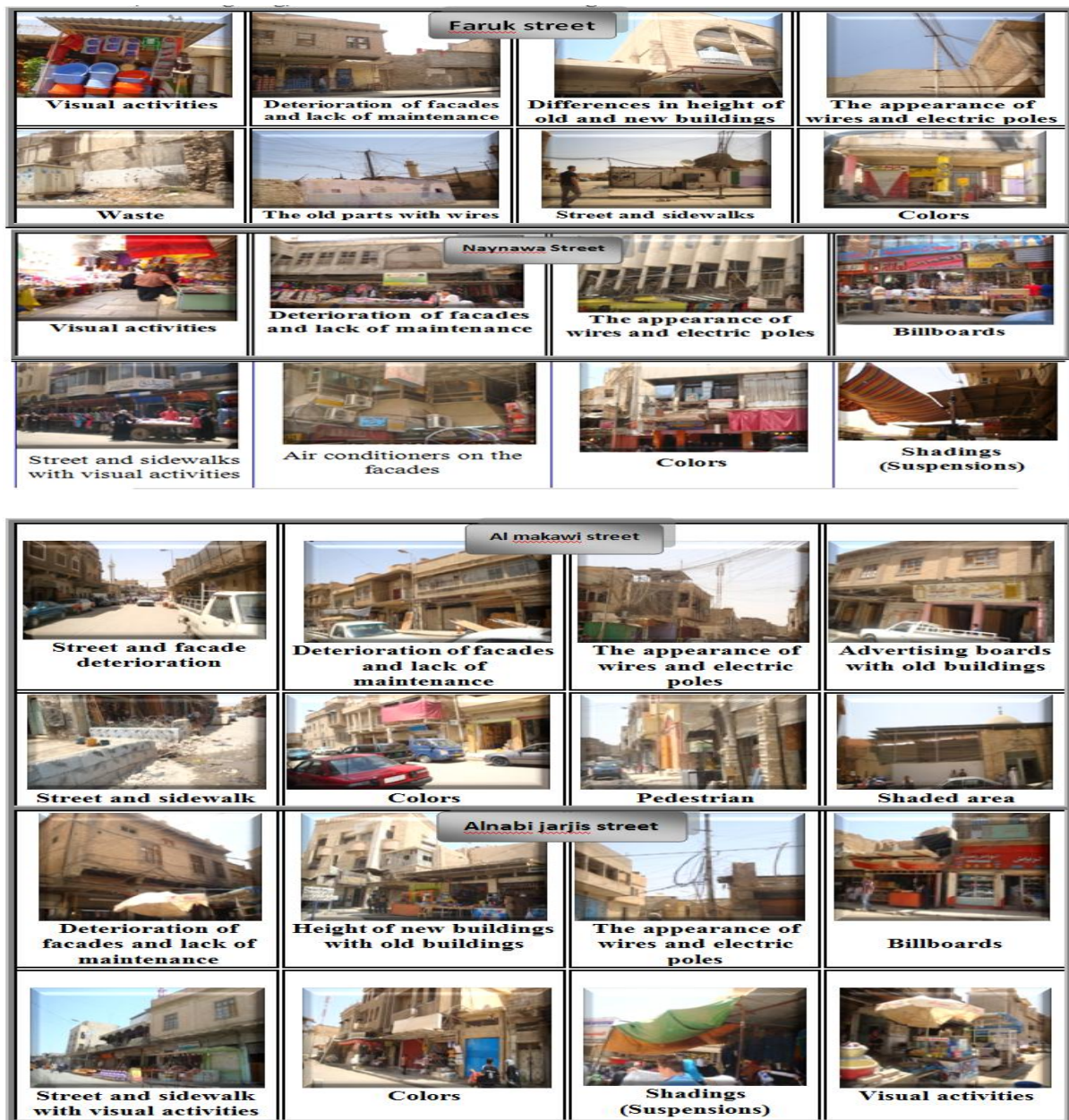


Figure (2): The views of streets of the old city of Mosul selected for study

References

- Janabi, H. K. (1982). The internal structure of the ancient city of Mosul, a study in the cities, Mosul geographic.
- Alhariqi, F.A. (2006). Noisier, compatibility and harmony in the urban environment in light of the proliferation of commercial banners, King Faisal University, Dammam, Urban and Regional Planning Department, Faculty of Architecture and Planning.
- Al-Sammak, M. A. (1985). Land uses between theory and practice, Mosul University.
- Razzaq, d. Kamal Abdel (2008), MM Sri Fawzi Abbas, the formation of the facades of residential complexes and its impact on the urban landscape of the city of Baghdad. *Journal of Engineering and Technology*.
- Edilbi, Y. (1999). Visual pollution in the city of Damascus, a forum Buildex, Damascus.
- Touhhlh, A. Y. (1999). Optical relay in the urban landscape heritage, Master Introduction to the Center for Urban Planning, Baghdad University,
- Khalid, M.T. (2009) beautiful analysis and evaluation of the optical distortion in the city of Tulkarem (Case Study - Tulkarm) city center, Master Thesis submitted to the Faculty of Graduate Studies at An-Najah National University in Nablus, Palestine
- Mnonh, N.B. (2008). Visual sequences in the paths the city of Mosul, research published in the Journal of the Rafidain Engineering, Mosul University.
- Lang, Jon and Others (1974). Designing For Human Behavior: Architecture And the Behavioral Sciences , Dowden , Hutchinson And Ross, Inc., Stroudsburg , Pennsylvania,
- Lynch, K. (1960). The Image of The city ,he Technology press and Harvard Press,cambridge.
- Haki , B. (1989). *Arabic Islamic Cities*. Routledge; First Edition.
- Zbadi, H. (1997). An Analytical Study of the Symptoms and Causes of Visual Pollution in the Contemporary Egyptian City. M.A. thesis. Dept. of Architecture.