

## THE USE OF GLASS IN AMMAN: ARCHITECTURE OR FASHION

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### **Abstract**

In the last few years a large number of corporations is establishing branches in Jordan, as an economic growth in the country, even the real estate sector is investing in Jordan, these investments comes in Competitive way through designs and forms to show power.

The main objective of this research is to try to understand and show the increasingly glass rush in Amman through discussing its advantages and disadvantages, this rush that is coming into many cultural forms that motivate the design of a building to become in a more social reflection than in a formative conception of architecture. The research will be concerned in discussing glass culture in Amman that in the last few years grew to become as big as the Stone culture of earlier Amman.

This study will follow theoretical and field survey to understand the relationship between the use of glass and architectural value. Method will depend mainly on field survey and statistical data, and necessary measurements.

Summary and recommendations will be concerned with the current use of glass in Amman, where the use of glass is often extracted directly from the industrial design without taking into consideration the architectural aspects.

**Keywords:** Glass, Amman, Tradition, Fashion

## ИСПОЛЬЗОВАНИЕ СТЕКЛА В АММАНЕ: АРХИТЕКТУРА ИЛИ МОДА

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### **Аннотация**

В последние несколько лет в Иордании создается большое количество филиалов крупных корпораций. Сектор недвижимости занимает большое место в инвестиционных проектах, подтверждая экономический рост в стране.

В данной статье исследуется возможность использования больших стеклянных поверхностей в архитектуре города Амман, их преимущества и недостатки, а так же связь и взаимодействие с традиционной каменной архитектурой города.

Основной целью статьи является теоретическое и социологическое исследование использования стеклянных поверхностей и их взаимодействие с архитектурными памятниками города. На сегодняшний день использование большого количества стекла связано с промышленным дизайном, что противоречит архитектурным и культурным особенностям города Амман.

**Ключевые слова:** стекло, Амман, традиция, мода

## Introduction

Historically the transparency of glass has motivated an almost spiritual response and a fascination with the material's unique properties as a multipurpose and spectacular substance, one that literally illuminates buildings and brings to life the polemic nature of architecture itself. Latterly, the use of glass in contemporary architecture has been associated with the functional pursuit of lighter construction and the creation of the minimal envelope. It is treated essentially as a "non-material", utilized to capture space and define spatial volumes but increasingly devoid of a representative language or detail [Richards, 2006].

Architecture through the ages served as a cultural carrier, it has the ability to show most of the social habits and dominant culture(s) of a certain era, openings and windows are useful architectural elements through which our culture can be known and shown by.

Most of the architectural thought tell recent decades conceived architecture as solid and openings the shape of architecture and our life has been changed to openings and little solid, we see this in Amman in the last decades, a phenomena that is largely increasing without any local awareness or theoretical basis, so comes this report to show the relationship between what was studied and theorized and between what came as a beautiful manipulation of available market materials.

## Modern Glass Culture

*"Materials images, like people's nicknames, have unusual standards of appropriateness. Neither arbitrary nor vague, they must inspire, sustain and accommodate fashions." [Willis, 1999]*

For most of history, space has existed only inside structures – outside was only nature, chaos, the immeasurable. Nothing shows this better than the dull exteriors and splendid interiors of Roman baths, or the way that gothic masons drove stone structure to its logical and unreasonable conclusions in order to create interiors of fantastic height and grace all that fretwork on the outside was just scaffolding [Banham, 1975]. Renaissance men reserved the process, and could see the outside of their buildings- as the Greeks did-as isolated works of art. Unlike the Greeks they contrived small boxy, perspective- centred spaces around them but those spaces were interiors, closed in by the facades that flaked the piazza, spaces furnished by the buildings they contained. Baroque apace admitted of infinity. Banham says "but this infinity was more usual symbolized than admitted: symbolized the obelisk that focused the vista, the light falling on the altar at the end of the dark nave. And this was infinity counted from zero at an observer standing in the right place-once you stray from the portico that commands the avenue. The entrance on the axis of the church", any possible relationship with infinity evaporates.

In modern architecture contemporary materials provides a good way of becoming "new" and ultimately leaving the "old", and if we go back before 1900 to the start of using iron in architecture we find that it wasn't as modern as it is new system, the use of steel or iron in architecture in the beginning didn't have any stylistic change, the same old shapes with the new materials, these years of using iron and steel in architecture also involved an intensive use of glass.

The conceptual basis for much of modern architecture has been generated through using glass to create the minimal building structure, to extol the notion of lightweight construction solutions, as the multipurpose envelope, and to permit the maximum penetration of light into the buildings interior. Paradoxically, glass buildings are frequently heavy rather than light [Richards, 2006].

James Fergusson, in "History of the Modern styles of architecture" (1873) cites the Crystal Palace as one of the sources of the "Modern Styles". His entire discussion, however, revolves around it inspired: Was the Crystal Palace a work of architecture or of engineering? Fergusson claims that, "As first proposed, the Hyde Park Crystal Palace, though an admirable piece of Civil

Engineering had no claim to be considered as architectural design. Use, and use only, pervaded every arrangement, and it was not ornamented to such an extent as to elevate it into the class of fine Arts, at that time buildings were considered as a work of architecture if it contains decorative features [Bhatt, 2000] (Fig. 1).



Fig. 1. Crystal Palace - Queen Victoria opens the Great Exhibition Source: <http://en.wikipedia.org>

He argues that while the crystal Palace possesses these three " great elements of architectural design "huge scale, its truthful construction, and its ornamental arrangement, it is deficient in two others." One is an "insufficient amount of decoration" which does not allow the palace to be altogether taken "out of the category of first-class, engineering, and to make it entirely an object of Fine Art" But its greatest defect, Fergusson maintains, is "that it wants solidity, and that of permanence and durability indispensable to make it really architectural in the strict meaning of the word" [Bhatt, 2000].

It is only much later in Nikola use Pevsner's "*Pioneers of Modern Movement: From William Morris to Walter Gropius*" (1937), that the Crystal Palace is accepted as much as a feat engineering as it is an "outstanding work of Architecture" [Pevsner, 1960].

Pevsner acknowledges that the Crystal Palace is an outstanding building. He describes the palace in the following words as a great work of architecture:

*"What makes paxton's building the outstanding example of mid-nineteenth- century iron and glass architecture was rather its enormous size- 1851 feet long, that is, much longer than the palace of Versailles-the absence of any other materials, and the use of an ingenious system of prefabrication for the iron and glass parts, based on a twenty-four- foot grid adopted through. Only by means of prefabrication could a building of such size be erected in the miraculously short time of ten months. It is quite likely that even Paxton, the outsider, would not have dared such an unprecedented procedure and such an unprecedented design, if he had not worked for a temporary building. However, the fact that the Crystal Palace was re-erected in 1854 at Sydenham near London for a more permanent purpose proves that the new beauty of metal and glass had caught the fancy of progressive Victorians and of the public at large" [Pevsner, 1960, p.133].*

## Amman Glass Cultures

### First Culture:

In this culture we find intensive usage of glass panels mainly in the front facade, it shows power and it is used often in office buildings. Here; the relationship between glass and other materials are weak, no indications of locality are seen, only a shiny facade full of bright materials, where glass mostly is more than 50% of the facade (Fig. 2).



Fig. 2. Amman - office buildings

### Second culture:

This type shows more ornamental features, sometimes are of local character other time are foreign. Glass ratio is mostly to be less than 50% and not transparent; mainly mirror or translucent glass panels are used.

The form is simple in most cases. The use of ornaments is used to play with the main facade, the form is weak, it likes power and show peace, mainly this culture is in old buildings 1980s-1990s, and in public buildings (Fig. 3).



Fig. 3. Amman - public buildings

### Third culture:

This type tends to be more phenomenal than other types, glass is designed as a mass, layers of glass and materials are common in this type, glass ratio is different from one project to another, definitely there is an intentioned meaning behind this culture, good intention between glass

masses and other masses is introduced in formative way rather than facade decorations, the phenomenology of this type comes from (Fig. 4):

- 1- Glass layered structure and overlapping between different transparencies levels.
- 2- Layered materials of form masses.



Fig. 4. Amman - commercial buildings

#### **Fourth Culture:** The corporate culture

Images of power, is what building now try to show in Amman that is true for any kind of building regardless of its use, houses are become larger, industrial buildings are more modern in a way that they tend to use high-tech materials. In the other hand commercial buildings are much opened more powerful more dominant, the corporate is becoming the *beautiful monsters* of the urban fabric, domination and more domination that is the race between businesses which is directly reflected into designs and buildings, in a way the building of a corporate become the best advertising tool for it, it reflects its ideas and its financial power through using large sheets of glass, or high tech construction techniques (Fig. 5(a,b)).



Fig. 5. Amman - large corporation

In Amman after the study of its glass buildings many would ask what is the effect or the resulting meaning of all this power showing market. Will mainly the answer will be that most the commercial buildings are the looking the same, no unique design features is noticed, but in the other hand the feeling of commerce power is sweeping the streets any one can notice the huge jump of buildings quality which has been considerably enhanced through the last eight years.

We can say that the types of buildings that are using glass in their design can be in one of the following:

1-None cultural striped-off facades: the facade has neither cultural meaning nor urban relationship, it is only an advanced factory style building introduced to commercial buildings.

This type is bulky that that replaces the quality of design with materialistic quality, the designers of this type have many consideration of plot area and rules that are more important for them and for the owner more than making a more complete design from the outside to the inside, the façades of this type like the example above can be for any building its "template" not a design resulting mainly from being only functional, the modernity of the building is becoming from the use of intensive amounts of glazing, otherwise it is not a work of this of this age it is an old ugly building that attract no attention (Fig. 6).



Fig. 6. Amman - a non cultural striped-off building

2 - Cultural classical stone facades include the power of glass through the use of large panels: while these buildings try to show some modernity they are still afraid of using the whole vocabulary, instead they tend to use the mix of old and new in a strange way, that results a non cultural facade, but classical renovated one, some attempts to make buildings regional are good, they use only stone as the metaphor of the past while trying to think western in the plan and elevation other materials than the stone, the use of this type build some new feeling in the city and it can be the most.

Reasons for cultural changes:

1 - Contradiction of the city: non-realizing of the cultural identity of the city, forces of designer to follow the client socio-economic powers which are not local, and then manifesting these powers in the design.

This reason is having a body with heterogeneous organ implant, the organ is not the right one so the body either resets it or in away cope with it, in our city Amman the amount of similar organ cases is more than in a body, many buildings are forcing the city to cope with them the result is alteration of the body's original identity, some might call this progress or evolution, but the rules of evolution are different, evolution maintains the original body and change a part to make the part cope with an outer change like food or weather, but here we are changing the city to work with the parts, so the original body is no more identified, this is the case of Amman, no common interface is seen no spirit is released.

The heterogeneous society is altering the city homogenous old image, architects are learning how to obey the client and change the city interface.

2 - seeking modernity through the use of high-tech materials, making a new architectural fashion: or using an existing fashion to acquire attention and power, by not making a good design the use of modern and high tech materials only sometimes gets attention and become worthy of large corporation status, and finally more notable.

3 - Big cooperates seeking to be distinguished in the city through large and modern projects: a big corporation is a large money holder that needs to show its money and powers through its only physical existence, the building becomes the biggest advertising media for this corporation and brings more profit and more investments.

The architecture of power:

Company's architecture in Amman tends to show power that is an increasing phenomenon of the last few years; many foreign companies are establishing branches in Amman, so competing between these firms is in all aspects including the architectural arena.

Impacts of glass architecture:

1- Urban impact:

The city is compared to an organic structure is a group of unites or cells each has its own function, each group of cells make an organ the organs make life in the city, the interactions of the urban fabric nowadays are clearer than before, the city is composed of images that are related through a chain of relationships that are now attached only on the spatial dimension but also on the perceptual dimension, now the city has larger and clearer visual fields that mostly obtained by many layers of glass, glass is a good material that relates dimension and vision, the more transparency we have in an urban field the more we have vision, openness are now obtained not by walls but by glass.

The city now is consisting of many vertical layers that only need the right place to be seen from, nothing is hidden anymore no inner courts or attached houses the city is exposed to itself and those using it: "There is no privacy" this is the great message of transparent whether we like it or not. In the other hand during a walk through you notice that the city is a big advertising arena, many concepts and many ways of advertising are shown through the fabric touching our perception without even knowing, a kind of mind transparency, or perceptual penetration.

Corporation transparency is now controlling our life, not only the urban fabric, our life is guided by our eyes towards what the powerful wants us to see. We are victims of the city, this city that should be your house or work space has become a large television that controls our perception.

Although the visual field is larger for city users they have nothing to see except seeing people at work through these large transparent walls, we have nothing to see other than that, life in the city is now controlled by corporations and we are their market.

Many buildings in the city are using glass but many of these are not delivering the message needed, we don't anymore feel the openness of the building, buildings are huge to be seen from such a place as a street corner, the liquidation is more likely to be technical not architectural.

The usage of transparent interfaces in the city has become a way of hiding the small sizes of work places and living area, the centre of any city or the commercial zone cost so much so each person have a very small area to work within so architects add the city to be the project by these large transparent walls to enlarge the working space and to open the building to the outside: the city is not a project and not for sale, it is a relationship that must be respected no one should force anybody walking to see the inside of the building or make the street a working

area, the street has also a level of privacy that has been attacked by these glass walls, now while you are walking on the street everyone can see even if that is his intention, now unfortunately we have nowhere to escape from our eyes.

#### 2- Design impact:

The design of glass buildings in Amman is introducing new investments for those providing the industry with its main components such as glass panels and high tech materials, the number of those companies has been raised during the last few years, this increase brought an architectural advantage for designers through providing new details, new technologies and new techniques.

#### 3- Social impact:

The city is becoming transparent, many of the buildings are spreading through the city with their large glass panels, the penetration of light was an issue of modernity, now it is the penetration of light and sight, social motion is becoming exposed, this social expose was a reason and a result of glass architecture.

The social character of Amman is not homogeneous the mixed nationalities living in noticeable through architecture many details and many styles are brought to satisfy a social slice of the overall society created a heterogeneous neighborhood, many buildings use extensive glazing while its neighbor is closing his building as much as he can keep his privacy.

#### 4- Cultural impact:

In the few last year's Jordan and its capital city Amman is passing through an economic shift, this economic shift accompanied architectural modernization of the city, many new buildings were built, many new cultures were involved, the city is becoming global, or at least globalize, the corporate buildings are the main forces changing the fabric of the city, many buildings are not for one corporate but these buildings are also following the rules of new corporate cultures of Amman.

#### Future Image of Amman:

In the new plans of Amman for some streets and baths the great municipality of Amman is encouraging the mix use strategy, in this way the city will be more humane and more intimate for those using it, no more large big glass corporations will be built in these streets that will help the city to look more eastern and less western, the residential window will be in all places keeping the city from becoming foreign and controlled.

#### Conclusions:

1- In Amman mostly there is no window design, the creation of a building is a process separated from the design of its openings, although the size of openings and Glass ratio is increasing windows designs has not been following the evolution as in its ratio and size, the window should be a designed element not template.

2- In order to know the identity of a certain culture by its places, we can make our first judgment by looking at architectural forms which are seen by facades, windows and openings are main cultural features that give identifications to our judgments, and it has the character of storing valuable information of our behaviour and attitude towards society, if we are closed and not socially opened it will have an effect over our buildings openings.

3- Corporate architecture has multi layers of transparency, the first one is the functional aspect that is by using an open plan and in the formative aspect which is presented for the viewer's

looking toward the building, mainly it was first used as a building requirement then it became a character for offices, now days it is directly mostly into the direction of control and power, corporate are the individuals of the urban and legally they are the only standing individuals of the urban fabric, this kind of legal metaphor was adopted by corporations and architecturally speaking become their way of controlling their living environment which is the urban fabric.

4- As an attempt to distinguish some new designs in Amman, some architects are only depending on polished materials and glass facades to catch people's attraction instead of making a good design.

5- Architecture is becoming more and more socially powerful, it does not take forces from the society, on the contrary it affects the society by its forces, and it is becoming more like music, making its own cultures like the transparent culture and its subcultures.

6- Amman is composed of heterogeneous society, that is reflected on architectural design, and considerably give the city a heterogeneous image that show none linearity and randomness on the micro and macro levels of the urban fabric, where the nationhood is composed of buildings of different themes and are related to each other.

### **Recommendations:**

1. We should become more judgmental about our design selection that starts from sketches till material selection, the use of cultural meanings and metaphors is an urgent need, we should build architecture that reflects us as a society not as individuals and owners.

2. We need regulations that not only regulate urban rules, but also regulate architectural elements, the market is forcing architects to build from its resources, so it is an important role for the government to produce regulations that are concerned with architectural elements not only on the functional level, but also on the formative one. Building elevations could be an essential element on reflecting the identity of one society.

3. The use of glass in Amman is often extracted directly from the industrial design without taking into consideration the architectural aspects and there is a "weak" mix of different materials in the same building.

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