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# INNOVATIVE APPROACHES IN ARCHITECTURE AND PLANNING. THE FUTURE OF OUR PAST

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## Abstract

Historic Arab cities show a variety of origins and modernization patterns; these were conditioned on the one hand by external factors such as pre-existing settlements, deliberate locational choices and prevailing dynastic modernization and transformation, on the other hand by internal factors such as the morphological principles implied in

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individual architecture components and in genesis of the urban environment.

In this paper, we will try to highlight the socio-cultural aspects in the city structure context and their relations to the city morphology referring to the underlying shaping forces of urban form which, drawing on related, deep-rooted human attitudes, constitute the real agents of physical manifestation and are source of the non-material qualities transpiring through materials expressions.

This presentation seeks to understand the significance of the city structure in different dimensions of urban environment. Understanding the interaction between underlying political, economic, socio-cultural forces as deep structure elements is an important aspect of research objectives. This paper also studies how physical or functional changes follow changes in the underlying forces among the modernization process and city structure regeneration.

The approach to the research objectives is based on two methodologies:

• Deductive: a theoretical investigation based on the properties of the city structure, definitions, principles of design, and the dilemma of achieving modernization is as much cultural as technical. This combines information from literature reviews and the ideas of key figures in the urban development field and the place-identity, social identity and identity process as theories for cultural models of the city.

• Inductive: a study of Algiers as example of historical settlements that have undergone much change processes. The study looks to elicit the images of the city main structure to support the theoretical propositions of surface and deep structural city elements. The conclusion to this part is based on an analysis of the case study.

The research concludes its conclusion through the theoretical and empirical work

the socio- cultural aspect in the modernization process as a board and complex field.

Moreover, it introduces the concept of City Structure as a new way to envisage urban Conservation studies.

**INTRODUCTION**

The last decade of the XX century was marked by deep economical and political changes provoking some irreversible transformations in the socio cultural organization and the physical structure. These changes can be explained by the failure of the economical models on which were worked out the different policies of development and principles of growth and management.

The economic models of Ford and Keynes were replaced by the new economical order, which is characterized by a new economical logic based on the accumulation of the capital. This new order led implicitly to the process of restructuring economy through the emphasis of the specialization and the flexibility. Implicitly this new order led Algeria to readjust the political and economical environments in the hope to be in adequacy with the

project of globalization. This readjustment is based on the rationality, and is materialized through the management of the human resources and the territorial planning at different scales and levels.

In 1997, the Algerian population reached 30 millions, a figure which is expected to rise by another 5 millions by the year 2010. More than 50% of the population is living in cities (Algiers alone represents almost 20% of the urban population), which represents more than 100% increase in city dwellers in a period of less than 20 years.(Bearing in mind that 25% of the dwellings have been built between 1999 and 2005 and for the other 75%, 2/3 of them necessitate whether a rehabilitation or some maintenances)*. The impact of this rapid urban development is that large areas of almost all the Algerian cities, situated in the North of the country, look the same. So do Algerian cities look Algerian and if they do what makes them look that way ? As a result, the city of today differs from its past in several respects : size and scale, street layout, land use patterns, architectural style and type of housing. Traditional urban form and building which would have provided information about regional and national identity have been largely replaced by forms characterizing the international and universal buildings and spaces. These changes have altered the city's form and have given rise to questions about the impact of these changes on the image of the city in terms of size and cultural values. So the concept of urban space becomes a determinant of the ability of planners, architects, engineers and administrators to provide an environment which is adequately structured to avoid chaos and to maintain an acceptable quality of life.



**2.STRUCTURAL TRANSFORMATION OF THE CITY:**

The objective of part one is literature review that builds up a concept of the city main structure properties particularly in the process of urban transformation based on the structuralism approach which defined a structure as a system of transformation. The proposed structural approach to urban transformation of the built environment in this research is coming from an awareness of the meaning and concepts of city structure, city center and city evolution, comparative studies on the ideas of the theory of structuralism, are presented. These cover descriptive, explanatory and analytical discussions.

Structural transformation is the major property of the city structure. The main source of transformation in cities is its city main structure. The city main structure is responsible for growth, development and finally, transformation of a city. Its

impacts on the evolutions of the whole city, on transformation of pattern and variety of land uses, the physical growth, and its impacts on urban environment sustainability are under consideration in this part.

**2.1 Structuralism:**

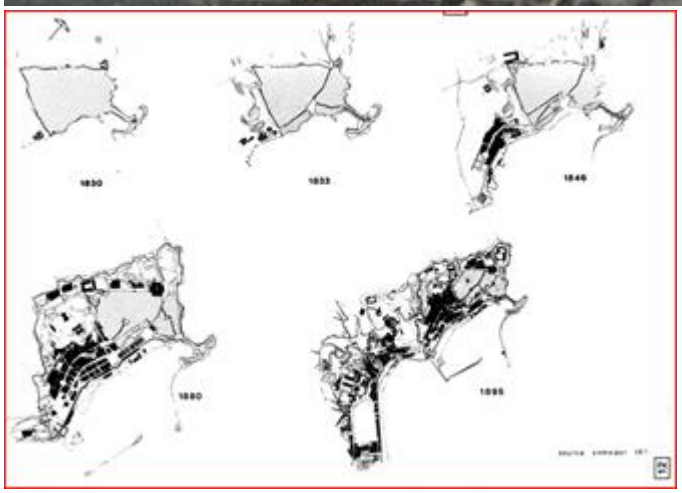
The significance of structuralism is to look into knowledge as an entity. The concept of structure is used in a variety of academic disciplines and cross-cultural contexts to question form, order, systems and transformation. Structuralism proposes in essence the reconstruction of what is already known. Piaget (1968) claims that there are two important differences between global structuralism and the deliberative, analytical structuralism of Levi-Strauss, where the former speaks of laws of composition. Durkheim's structuralism, for example, is merely global because he treats totality as a primary concept explanatory, as such, the social whole arises of itself from the union of components, and its emerges.

**2.2 General concepts:**

The views on the process of changes in a city and its main structure consisted of various interpretations. The general term mostly used is change. The hypothesis based on the major differentiations between the term change and transformation that become very clear in the modernization processes in the urban environment for Arab cities. The other terms are growth, evolution, and development. The meaning of these terms for urban concept is derived from its common meaning.

**2.2.1 Change**

The meaning of change covers various ranges, from change with physical manifest to changes in activities or even economic or social-cultural characteristics. City systems and their elements can change through cultural and educative process. It is this form of change that is significant. It can, of course, imply direction, as though it is a product of conscious thought (Larkham; 1999). Human settlements are continually changing (Lang; 1994). The physical interpretation is the most perceivable form of the changes. Kostof (1992) reaches the conclusion that in cities, only change endures, that all cities are caught in a balancing act between destruction and preservation. The scale of change either physical or functional varies from a single element, which is the building as an urban unit, to the scale of the global form of the city. The changes could be organic or planned. There is necessity for changes in cities, as Lang (1994) claims, for, inevitably, changes in the public realm create new opportunities and new problems resulting in the need for future changes. The cycle is endless.



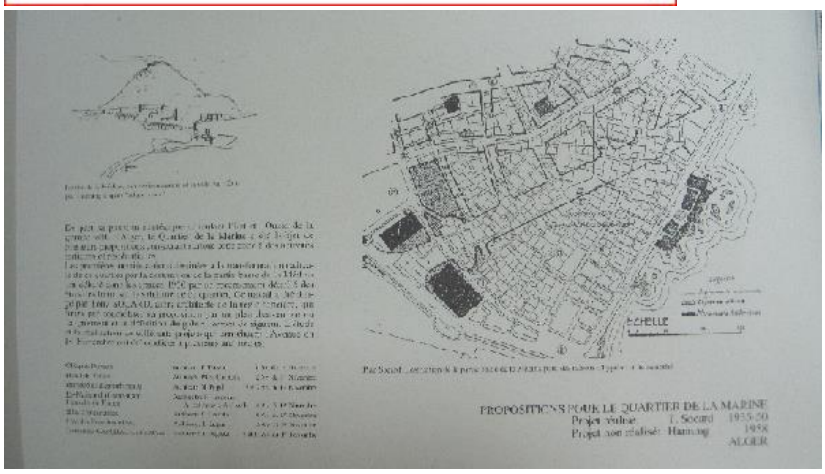



**Figure 1.** The Europeanisation of the traditional Islamic city of Algiers started by the French (1830-1962) in attempt to eradicate its Islamic identity.



### 2.2.2 Transformation:

Transformation is the most central characteristic of a structure. According to structuralism (Piaget, 1968), structure is a system of transformation, which generates and is guided by its inherent laws. The three key ideas of wholeness, self-regulation, and dynamism are tied together through the process of transformation in the structure. Transformation in a city occurs because of norms, semantics, and knowledge that are inherited in the social phenomena of that place. Transformation in a city

structure is a result growing awareness of man and society. Transformation increases the complexity of system, always guiding it from simpler to a more complex system and structure. The continuity of the process of transformation relies upon patterns of surface structure, which is defined by the whole physical characteristics of the city.

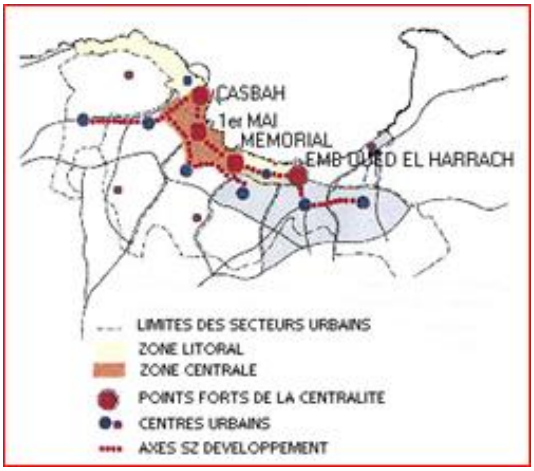



**Figure 03.** Political, economic and physical

**Figure 04.** Algiers transformation, an integrated developments combined to transform urban development with the old city the city of Algiers in 1985. Structure ( GPU developed in 1990s).

### 2.3 The city structure:

The city structure is based on a whole entity; it is a global structure, which provides the relation among local structures of various areas. It gives both a sense of identity to, and a grasp of relations between the parts and the whole. Continuity is a physical property of the city if it is used to integrate the whole territory of the city. The city, as a spatial system, consists of a complex and bounded whole, encompassing a set of activities or constituent elements and the relationships among those elements, which together make up the system. The way a city can cope with all pressure, changes and express the self-regulation, depends to how city manage to transform, to increase and enrich the city as a system with clear distinction between change and transformation. In the simplest terms, change is imposed; it is not from within, whereas transformation uses the resources inherent within the structure to enrich itself and its identity.

**Figure 05.** Urban transformation mechanism for surface physical elements

**2.4 Structural transformation:**

Cities have to transform and they do constantly transform, but when the change are inconsistent and unconscious of the plurality of the existing city structure, they inflict damage on the principal rules which govern the city structure, in spite of any partial survival of the structure. Regarding changes in structure, Bourne (1982) states that a structure can become static, in which case it has to be broken in order to grow, or it can be dynamic, thereby, permitting growth without obsolescence. Structural transformation in a city clarifies the internal organism and mechanism of its growth and development through dynamic internal change. In this transformation all the relevant parts of the city interacts as a whole with its organization. The result of structure transformation is preservation and improvement the whole city structure global and local- properties and performance, also; the common result of structure transformation in city main structure is shifting the role of the traditional integration core in urban life. A city, however perfect its initial shape, is never complete, never at rest (S.Kostof, 1991).

**CITY STRUCTURAL TRANSFORMATION: A SUSTAINABLE PROCESS FOR URBAN ENVIRONMENT MODERNIZATION**

A structure is considered to be an abstract set of formal relations underlying the greater manifestation of observable forms. Eiseman distinguishes a surface or perceptual structure and a conceptual or deep structure. Deep structure is specified as an abstract underlying order of elements that makes possible the functioning of transformational rules. The surface structure is the transformation of a deep structure.

**3.1 Underlying forces within the city structure:**

According to structuralist paradigm, transformation within any kind of structure takes place because of underlying forces and mechanism of how these forces work together. For the city structure these forces could be interpreted as deep structural elements. Underlying forces are densest in the city main structure. All kinds of transformation like cultural transformation are more evident, powerful and more effective within the city main structure are the concentrated laws for cultural activities and monuments, attraction for people coming to these places and so places of greatest interaction between them. Consequently the city main structure is the place that the power of whole underlying forces emerges. The surface structural elements, like different places, buildings, and activities are the way the society responds to the forces embedded in the city main structure.

**3.2 Principles of city structure sustainability:**

"Sustainable architecture involves a combination of values: aesthetic, environmental, social, political, and moral. It's about using one's imagination and technical knowledge to engage in a central aspect of the practice -- designing and building in harmony with our environment. The smart architect thinks rationally about a combination of issues including sustainability, durability, longevity, appropriate materials, and sense of place. The challenge is finding the balance between environmental considerations and economic constraints. Consideration must be given to the needs of our communities and the socio-cultural paradigm that helps the urban transformation during the development and modernization process in the Arab cities. The following principals are the major aspect to achieve the sustainable city structure: • Understanding Place - Sustainable design begins with an intimate understanding of place. If we are sensitive to the nuances of place, we can inhabit without destroying it. • Connecting with Nature - Whether the design site is a building in the inner city or in a more natural setting, connecting with nature brings the designed environment back to life. • Understanding Environmental Impact - Sustainable design attempts to have an understanding of the environmental impact

of the design by evaluating the site, the embodied energy and toxicity of the materials, and the energy efficiency of design, materials and construction techniques. • Embracing Co-creative Design Processes - Sustainable designers are finding it is important to listen to every voice. • Understanding People - Sustainable design must take into consideration the wide range of cultures, races, religions and habits of the people who are going to be using and inhabiting the built environment. This requires sensitivity and empathy on the needs of the people and the community.

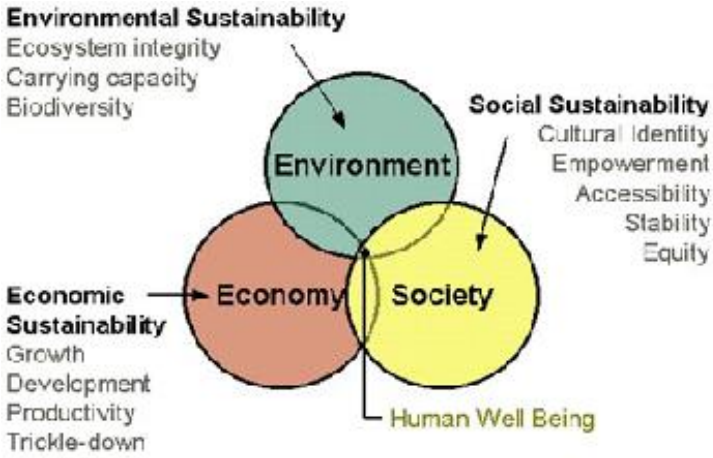



**Figure 07.** Three dimension for environmental sustainability . Source: http://www.arch.hku.hk/research/BEER/sustain.htm-**31/12/2005**

| Social dimensions of Sustainability | Environmental dimensions of sustainability | Economic dimensions of Sustainability |
|---|---|---|
| • Reduced waste, effluent generation, emissions to environment efficiency | Inhabitants health and safety | Creation of new markets and opportunities for sales growth |
| • Reduced impact on human Health inputs | Impacts on local communities | Cost reduction through improvements and reduced energy and raw materials |
| • Use of renewable raw materials Elimination of toxic substances | quality of life; Benefits to disadvantaged groups e.g disabled | Creation of additional value. |

### 3.3 Socio-cultural force as a deep structural element:

The underlying forces are the elements of the deep city main structure while the physical elements are the elements of the surface structure. Interaction between the forces is manifested on the surface characteristics. That interaction is based on laws of composition as city structure property. Transformation in the surface elements among the city structure leads to survive the responsiveness of the city. The central concern in any study of the city structure should refer to the interrelationships of the

underlying forces. Physical environment determinants, social needs, demographic pressure, culture and religion, political issues and technological development, could be considered as some of these underlying shaping forces. The inherent power of sustainability and responsiveness, even after the worst periods of deterioration, can be considered as the self-regulation of the structural property and the process of transformation. This is dependent on the interacting mechanism of socio-cultural forces and on the balanced status between them.

**3.3.1 Social forces:**

The social force is a driving force. It embodies in human beings the desire to socialize and belong to a society. People are unconsciously aware of the social forces and accommodate them within the settlement structure and then interpret them onto the surface structure, to the spatial layout of the settlement structure. The need unconsciously embedded in the human soul to socialize, are fulfilled by formation of city structure. Social structure determines the social distribution of space and the evolution of urban spatial. Even the appearances and physical organizations of objects in public spaces depend on the social forces, because these kinds of spaces within the city main structure are supposed to be the containers for social life. Social relationships address the dynamism and transformation within urban environment and the social communication.



**3.3.2 Cultural forces:**

An important aspect of culture with considerable impacts on city structure, especially the city main structure, belongs to religion in its many interpretations across time. Religious should be considered intrinsic in human life. Religious beliefs are the context of culture and at time have had the highest degree of influence on human civilization, and consequently on major urban objects. It many instances religion was so predominant in the physical structure of the holy cities as to be the very essence of them.

**3.4 Sustainable urban principles of the Arab city structure. A sociocultural view.**

A number of factors played decisive roles in ordering and shaping the plan and form of Arab and Muslim city. In addition to the influence of surface structure factors, local topography and morphological features of pre-existing town, the Muslim city reflected the general socio-cultural, political, and economic structures of the newly created society. Saoud (2001) defined the concept of quality of urban environment in terms of both “sustainability”, and “city structure” quality, based upon the sociocultural paradigm; In general this involved the following: • Natural Laws: The first principle that defined much of the character of the Muslim city is the adaptation form and plan of

the city to natural circumstances expressed through weather conditions and topography. • Religious and cultural beliefs: The religious beliefs and practices formed the center of cultural life for this population, thus giving the mosque the central position in spatial and institutional hierarchies. The cultural beliefs separating public and private lives regulated the spatial order between uses and areas. • Design principles stemmed from Sharia Law: The Arabic Islamic city also reflected the rules of Sharia (Islamic Law) in terms of physical and social relations between public and private realms, and between neighbors and social groups. • Social principles: The social organization of the urban society was based on social grouping sharing the same mentality, ethnic origin and cultural perspectives. Development and modernization were therefore directed towards meeting these social needs especially in terms of kinship solidarity, defense, social order and religious practices. Factors such as extended-family structures, privacy, sex separation and strong community interaction were clearly translated in the dense built form of the courtyard houses. The social organization of the urban society based on social grouping. Social and legal issues were taken over by religious scholars who lived in central places close to the city main structure which contains the mosque and the public life were disputes mostly arose.



**4.URBAN GROWTH OF ALGIERS: FROM A TOWN TO THE METROPOLIS:**

Just as many other cities do, Algiers comes from a small town on the coast, encircled in walls and surrounded by fields. Until late in the XIX Century, these walls were used as a separation between the urban center and the small villages and « summer residence » or Fahs.

Algiers :Repartition of houses, dwellings and villas in 2003. ( Reference : Laboratoire de Geographie et d Amenagement Urbain, University of Science and Technology « Haouari Boumediene »)

| | Block of flats and apartments | Villas and individual houses | Traditional houses | Ordinary dwellings | Temporary houses | None declared | Total |
|---|---|---|---|---|---|---|---|
| Units | 1632682 | 148550 | 42839 | 4018 | 22744 | 3511 | 385344 |
| Percentage | 42.45% | 38.55% | 11.12% | 1.04% | 5.90% | 0.9% | 100% |

Algiers in Arabic means a group of islands, during the Phoenician period, the land of Algiers was used as a trade post for the sake of commerce. In the Roman times, Algiers was called Icosium, was an unimportant city comparatively to Cherchel or Tipaza. In the tenth Century, Bologhine Ibnou Ziri founded a permanent

settlement which developed into the Casbah and port of Algiers. After Algiers, during the Ottoman period and particularly with the Barbarous brothers ( Aruj and Kheireddine) whom developed the maritime commerce by developing the port and the city was known as the headquarter of the most successful arm of the Ottoman fleet.

The Casbah of Algiers and the localization of the so called the « citadel » is an illustration of the basic condition of urbanism. The « citadel » ( or a mini - city within a city) retain the symbolic centrality as it was the ruler's refuge and in the same time, it symbolized the administrative and military center. The space in the medina is a particular and specific conception that can be perceived as a positive actuality of volumetric form and the prerequisite medium from which the whole fabric of urbanism should emerge. This concept of space is prototypical and its essence is discernible in different spaces and situations of the Casbah.

Another criteria very important in the case of the Casbah of Algiers is the topography, this criteria not only shapes in some respect forms and spaces of the medina but determined also the localization of buildings such as the mosques, the palaces and the « citadel ».

During the French occupation, the extension of the city has grown up around the medina, there was a spatial separation between the ottoman and the French urban spaces excepted the center of power called « the marina district ». At the French occupation , the walls were pulled down after 1832, the fortress

in the Casbah dismantled, and the strip of fields had been urbanized following the military project developed by " le genie militaire" and whose works started by 1860, known nowadays as « Municipality of Algiers ». This area had been incorporated as part of Algiers with an important symbolic, social and artistic role, taking the part of a functional center the same as the old nucleus had always been.

Later, with the introduction of a new mode of transport ( railway), those small centers in the surroundings ( particularly the districts called :Mustapha Supérieur and El - Hamma) got integrated formally into the city by 1880 , these areas received at that time all the industrial activities ( due to their proximity to the railway and the port). However, some of them remained as summer residences like the district of El - Biar, and others as subsidiary centers like Bir Mourad Rais or Bouzaréah.

In the beginning of the XX Century, a new style of architectural language was developed. From the architectural and cultural points of views, this style called the Arabisance referred to the traditional buildings.

From 1930 until the recovery of the independence, Algiers served as an experimental area for the development of ideas reflecting the vision the city as claimed by of the Modern Movement.

In the 1960's, Algiers was estimated for almost 500.000 inhabitants, and due the departure of the colons and the arrival of lots of immigrants, the city grew extremely, with speculation and without a general project concerning construction among the centers. Suburbs grew without any more identity than that of being built in the same physical space. As a result, the city of today is entirely and completely different from what it was in the past. The physical development can be characterized by its insensitivity to cultural values, and its ignorance of typological and morphological features. This development exposed Algiers to another problem which is the conservation of the traditional city. As masses of people had migrated from rural areas and from the mountains to the city; so in addition to creating squatter settlements on the outskirts of the city, the migration had and still is one of the reasons for the deterioration and destruction of

the traditional city. The main aspects that can explain the deterioration of the medina are the densification and the judicial status of the houses.

In the 1970's, the decision makers of urban development focused on the distribution of functions by applying the Zoning, they tried to balance concentration of activities in the traditional city by a policy of decentralization and progressive endowment of peripheral dorm areas with qualified services both at neighborhood and urban scales.
The growth and extension of Algiers were oriented to the East side of the city, and many civil public buildings and housing were realized such as the U.S.T.H.B( University of Science and Technology « Houari Boumèdiene » at Bab - Ezzouar), thousands of dwellings were built particularly on the sites of Bab - Ezzouar, Bachdjarah and Bordj - El - Kiffane. At the end of that decade, the government realized that this development were done on the most fertile land from the agricultural point of view, so the decision was taken to reorient the development to the South - East. This orientation allowed the planners to suggest the delocalization of the industrial activities situated in El - Hamma and they proposed to increase the density of this district with high rise buildings developed principally as offices.
In the beginning of 1990's, the development was oriented on the basis of new laws in which the inhabitant should be involved as a participant. This development took into consideration what was launched in the 80's. The Master plan of the 1990's called the P.D.A.U.( Plan Directeur d'Aménagement et d'Urbanisme) was established on the following hypotheses :

The preservation of the traditional city or « la médina » ;
The densification of the districts El - Hamma and Hussein - Dey ;
The development of the main and important civil public buildings on the same virtual axis;

The objectives from these hypotheses were the development of a linear centre with a multi poles, and each pole should have a vocation. These poles are:

A historic pole represented by the Casbah reflecting the heritage of the Ottoman period;

The district of « Premier Mai, El - Hamma » were destined for tertiary activities, with the main buildings determining the notion of centrality in the city ;

The third pole « The memorial » was much more symbolic with political and cultural buildings;

The fourth and the last pole in the East side and opposite to the medina should contain the financial buildings, it represents the C.B.D.

In 1997, the city of Algiers was reorganized and it had a different status comparatively to the other cities of the country. Algiers was elevated as a gouvernorat and the limits of territory of this governorat are four times of what it was before when it was considered as a wilaya. The administrative authority had carried out a new structuring project called G.P.U. of the G.G.A.( Grand Projet Urbain du Gouvernorat du Grand Alger). The approach adopted in this project is based on the polarity of the city. Six poles were identified, so the territory is divided in six areas and each one had a vocation that should able the city to be competitive at the international level. Before the enumeration of these vocations, we must emphasize that this development focalized principally on the coastal areas. The six poles can be summarized as follow:

Pole one contains the medina and the first colonial center with the port: Cultural vocation;

Pole two composed of areas where their urbanization were done between 1880 and 1924, and during the French occupation, these areas were designated to industrial activities. The districts are: 1er Mai; El - Hamma and Ravin de la Femme Sauvage. The vocation of this pole is administrative activities;

The third pole nearby the second and presenting almost the same characteristics as the second except the slums which were developed along side « Oued El- Harrach and the industrial area of Oued Smar ». The pole contains the following districts : Caroubier, El - Harrach and Pins Maritimes, this pole should be developed for cultural and sportive activities ;The village created in 1860 juxtaposed to a group of buildings used, during the ottoman period, for military defense. This village was created for agricultural exploitation, and the development was oriented towards the agricultural activities and not to the sea. The districts of this pole are : Bordj -El - Kiffane ;Lido ; Verte Rive and Stamboul. The vocation was cultural and tourist activities.

The fifth and the sixth are situated at the West side of the medina, the others mentioned above are in East side. So these two pole composed respectively of Cap Caxine for the fifth and El - Djemila ; les dunes and Zeralda for the sixth which was designated for touristic and business activities. The main activities retained for the fifth were for tourism.

Algiers: The urban development of Algiers through the statistics. (Reference: Laboratory of geography and urban design,
University of Science and Technology « Haouari Boumediene », 2003)

| | Population in 1966 | Population in 1977 | Population in 1987 | Population in 1998 |
|---|---|---|---|---|
| Designation | Grand Alger (according to the repartition of 1959 called Constantine's Plan) | Grand Alger (according to the new repartition of the national territory of 1974) | Grand Alger (according to the new repartition of the national territory of 1984) | Gouvernorat d Alger |
| Number of municipalities | 10 | 13 | 28 | 57 |
| Area | 170km2 | 186km2 | 250km2 | 870km2 |
| Population | 1094851 | 1641521 | 2015374 | 2562428 |

We should say that for the last three poles that besides the lack of urbanistic structure - which obviously implies a lack of structure in the identity of the physical space, we must mention that most of these areas have developed during the post - colonial period and according to their potentialities, they present a poor development of the tertiary sector and almost no development of the services related to their status and localization from a regional point of view. Another aspect characterizing these poles is that most of the families living in the periphery are immigrants, they left their villages or lands for economical reason or they were searching for security. So they weren't interested in getting integrated and identified with their social environment.

This manner of structuring the city of Algiers was rejected, in 1999, by the president himself as it could lead to physical and social segregations. After the rain fall and the earth quake, the city council has been carrying a series of urbanistic interventions in the entire city: shaping of urban spaces, creation of some new ones trying to provide them with symbolic elements. The result is that any void was treated whether as a greenery space or an open space ( I won't consider this open space as a plaza because the main reason for this space was emergency and not as a space for gathering or playing and without taking into consideration neither the climatic aspects nor the proportions between masses and voids).

**5. ELEMENTS OF UNFRIENDLINESS: THE URBAN MORPHOLOGY BASE:**

Several causes contribute to the inhospitality of the present urban environment. Most of them depend on the physical organization, the appearance of the city and therefore on the way it is planned and designed. Once again one set of problems rests on functional instances. The modern city envisioned as "machine a habiter", does not work properly; congestion of traffic, poor hygienic standards, and high pollution levels are some of the indicators of this phenomenon.

It can be assumed that the urban morphology can be approached through the analysis of certain specific character of the built environment. They deal with quantity of the distribution of built vs. inbuilt and private vs. public in the urban scenario, first of all in its two - dimensional organization on the ground plane. They include, also, the third dimension as the physical appearance of full vs. void, and further set of elements which deals with the dynamic aspect of the environment, i.e. with the activities that dwell in that environment, seen in their qualitative aspects, from the point of view of their appearance.

**5.1Characteristics of the Medina:**

The first and most characterizing elements of the traditional city is the organization of the urban fabric through the selection of built vs. inbuilt or in other terms, of volumes vs spaces. From a quantitative point of view, it relates to density and in particular to coverage, to distances and in general terms, to dimensions. It addresses the issue of a perceptual permeability. The most effective attribute of the urban environment is given by design of the boundaries between the realm of the empty space and the realm of the volume and by the syntaxes of the two entities. Related but non coincident with the figure ground is the block street pattern which highlights the articulation of the public domain versus the private. It deals with permeability, too, in physical if not perceptual terms.

The character of objects and non objects that we assume and anticipate for volumes and spaces in the two dimensional configuration, actually comes on stage with the third dimension. Height and shape of volumes concur with their layout to determine the physical quality of the urban environment. Bulk characterizes the volumes both in term of masses, height and profile, and of forms, skyline, setbacks, overhangs...etc. Bulk is

further characterized in its spatial envelope by more specific architectural features such as colors, materials, patterns, textures, linguistic elements ...etc. Both bulk and architectural features contribute to determine the image of the city and its ability to carry hidden or direct messages of comfort, security, calm, dynamism, as well as recognition and orientation.

**5.2Evolution of the urban morphology:**

A quick overview of the basic and most recurrent character in the form of urban areas, classified by different origin (traditional or pre – colonial, colonial and post – colonial or contemporary), may help to identify the major relations between morphotypes of fabric and their performance in the general terms to quality of life.

1. in most cases figure ground and block street pattern almost coincide (with small blocks) or private spaces are internal (in larger blocks) and visually disconnected from the public network of streets;
2. Public spaces are immediately and continuously flab ked buildings and clearly defined;
3. Blocks are usually smaller;
4.The street pattern is highly structured and hierarchically organized ( despite an apparently irrational organization of it): connector streets ( both straight and meandering ones) link without discontinuities major parts of the city, piazzas sit along or slightly off them, distributor streets are smaller in length and width and often winding.

In the beginning, it has been underlined how the growth of the colonial city has destroyed or deeply spoiled the harmonic equilibrium of the traditional city.

In comparison with the traditional city, the expansion of the colonial city shows several new elements:

1. The street pattern appears more regular and geometrical;
2. Streets are wider and often enriched by tree lines, squares are wider and regularized.

Recurrent characters of the contemporary city layout are much more difficult to define. Pluralism of formal styles has found its analogous in different attitudes towards the organization of the physical environment. In the largest amount of cases, however, a few common characters can be selected:

1. Coverage density decreases, that is in the same quantity of land a smaller percentage of it is built on or, in other terms, the same quantity of built coverage is spread over a larger area;
2. Figure ground and block street tend to differ greatly: the organization of volumes is discontinuous; several built areas correspond to one large block;
3. In most cases the structure of the layout appears random, in other cases volumes are organized in a more or less geometric fashion;
4. Spaces are hardly ever designed either in a simple, recognizable or in a more complex way;
5. In many cases blocks assume leftover forms, derived from the disposition of the street pattern laid out after the circulation system needs.

The passage from the city of the recent past and the outskirts produced by our age is a radical shift. It reflects the character of an epistemological break: the conception of a volume oriented city vs. the tradition of the city organized by spaces. The traditional city keeps clear difference between residential buildings and institutional monuments, a formal consistency to a selected number of types in the former, a larger set of solutions for the latter. Heights of residential buildings are contained in a limited range. Street walls have rarely dramatic changes in height and being formed of different buildings (smaller in the traditional, larger in the contemporary city), they show a complex variety. Architectural features which derive from local style, construction process and materials give a formal unity to the whole and relate appearance of the physical environment to geographical areas. The typical contemporary city has no street walls. Its appearance is made of separated volumes under light as Le Corbusier had anticipated. Streets are formally undefined circulation tools. Proper piazzas do not exist being substituted by shapeless traffic intersections.

**5.3 Irreproducibility of the traditional city:**

The traditional city is more livable than the contemporary one because of the way spaces are organized, its volumes are put together and their surfaces are treated, and, in general, the way it was built. There is no room for nostalgia, however, the

traditional city is irreproducible, but not because of the stylistic intolerance of the modernistic attitude.

The situation we have to live with is made of more stable realities. The first one is almost obvious: the functional performance we ask of a city today is out of the reach of the pre - colonial city in terms of concentration, growth, circulation, activities...etc. The second one, less obvious but as relevant, we need to consider in any attempt to improve the built environment. It has to do with the changes in the production patterns which have been drastically modified without any analogous adaptation to the design and the control system.

Size and modalities of intervention by which the city grows have radically changed. Times of urban modification make the city dynamic jump in a different qualitative reality. Furthermore, from a construction industry point of view, the economic background has induced a rapid evolution of the market. The special nature of the product and its unusual life cycle seem to have represented restraint for the maturation of the market itself. Finally, from the point of view of public control, the tools that have been used so far, most of them informed to a limitative attitude, have proved to be inadequate to maximize the benefits of private and public investments on the public at large.



Between the end of the last century and the beginning of the present one, the ideal city started to look with progressively larger attention at images of the future as a reference for its organization. With the globalization, the architectural production is developed by what I consider the new stars or the new “elites” . Among the leading characters of what I consider as a reform, space, culture and history are directions towards which studies should headed? By doing so, we will recover values and positive characters of the traditional city while taking advantage of the technological progress. The architects and the common sensibility are rapidly evolving together with an increasing participation of the public to design process. Now that the collective consciousness is ready to back a new positive attitude towards designing and building the urban environment, the main themes rest on the tools and ways to achieve the expected results. Some of the tools that seem to have recently been the most effective from the public use and enjoyment point of view are related to the internal methodology of the discipline, the design process and before all, to the principles from which the designers’s activity springs. Some others deal with the legal procedural frame tiding together the three main groups of actors in the urban development processes.

The building is composed of different elements which have different longevities. So :it is necessary to distinguish

Elements that do not need maintenance (foundations, pillars, beams, walls...etc.); Elements that necessitate a minimum of maintenance such as the interior paneling;

Because of the usury, some elements need to be renewed periodically (faucets, carpets...etc.);

Elements that have to be renewed due to mechanical factors (motors, fans, floodgates... etc.) or to the physical and chemical factors (asphalts, joints, painting... etc.);

Elements that have to be replaced while they continue to assume their function (sanitary devices, electric facilities... etc).

**DISCUSSION:**

It is clear that improving the maximum of the existing housing will not resolve the problem of habitat, the need for the construction of new lodging is inevitable. The new production contributes partially to this improvement, and we can say that the new lodgings will represent a yearly growth of about yearly growth of the order of 4% of the real estate park.



The rehabilitation and the modernization revalue the heritage. While either preserving or raising the habitability of the units to an acceptable level, we can in this case, maintain a balance between the demand and the new construction and the available resources to construct them. The nature of the heritage, the reality of our habitat make that the maintenance and the modernization should be treated as one of the activities of the construction. The improvement of the habitat requires that we have to maintain the existing and give it the same importance as the new constructions. This consideration will lead us to see: how can we make a judicious repartition of capital, labor and material between the rehabilitation, the new construction and the modernization. The rehabilitation and the renovation are more difficult to organize; they require qualified employees comparatively to the new construction. They include a lot of small and very various tasks or works, most of them are unforeseeable.

The main justifications for the increase of the expenses in the rehabilitation and modernization are:

1. The charges and taxes for the maintenance, the rehabilitation and the modernization;
2. The disproportion between the offer and the demand in terms of lodgings and population needs;

3. Acceleration of the change in all domains of life and which might explain the requirement for the frequent transformations;
4. The use of sophisticated facilities in the buildings increases the fragility of the latter and let them to be vulnerable.

From the technical point of view, the traditional city should be preserved by intervening periodically on its components whether in terms of maintenance, renovation or rehabilitation. In the central area, most of the traditional houses are built with a sustainable material. The accessibility to this area is easier and is already equipped comparatively to the periphery which needs infrastructure and consumption of land.

The problem of the qualification lead us to say that generally speaking, in for new construction, the qualified workers represents almost 20%, while in the rehabilitation or renovation this proportion is around 80%. The maintenance of the traditional buildings or their modernization necessitates an experienced staff as they should be able to recognize the weaknesses and to know how to remedy. So, this fact help us to understand why most of the employees are aged and don't work at the same cadence that their new construction colleagues, and of those whom are occupied in the new buildings, and generally speaking they are employed by a small and specialized enterprises. These enterprises are usually incapable to guarantee some social advantages offered by the famous or international enterprises and interested by the development and the construction of the new buildings. So the impact of this situation is the difficulties of recruitment in the renovation or rehabilitation. These aspects justify however the prices practiced by the enterprises and unaffordable by most of the population. It is known that the sector of construction and building is a sector that requires less qualified employees and for more than a decade, this rehabilitation and renovation were considered as secondary activities in this sector and from the cultural and heritage points of views, the main obstacle was and is the nature of property from the juridical side. So do we have to think about changing our strategy when it will be too late for preserving our heritage?

Rehabilitation and renovation are costly comparatively to the new construction, but these expenses become more and more important with the time. For a new building, they are around 0, 25% of its value per year, but they climb quickly to reach 1, 6% at the end of 3 years and 1, 8% of the forth year. Several things can be deducted of it: few saving gained while trimming on the quality of the construction which will have a great impact on the

expanse for the maintenance. More the real estate heritage is old; more the charges for the maintenance are high. The exploitation of the renovated building is more expensive than a new one, because the value brought by the improvement of the arrangement and the equipment will not stop the process of usury and do not reduce the expenses. So in terms of sustainable development, the improvement of the habitat might be a poisoned gift for the future generations if we keep things as they are particularly in terms of qualification of the employees, the cost and the use as most of the renovated and rehabilitated buildings are used as museums, restaurants or for prestigious ceremonies: it is much more seen as an elitist attitude toward the preservation of our heritage.

**CONCLUSIONS AND RECOMMENDATIONS**

In structuralism theory, the structure is a system of transformation based on the evolution of the surface structure. The transformation of structure depends on the dynamic interrelations between the structure's elements. In structuralist thought, structure and transformation are bonded together and their interrelationship is reflected in the surface appearances of phenomena. The structure, then, can be understood by investigating its evolutionary process, which has transformed their entity while keeping identity. Arab cities change dramatically (Case of the G.C.C) or gradually (Maghreb : Algiers, Tunis, Rabat), assuming many different kinds of change. Physical growth, socio-economic development and urban evolution are all varieties of such change, each with its own meaning and variously based on different factors either physical or non-physical. Many factors like system information, economy, and technology play role in the changes. If a city relies on indigenous knowledge, technology, cultural values and tradition, these changes could be considered as transformation for all the energies that drive them emerge from within the city and its society, i.e. from its own structure. Many things can happen in a city that is changes not transformation. These are caused by process that are not inherent in the city structure and will weaken it. The Muslim city, with its socio-cultural features, had a cultural, social, political, and economic logic in terms of physical fabric, layout, and uses, which can provide a lesson for modern planning and design practices. The modern Muslim city should maintain the deep structure identity, and then it can achieve the proper transformation of the surface structure without losing the unique features for its urban environment during the modernization process. As well; the Muslim city can be easily adapted to meet modern functionality and urban responsiveness and maintain its high congruence with our deep structure (our

natural, religious and socio-cultural environment). paradigm of planning in the madina inorder to expose its intrinsic urban order that is not merely orthogonal or geometrical. This is argued by revisiting the concept of planning as an intention and action, in its historic context, while being prudent so as to not create confusion with the current urban planning, the objectives and tools of which are totally different. However, the lessons gained from inquiring into madina's urban mechanisms, and their sustainable synergies, may support the current planners to bridge the gaps in the making of current chaotic cities – which are void of sound communal constructs and rely heavily on aesthetic orders. Before embarking on presenting the planning paradigm of the madina, a brief review of its persistent Orientalist images was essential in order to expose their deliberate emphasis on its unplanned nature. While intentionally disregarding the apparent social and cultural order of the madina, which manifested a typical sustainable urban pattern throughout its history, these images were driven by using widely external aesthetic and form typologies.

To prove the attitudes of planning in the madina, a review of different actions of organizing or making order was necessary so as to reveal its comprehensive urbanism, and distance it from the colonial notion of a confined me´dina. This has led to the discussion on its different levels of planning and what constitutes its urban parts following the jurisprudential and functional archetypes.

While the madina is presented as not a merely totalitarian and authoritative territory, its consistent social and spatial microcosmical order through its strategic corpus' internal and neighbourhoods' local planning is explored.

The notion of order behind its compact urban fabric is also substantiated through different meanings that stem from a user's experience in a beehive urban fabric. However, the modern planning practices have come to vindicate the relevance of such a beehive urban structure that places the human being at the centre of an urban space, which creates a sense of belonging and memory in a city that several current living madina(s) have proved.

The main strength of the current madina is its sustainability as a city capable of encountering the challenges of twentieth-century urbanism, particularly in developing countries. This paper argues that the historic urban experience and deduced lessons of planning from historic cities could open a new horizon for contemporary planners to assimilate the

complexity of human space without being biased to a certain orthogonal order that is merely aesthetically geometrical or culturally superior.

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